



Fabbrica della Conoscenza



**DEVELOPMENT AND PRESERVATION IN
LARGE CITIES: AN INTERNATIONAL PERSPECTIVE**

V - 2016 / VI - 2017 editions

edited by

**CARMINE GAMBARELLA
DAVID LISTOKIN**



la scuola di pitagora

Fabbrica della Conoscenza numero 74
Collana fondata e diretta da Carmine Gambardella

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Carmine Gambardella
David Listokin

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Naples, Spaccanapoli, photo: Gino Spera

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Naples, photo: Gino Spera

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Naples, photo: Gino Spera





Carmine GAMBARDELLA

UNESCO Chair on Landscape, Cultural Heritage and Territorial Governance

The V and VI editions of the six-month seminar courses of 2016 and 2017 (January - June) entitled 'Development and Preservation in Large Cities : an international perspective' had an extraordinary success as well as the previous editions of 2012 (I), 2013 (II), 2014 (III) and 2015 (IV). 70 participants were involved among professors, researchers, PhD students and students from the partner institutions, who received a joint certificate of participation.

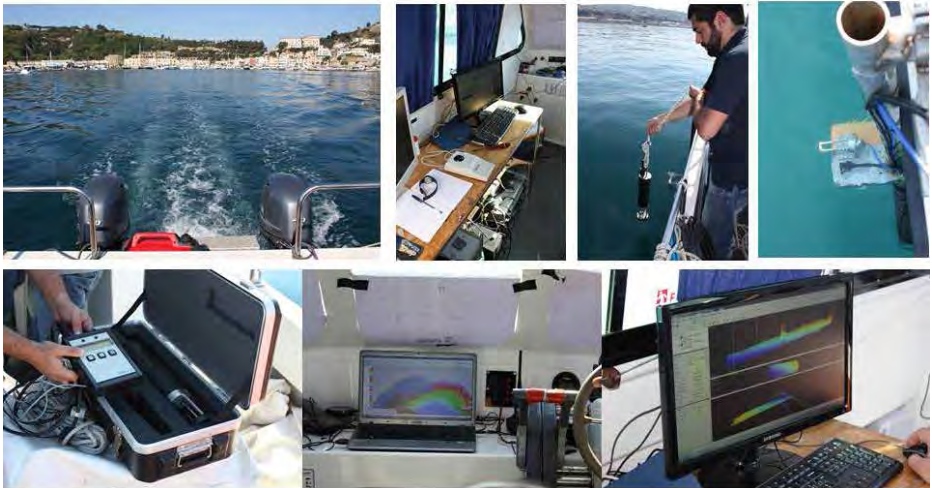
The course is organized by the Center of Competence on Cultural Heritage, Ecology and Economics (BENECON), institutional partner of the UNESCO University and Heritage Forum and UNESCO Chair on Landscape, Cultural Heritage and Territorial Governance, by the European Polytechnical University and the Edward J. Blustein School of Planning and Public Policy, Center for Urban Policy Research at Rutgers, the State University of New Jersey with the patronage of the Department of Architecture and Industrial Design at the University of Campania 'Luigi Vanvitelli' and the participation of PhD students of the Doctoral School in Architecture, Industrial Design and Cultural Heritage.

The teachers and researchers of BENECON and of the Department drawn up papers in reference to their specific disciplinary areas, in the logic of integration of skills and comparison 'without limits' that characterizes the methodological approach of our scientific community, with case studies in Italy and the United States about design, representation, architecture and landscape.

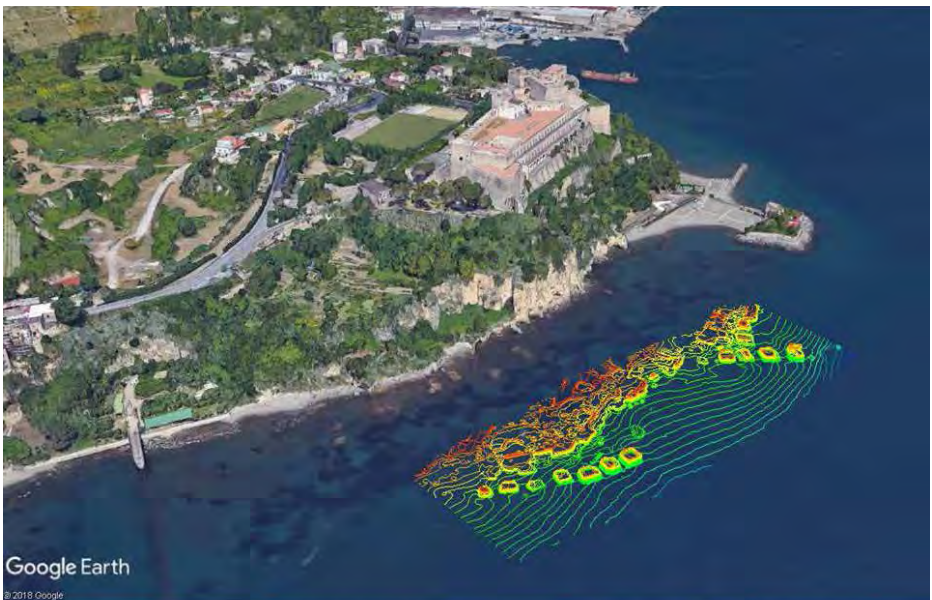
Multidisciplinary teams of PhD students and students, elaborated during the course, in a logic of comparative analysis between Italy and the United States, insights and proposals on the topic of protection and development of the material natural and intangible heritage, on the development of the historical and contemporary city, on design at different territorial scales, on the use of innovative technologies for the conservation and promotion of cultural heritage and landscape.

The multidisciplinary research methodology concerns the following disciplines: representation, protection and safety of the environment and structures, territorial governance, urban planning and urban legislation, landscape and cultural heritage management, economy of culture, history of architecture and design of the communication.

Underwater survey in the Baia archeological area



 Prof. Carmine Gambardella Cattedra UNESCO su
Paesaggio, Beni Culturali e Governo del Territorio



 Prof. Carmine Gambardella Cattedra UNESCO su
Paesaggio, Beni Culturali e Governo del Territorio

Moreover the scientific and human heritage produced in the five years of cooperation with the Rutgers University is of considerable interest for the community of scholars thanks to the continuous exchange between Italian and American researchers and students, the organization of the VI and VII edition of the course respectively in 2017 and in 2018, the development of international cooperation projects and the participation from 2013 to 2018 of Prof. David Listokin, scientific referee of the course at the Rutgers, at the last six (XI, XII, XIII, XIV, XV, XVI) International Forum of Studies 'Le Vie dei Mercanti', sponsored by the UNESCO University and Heritage Forum, the Italian National Commission for UNESCO and by the US-Italy Fulbright Commission.

The experience fits in a virtuous process of internationalization that sees institutions, universities and US multinationals, our consolidated partners including , in addition to The Rutgers, The MIT of Boston (Mobile Experience Laboratory), Berkeley (Landscape Architecture and Environmental Planning Department) and the University of Louisiana with which we have developed important trans-oceanic cooperation projects such as ATLATIS, to foster cultural and scientific exchanges between Europe and the United States.

In this framework on 25 February 2015 I presented the 'Pompeii Knowledge Factory' lecture in Berkeley and I met the Italian Consul General in San Francisco to start a partnership program in progress with the network 'Universities of California'. Then Matt Kondolf and Louise Mazingo, a Former Director and Director of the Landscape Architecture and Environmental Planning Department at Berkeley, participated as visiting professors in the scientific activities of the Benecon - UNESCO Chair that I've the honor to chair.

David LISTOKIN

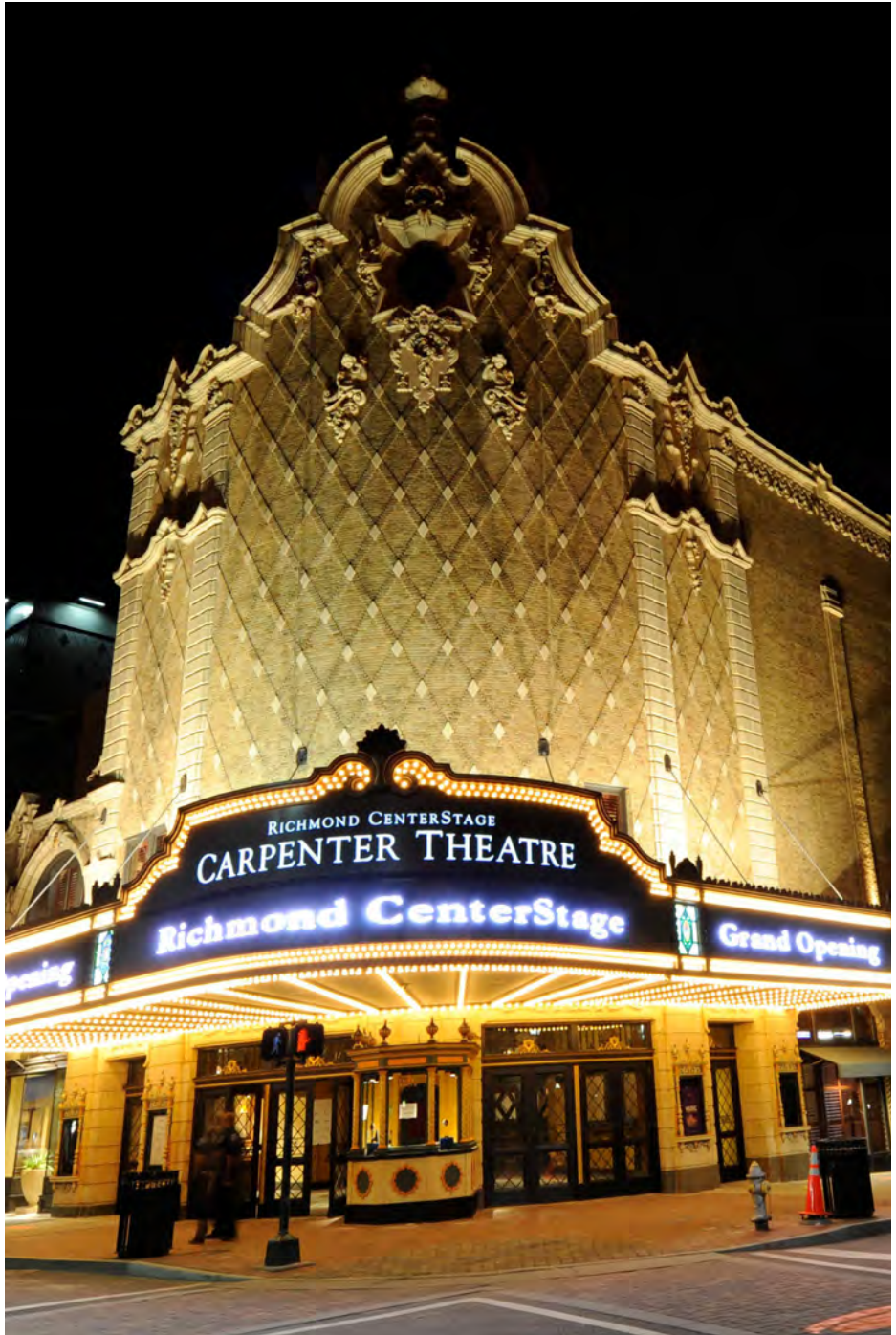
Co-director of the Center for Urban Policy Research - Edward J. Bloustein School of Planning and Public Policy, Rutgers University, USA

We are so pleased for the fifth straight year that professors and students at both the University of Campania in Italy and Rutgers University in the United States (U.S.) have productively collaborated in a joint annual class (See Table 1 for details). The class considers the subject of development and preservation from a cross-national perspective in Italy and the 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. This year, the cross-national topics considered three subjects: restoration and adaptive reuse, heritage tourism, and financial and regulatory mechanisms for preservation. 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 SUN students considered a wide range of Italian adaptive reuse examples, many in the Naples region. Examples of Italian projects studied included: the Hotel San Francesco at Monte, Palace of Arts in Naples, Madre Museum of Contemporary Art, Archaeological Museum of Campi Flegrei, and even the reuse of an ancient cave (Garage Morelli). In parallel, the Rutgers students examined diverse historic preservation and adaptive reuse in the U.S., including as examples: Westminster Lofts (retail, office and housing) in Providence, Rhode Island, the Mercantile block in the same city (housing, offices, retail, and restaurants), adaptive reuse of the Saint Peter and Paul Church in Boston, Massachusetts, and also in Boston an historic house renovation in Jamaica Plain and the Liberty Hotel conversion. While thousands of miles apart, the creative adaptive reuse of the Italian Archaeological Museum at Campi Flegrei (castle to museum) has much in common with the Liberty Hotel project (conversion from Charles Street jail to swank hotel). 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 gov-



American Brewery in Baltimore, Maryland

ernmental support in the form of tax credits, especially the federal historic tax credit (FHTC) which grants a 20% credit for historic rehabilitation investment. At the current time, a revived real estate market in the U.S. and the federal HTC is encouraging growing American historic rehabilitation and adaptive reuse, but the U.S. real estate market can downturn quickly and there is pressure to reduce or even eliminate the federal HTC as a way to reduce the federal deficit. Thus, while our Italian colleagues see merit to a European form of an HTC, it is surely no financial panacea and direct preservation financial grants have their distinct advantages. 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. For example, in 2013, 18 million people from overseas visited cultural heritage sites in the U. S. (up by 30 percent from 2006) and there are throngs of cultural and heritage-oriented tourists in Europe. The SUN students examined the importance of heritage tourism in Naples, while the Rutgers students did the same in studying heritage travel in three U.S. cities: Boston, Miami, and New Orleans. 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 .While heritage tourism has economic benefits, the impacts of such tourism on historic sites must be carefully monitored and dealt with as well (e.g., the huge throng of tourists in such heritage port cities as Venice and Charleston, South Carolina). 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). The Rutgers students considered challenges to preserving churches in New York City (St. Bartholomew), Providence (Lutheran Church) and other U.S. cities. For example, St. Bartholomew, located in midtown Manhattan, wanted to demolish an adjacent community house (not the main sanctuary) for a development site for a valuable future skyscraper, but it was not allowed to do so by the New York City Landmarks Preservation Commission. St. Bartholomew had the financial resources to ultimately persevere and prosper, but other less financially-endowed historic churches (and other religious structures) in the U.S



Carpenter Theatre in Richmond, Virginia

are not so well situated, Preservation for them is a distinct challenge and the SUN students spoke of a parallel situation in Italy regarding preserving historic religious resources. Students also learned of preservation case study examples in both nations, ranging from actions in Pompeii (including cutting-edge GPS and remote sensing technology at that site) and the Campania region in Italy to the “highline” in New York City (abandoned elevated freight line converted to a hugely successful linear park and spurring dramatic adjacent real estate appreciation). We thank our Italian colleagues in fostering this collaboration, most particularly Dean Carmine Gambardella (Director of SUN’s Department of Architecture and Industrial Design and President of BENECON—Region Centre for Cultural Heritage, Ecology, and Economy) and Alessandro Ciabrone (SUN’s International Coordinator). We also thank other SUN professors who made our joint class possible and are pleased that some of our dear Italian colleagues have been able to visit us at Rutgers in New Jersey. We look forward to a continued and expanded collaboration in future years.

Carmine GAMBARDELLA

UNESCO Chair on Landscape, Cultural Heritage and Territorial Governance

Introducing with David Listokin, each for their own Institutions, the double number of the courses related to the years 20016/2017 held jointly by the Benecon Research Center and the Rutgers University, Center for Urban Policy Research, Cultural Heritage and Preservation Studies (CHAPS), an educational and research experience started with the Courses held since 2012, is a reason of particular pride for at least two reasons.

The first, the value of continuity over time of the courses, witnessed by the annual publications of scientific contributions of distinguished international Professors and Phd Researchers, the second the awareness of having addressed the theme of cultural heritage preservation with angles dictated not only on the basis of the consolidated experience of Italian culture on the protection of Historical Cities, Landscape and Monumental Architectures but on the scientific comparison with the American culture, a culture of protection more recent than the Italian one.

In fact, the topic in question, even if not related and comparable to our historical and artistic heritage, the American culture and institutions are more and more careful to produce a methodological approach for the conservation of physicality representing the forms of the time characterizing the evolution of American cities. It is not by chance that I believe it can be dated in 1961 with the book by Jane Jacobs, 'The Death and Life of Great American Cities', an awareness of the regeneration potential of American cities.

A concept of regeneration that is based on the knowledge of the sites and on the generating elements that can be found within the cities themselves, such as stem cells of the body of the metropolis. For Jacobs, man and his activities, which are identified as a cultural heritage of the roots and evolution of cities make it "true that the gray and inert cities have in themselves, together with very little else, the germs of their own destruction; but the living, diversified and intense cities have within them the seeds of their own regeneration, together with sufficient energy to deal with problems and needs outside their own sphere".

Therefore, preserving some places in American cities means, for example, protecting the diversity of the historical evolution of the Fifth Avenue section between the fortieth and fifty-ninth streets. Jacob writes "the tract presents a huge



San Francisco, photo: Carmine Gambardella

variety of big and small shops, banks, office buildings, churches, institutions. Architecture expresses this diversity of uses, and other differences arise from the different ages of buildings, which correspond to different construction techniques and aesthetic characteristics. Again, Fifth Avenue does not appear disorganized or fragmented or dismembered “. The value of the contemporaneity of what does not have the same date is, therefore, a value that, beyond the ancient or recent historical stratifications, joint the principles of the protection of cities, of the resources of the territory, of the historical building.

Beside, even the new, urban transformations and architecture must not only be founded on disorganism or fragmentation but also contain in itself a non-contemporaneity of what has the same date, namely must fit into the existing historical fabric relying on continuity that cannot be formal. In fact, the evolutionary processes that respond to human needs are manifested in physicality generating social wealth with the quality of life of the city and with the opportunities to take a work with art. If we take a look to the past and the innovation produced by the Renaissance cities, we do not find a linguistic uniformity but a contemporary made of differences that bear witness the exceptional production of works of art, of monuments of gardens in one with the beauty of the city made with work with art.

As for the past as a paradigm, founded as we know on the great culture of Humanism, the artisan shops, the knowledge that spread the Universities, even today we must invest in training and knowledge deriving from research for a real urban and landscape regeneration as well as the Territorial Governance. In this sense and with this orientation the joint international course Benecon Rutgers should be interpreted.

University, as a place of knowledge, is able, with a systemic vision of the disciplinary competences to discretize, to measure and to cross from knowledge the material and immaterial resources of the cities, the territory and the landscape; it is also able to give back to the community a wealth of information to balance needs and priorities for the governance of the territory and the development of activities that generate innovation respecting the identity of the roots and the vocation of the places.



San Francisco, Down Town, photo: Carmine Gambardella

A biological concept of modification and not of transformation. The speech by Frank Lloyd Wright held at the New York Herald Tribune on Democracy and Architecture in 1947 in the session entitled The Right to Be Yourself is still relevant: “democracy and architecture if they are organic cannot be two separate things either democracy nor architecture can be imposed. Both come from inside, spontaneously...

Democracy is not so much a form or a political method as a deep faith in the indestructible right of man to be himself. This faith is the natural essence of humanity and therefore constitutes the only secure foundation for a creative construction... collective security is an illusion if it doesn't have this foundation as a precondition;

Internationalism, without this premise, is only coercion... Unfortunately for us and for the nature of today's democracy, Architecture is now, given academic education, completely inorganic.

It is made according to codes and our way of life is therefore a slave and without principles. How can the life of men follow a line if he does not arise and start from within? The organic character is in itself a healthy social foundation, an integrated and organic structure that grows from the earth into the light according to the natural process of man's life on earth “.

F.Lloyd Wright, in 1947, with his organic thought brings to the center of doing, of governing Man and Nature; the changes that man produces according with nature, except for bad management and natural disasters, are reversed in a temporal process that justifies their permanence, but rather shapes at the same time.

This thought is so predictive and current that it seems to have been enunciated by Fritjof Capra who founded in Berkeley the Center for Eco-literacy, which as its name suggests, aims to promote eco-literacy: “... Eco-literacy is an essential talent for politicians, businessmen and professionals in all fields. Moreover, eco-literacy will be fundamental for the survival of humanity as a whole, so it will be the most important part of education at all levels “. Presenting the educational value of ecological education, Capra is inspired by deep ecology, while distancing himself from superficial ecology, as characterized in an anthropo-



San Francisco, photo: Carmine Gambardella

centric and efficient sense; in fact “in the superficial ecology the human beings are placed above and outside of Nature (Intimate and real) and, obviously, this perspective accords with the dominance over all aspects of Nature... to which is attributed exclusively a use value, an instrumental value. Deep Ecology sees the Human Beings as an integral part of Nature, as nothing more than a special thread in the fabric of Cosmic Life / God / Dao / Tao “ (F. Capra, D.Steindl-Rast: ...).

Following this orientation that privileges the grid of life (F. Frijof Capra *La Rete della Vita*, edizioni BUR Biblioteca Univ. Rizzoli collana Superbur scienza, 2001) and cosmic interconnections, the human Being itself is seen as part of Nature (and not in opposition to it). The implications that derive from it are innumerable: here we limit ourselves to underlining that the Natural Aspect (the Divine) of real Nature can no longer be reduced to the object of arbitrary spiritual, mental or technological manipulations; Backwards, Capra observes that we must learn from the Natural Cosmic Cycles and the Organizational Principles of the multi-level Ecosystems, also with the urgent aim of building sustainable communities, able to reduce the effects of the impacts that are still not very ecological.

This objective can no longer be postponed, due to the gravity of the global environmental crisis “. Even more recently in ‘*Vita e natura. Una visione sistemica*, Fritjof Capra, Luisi P. Luigi edizioni Aboca Edizioni, 2014’.

Over the past three decades, in cutting-edge science, there has emerged a new systemic conception of life. Complexity, networks, network and pattern of organization have received renewed attention leading to an innovative approach, called “systemic” approach, e in (Leonardo e la botanica, *Un discorso sulla scienza delle qualità*, Fritjof Capra edizioni Aboca Edizioni collana International Lectures on Nature and Human Ecology, 2018), in fact, some insights are remembered the great genius, which paved the way for subsequent discoveries: for example that the leaves are arranged on the branches do not randomly, but according to mathematical laws; that the growth of the leaves is to avoid overlap, in favor of supply of light; that there is a phenomenon that allows plants to take water from the roots and make it reach the trunk and the branches; concentric rings that are inside of the trunks are linked to the age of the plant. The



San Francisco, Transamerica Tower, photo: Carmine Gambardella

book contains 13 tables of botanical drawings of Leonardo, and it is invoked the principle that making, protecting the landscape and the environment, and governing cannot be independent from the knowledge of the infinite reasons of nature to which man must strive, based on the integral of multidimensionality as a heritage to undertake all human activities.

These were my principles and the studies that I conducted in the research activities of the past and the present, which will also guide that of the future.

A few years ago and in particular in the institutional academic activity, when I was elected Director of the Department of Culture of the Project in 2004 and 2009 Dean of the Faculty of Architecture and Industrial Design at the University of Campania Luigi Vanvitelli, the Colleagues asked me to define with a sentence the program that can characterizes the mandate entrusted to me.

I answered that “Investigating the infinite reasons that are in Nature because the Culture will orient the Project” would have been the summary of my program to involve the diversified disciplinary competences present in the Department. This expression seemed to me, and still today seems to me more current, as an indication of good practice for the future as undoubtedly research and university teaching show signs of crisis due to a classification of restricted sectors in narrow disciplinary areas.

Because Research is the basis of the innovation of Didactics and, therefore, of an increasingly attractive and competitive training offer to be allocated to students to create the right skills required by the labor market, I believe that has come the time to not allocate the disciplinary sectors in impermeable fences but ensure that the needs of man and the protection of his habitat are the creative sources of the Network of Life based on the measure of the resources of territory, city, and landscape declined as in a double match (Luca Pacioli, *DeSumma Geometria, Architettura, Proportione e Propotionità*).

Carmine GAMBARDELLA

UNESCO Chair on Landscape, Cultural Heritage and Territorial Governance

Introdurre con David Listokin, ognuno per le proprie Istituzioni di appartenenza, il numero doppio dei Corsi relativi agli anni 20016/2017 tenuti congiuntamente dal Centro di Ricerca Benecon e dalla Rutgers University e il Center for Urban Policy Research, Cultural Heritage and Preservation Studies (CHAPS), un'esperienza didattica iniziata con i Corsi tenuti dal 2012, è motivo di particolare orgoglio per almeno due ragioni.

La prima, il valore della continuità nel tempo dei corsi, testimoniati dalle annuali pubblicazioni dei contributi scientifici di illustri docenti internazionali, di valenti dottorandi di ricerca, la seconda la consapevolezza di avere affrontato il tema della salvaguardia del patrimonio culturale con angolazioni dettate non solo sulla base dell'esperienza consolidata della cultura italiana sulla tutela delle Città Storiche, del Paesaggio e dell'Architettura Monumentale ma sul confronto scientifico con la cultura americana, una cultura della tutela recente rispetto a quella italiana. Infatti, i temi in questione, anche se non riferibili ed equiparabili al nostro patrimonio storico-artistico, la cultura e le istituzioni americane sono sempre più attente a produrre un approccio metodologico per la conservazione delle fisicità rappresentanti le forme del tempo caratterizzanti l'evoluzione delle città americane. Non a caso ritengo che è databile nel 1961 con il libro di Jane Jacobs, *The Death and Life of Great American Cities*, una presa di coscienza sulle potenzialità di rigenerazione delle città americane. Un concetto di rigenerazione che si fonda sulla conoscenza dei luoghi e sugli elementi generatori rintracciabili all'interno delle città stesse quali cellule staminali del corpo delle metropoli. Per la Jacobs l'uomo e le sue attività identificabili come patrimonio culturale delle radici e dell'evoluzione delle città fanno sì che "è vero che le città grige e inerti hanno in sé, insieme a ben poco d'altro, i germi della propria distruzione; ma le città vive, diversificate e intense hanno in sé i germi della propria rigenerazione, insieme con energie sufficienti per affrontare anche problemi ed esigenze al di fuori del proprio ambito". Pertanto, preservare alcuni luoghi delle città americane significa, ad esempio, tutelare la diversità dell'evoluzione storica del tratto della Quinta Avenue tra la quarantesima e cinquantanovesima strada. La Jacob scrive "il tratto presenta un'enorme varietà di negozi grandi e piccoli, di banche, di palazzi per uffici, di chiese, di sedi di istituzioni; l'Architet-



San Francisco, photo: Carmine Gambardella

tura esprime questa diversità di usi, e altre differenze nascono dalla diversa età degli edifici, cui corrispondono tecniche costruttive e caratteri estetici differenti. Eppure la Quinta Avenue non appare disorganica o frammentaria o smembrata". Il valore della contemporaneità di ciò che non ha la stessa data è, quindi, un valore che, al di là delle stratificazioni storiche antiche o recenti, unisce i principi della tutela delle città, delle risorse del territorio, del costruito storico. D'altronde, anche il nuovo, le trasformazioni urbane e l'architettura, non solo non deve fondarsi sulla disorganicità o frammentarietà ma contenere in sé una non contemporaneità di ciò che ha la stessa data, ovvero deve inserirsi nel preesistente tessuto storico fondandosi sulla continuità che non può essere formale. Infatti, i processi evolutivi che rispondono ai bisogni dell'uomo si manifestano in fisicità generando ricchezza sociale con la qualità della vita delle città e con le opportunità di intraprendere un lavoro con arte. Se diamo uno sguardo al passato e all'innovazione prodotta dalle città rinascimentali, non riscontriamo un'uniformità linguistica ma una contemporaneità fatta di differenze che testimoniano l'eccezionale prodursi di opere d'arte, di monumenti di giardini in uno con la bellezza delle città realizzate con il lavoro con arte.

Come per il passato sopra posto come paradigma, fondato come sappiamo sulla grande cultura dell'umanesimo, sulle botteghe artigiane, sulla conoscenza che diffondevano le università, ancora oggi bisogna investire sulla formazione e conoscenza derivante dalla Ricerca per una reale rigenerazione urbana, del paesaggio e del Governo del territorio. In tal senso e con questo orientamento va interpretato il Corso internazionale congiunto Benecon Rutgers.

L'Università, quale luogo dei saperi, è in grado con una visione sistemica delle competenze disciplinari di discretizzare, di misurare e attraversare dalle conoscenze le risorse materiali e immateriali delle città, del territorio, del paesaggio; è in grado altresì di restituire alla collettività un patrimonio di informazioni per bilanciare bisogni e priorità per il governo del territorio e lo sviluppo delle attività che generano innovazione nel rispetto delle identità delle radici, della vocazione dei luoghi. Un concetto biologico di modificazione e non di trasformazione. Ancora attuale è il discorso di Frank Lloyd Wright tenuto al Forum della New York Herald Tribune su Democrazia e Architettura nel 1947 nella sessione II



San Francisco, photo: Carmine Gambardella

Diritto di essere se stessi: “ la democrazia e l’architettura se sono organiche non possono essere due cose separate. Né la democrazia, né l’architettura possono essere imposte. Ambedue vengono dal di dentro, spontaneamente..... La democrazia non è tanto una forma o un metodo politico quanto una profonda fede nell’indistruttibile diritto dell’uomo ad essere se stesso. Questa fede è l’essenza naturale dell’umanità e costituisce perciò il solo fondamento sicuro ad una costruzione creativa.....la sicurezza collettive è un’ illusione se non ha come premessa questo fondamento; l’internazionalismo, senza questa premessa, è solo coercizione.....Sfortunatamente per noi e per la natura della democrazia di oggi, l’Architettura è ora, data l’educazione accademica, del tutto inorganica. E’ fatta secondo codici e il nostro modo di vivere è perciò schiavo e senza principi. Come può la vita degli uomini seguire una linea se egli non la sorgere e decorere dall’interno?.....Il carattere organico è di per se stesso un sano fondamento sociale, una struttura integrata e organica che cresce dalla terra nella luce secondo il processo naturale della vita dell’uomo sulla terra”.

F.Lloyd Wright, nel 1947, con il suo pensiero organico riporta al centro del fare, del governare l’Uomo e la Natura; le modificazioni che l’uomo produce compatibilmente con la natura, eccetto la mala gestio e i disastri naturali, si inverano in un processo temporale che ne giustifica la permanenza, anzi dà forma al tempo stesso. Questo pensiero è talmente predittivo e attuale che sembra sia stato enunciato da Fritjof Capra che ha fondato a Berkeley il Center for Ecoliteracy, che come suggerisce il nome, si propone di promuovere l’ecoalfabetizzazione: “...l’ecoalfabetizzazione è una dote essenziale per i politici, gli uomini d’affari e i professionisti in tutti i campi. Di più, l’ecoalfabetizzazione sarà fondamentale per la sopravvivenza dell’umanità nel suo insieme, quindi costituirà la parte più importante dell’educazione a ogni livello”. Nel presentare il valore formativo dell’educazione ecologica, Capra si ispira all’ecologia profonda, nel mentre prende le distanze dall’ecologia superficiale, in quanto caratterizzata in senso antropocentrico ed efficientistico; infatti “nell’ecologia superficiale gli Esseri umani sono posti al di sopra e al di fuori della Natura (Intima e reale) e, ovviamente, questa prospettiva si accorda con il dominio su tutti gli aspetti della Natura... alla Quale si attribuisce esclusivamente un valore d’uso, un valore



San Francisco, photo: Carmine Gambardella

strumentale. L'Ecologia profonda vede gli Esseri umani come parte integrante della Natura, come nient'altro che un filo speciale nel tessuto della Vita Cosmica/Dio/Dao/Tao" (F. Capra, D.Steindl-Rast: L'universo come dimora, Feltrinelli, 1993, pag. 94). Seguendo tale orientamento che privilegia la rete della vita (F. Frijof Capra La Rete della Vita, edizioni BUR Biblioteca Univ. Rizzoli collana Superbur scienza, 2001) e le interconnessioni cosmiche, l'Essere umano stesso è visto come parte della Natura (e non in contrapposizione ad essa). Le implicazioni che ne discendono sono innumerevoli: qui ci limitiamo a sottolineare che l'Aspetto Naturale (il Divino) della Natura reale non è più riducibile ad oggetto di arbitrarie manipolazioni spirituali, mentali o tecnologiche; al contrario, Capra osserva che noi dobbiamo imparare dai Cicli Cosmici Naturali e dai Principi organizzativi degli Ecosistemi multilevel, anche con lo scopo improcrastinabile di costruire delle comunità sostenibili, capaci di ridurre al massimo gli effetti degli impatti ancora poco ecologici. Questo obiettivo non è più rinviabile, data la gravità della crisi ambientale a livello planetario" come sostenuto ancora più recentemente in 'Vita e natura. Una visione sistemica, Fritjof Capra, Luisi P. Luigi edizioni Aboca Edizioni, 2014'. Nelle ultime tre decadi, nella scienza d'avanguardia, è emersa una nuova concezione sistemica della vita. Complessità, reti e modelli di organizzazione hanno ricevuto una ripetuta attenzione che porta a un approccio innovativo, chiamato approccio "sistemico" (Leonardo e la botanica, Un discorso sulla scienza delle qualità, Fritjof Capra edizioni Aboca Edizioni collana International Lectures on Nature and Human Ecology, 2018). Infatti, sono ricordate alcune intuizioni del grande genio che ha aperto la strada a successive scoperte: per esempio la disposizione non casuale delle foglie sui rami, secondo leggi matematiche; il fenomeno che consente alle piante di prendere l'acqua dalle radici e di raggiungere il tronco e i rami; gli anelli concentrici che si trovano all'interno dei tronchi sono legati all'età della pianta. Il libro contiene 13 tavole di disegni botanici di Leonardo a cui è richiamato il principio che il fare, la tutela del paesaggio e dell'ambiente, il governare non possono da una prescindere dalla conoscenza delle infinite ragioni della natura alle quali l'uomo deve tendere che si fonda sull'integrale della multidimensionalità come patrimonio per intraprendere tutte le umane attività.



San Francisco, photo: Carmine Gambardella

Questi sono stati i miei principi e gli studi che ho condotto nelle attività di ricerca del passato e del presente, che orienteranno anche quella del futuro. Qualche anno fa e in particolare nell'attività accademica istituzionale, quando mi elessero nel 2004 Direttore del Dipartimento di Cultura del Progetto e dal 2009 Preside della Facoltà di Architettura dell'attuale Università della Campania Luigi Vanvitelli, i Colleghi mi chiesero di definire con una frase sintetica un programma che caratterizzasse il mandato affidatomi. Risposi che "Indagare le infinite ragioni che sono nella Natura perché la Cultura orienti il Progetto" sarebbe stata la sintesi del mio programma per coinvolgere le diversificate competenze disciplinari presenti in Dipartimento. Questa espressione mi sembrava, e tutt'oggi mi appare ancora più attuale, come indicazione di buona pratica per il futuro in quanto indubbiamente la ricerca e la didattica universitaria mostrano segnali di crisi a causa di una classificazione dei settori disciplinari ristretta in angusti ambiti disciplinari. Poiché la Ricerca è alla base dell'innovazione della Didattica e, pertanto, di un'offerta formativa sempre più attrattiva e competitiva da destinare agli allievi per creare le giuste competenze richieste dal mercato del lavoro, credo che sia giunto il momento di non allocare i settori disciplinari in recinti impermeabili ma fare in modo che i bisogni dell'uomo e la tutela del suo habitat siano le fonti creative della Rete della Vita fondata sulla misura delle risorse del territorio, delle città, del paesaggio declinate come in un partita doppia (Luca Pacioli, DeSumma Geometria, Architettura, Proportione e Propotionità).

FEDERAL AND STATE HISTORIC PRESERVATION TAX CREDITS IN THE UNITED STATES (U. S.) and ECONOMIC, HOUSING and OTHER BENEFITS: UPDATE TO 2015

David LISTOKIN

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One of the biggest constraints to historic preservation worldwide is the financial gap between the costs of an historic preservation project and available resources. In the U. S., a primary means of bridging the financial gap is through the use of federal and state historic tax credits (HTC).

The federal HTC is a federal income tax credit equal to 20% of the qualified rehabilitation cost of income-producing historic properties. In other words, a rehabilitation investment of \$1 million in an historic hotel, office building, and retail store or apartment rental complex would reduce the federal taxes owed in the U.S. by the investor by \$ 200,000. (Further detail on the federal HTC in Table 1.) The federal HTC has cumulatively amounted over 1978 through 2015 to about \$120.8 billion in inflation-adjusted 2015 dollars. In 2013 alone, the federal HTC rehabilitation activity amounted to about \$5.0 billion.

National cumulative economic impacts (including direct and multiplier impacts of the HTC-related investment to date (1978-2015) amounts to a total of 2.361 million jobs and \$134.7 billion in Gross Domestic Product (GDP). All of this economic activity generated \$39.0 billion in total government (federal, state, and local) taxes, including a cumulative \$28.1 billion in federal taxes alone. In 2015, HTC-related investment generated approximately 86,000 jobs, \$4.8 billion in GDP and \$1.3 billion in total governmental taxes. Further detail on the economic impacts is shown in tables 2 and 3.

How does HTC-related historic rehabilitation perform as an economic pump-primer compared with other, non-preservation investments? In short, quite well. Numerous studies conducted by Rutgers University have shown that in many parts of the country, a \$1 million investment in historic rehabilitation yields markedly better effects on employment, income, GDP, and state and local taxes than an equal investment in new construction or many other economic activities (e.g., manufacturing or services). These findings demonstrate that historic rehabilitation, combined holistically with the many activities of the broader economy, delivers a commendably strong “bang for the buck.”

About half of all federal HTC transactions include housing. From 1978 through 2015, the HTC has been involved in the creation of 527,866 housing units (50.1% existing housing units that were rehabilitated and 49.9% were newly



Fox Oakland Theater in Oakland, California

created housing units). In addition, 146,074, or 28% of the total housing units produced were affordable to poor families.

The federal HTC is a tax expenditure and has a public cost -- approximately \$23.0 billion (in inflation-adjusted 2015 dollars) over the period of 1978 through 2015. Weighing against these costs are the significant economic impacts and tax revenue generated by federal HTC-aided rehabilitation. An important finding is that the HTC yields a net benefit to the U.S. Treasury, generating \$28.1 billion in federal tax receipts over the life of the program, compared with \$23.1 billion in credits allocated.

In addition to the federal HTC, about 35 states in the U.S award additional state HTCs, where state taxes are reduced by investment in historic rehabilitation (see Figure 1). Reflecting dynamic federalism, the specific state provisions vary tremendously. The percentage of the rehabilitation investment against which a credit is given for state tax purposes ranges from 5 percent to 50 percent. Many states track the federal provisions and allow a 20 percent credit. The state HTC is often available to income-producing properties (as the federal HTCs), may be available to homeowner occupants (going beyond the current federal HTC), and may have further targeting (e.g., to downtown areas). While the federal HTC has no cap or maximum once its requirements are met, the less "deep pocketed" states often cap their state historic HTC.

Data are not available on the specific overall (35 state) and cumulative (multi-decade) historic rehabilitation investment spurred by the state HTCs, but by all accounts it is quite substantial as are the ensuing economic, housing and other benefits.

One example historic and adaptive reuse project ("the Hill Building") in the United States in Durham North Carolina that used both the federal and state HTCs is summarized below.

Despite the many benefits of HTC, tax credits (or other preferred tax treatment) more broadly are under assault in the U.S., especially at the federal government level. As other countries, the U.S. faces a growing federal budgetary deficit and this has led to proposals to both reduce direct governmental outlays for defense and social support programs as well as to limit provisions that reduce



Maritime_Building_New_Orleans_Louisiana

the collection of taxes, such as tax credits. Time will tell what transpires with the federal HTC. Its loss would be a tremendous setback to historic preservation investment in the U. S.

Project Profile

Historic Name: Hill Building

Current Name: 21c Durham Museum Hotel

Original Construction Year: 1937

Rehabilitation Years: 2014-2015

Original Use: Locally-owned bank and insurance

New Use: 125-room hotel, meeting space and art museum

Estimated Total Project Cost: \$ 48 million

Federal Historic Tax Credit

(HTC) Equity: \$7,900,000

State HTC Equity: \$ 3,500,000



NSO_Bell_Building_Detroit_Michigan

Table 1: Qualifications for 20% U.S. Federal Historic Tax credit (FHTC)

20% FHTC (Historic Properties)

Requirements/Provisions

1. Certified Historic Structure

- a. Individually listed in National Register of Historic Places or
- b. Building located in registered historic district and certified by NPS as contributing to district's historic significance

2. "Substantial Rehabilitation"

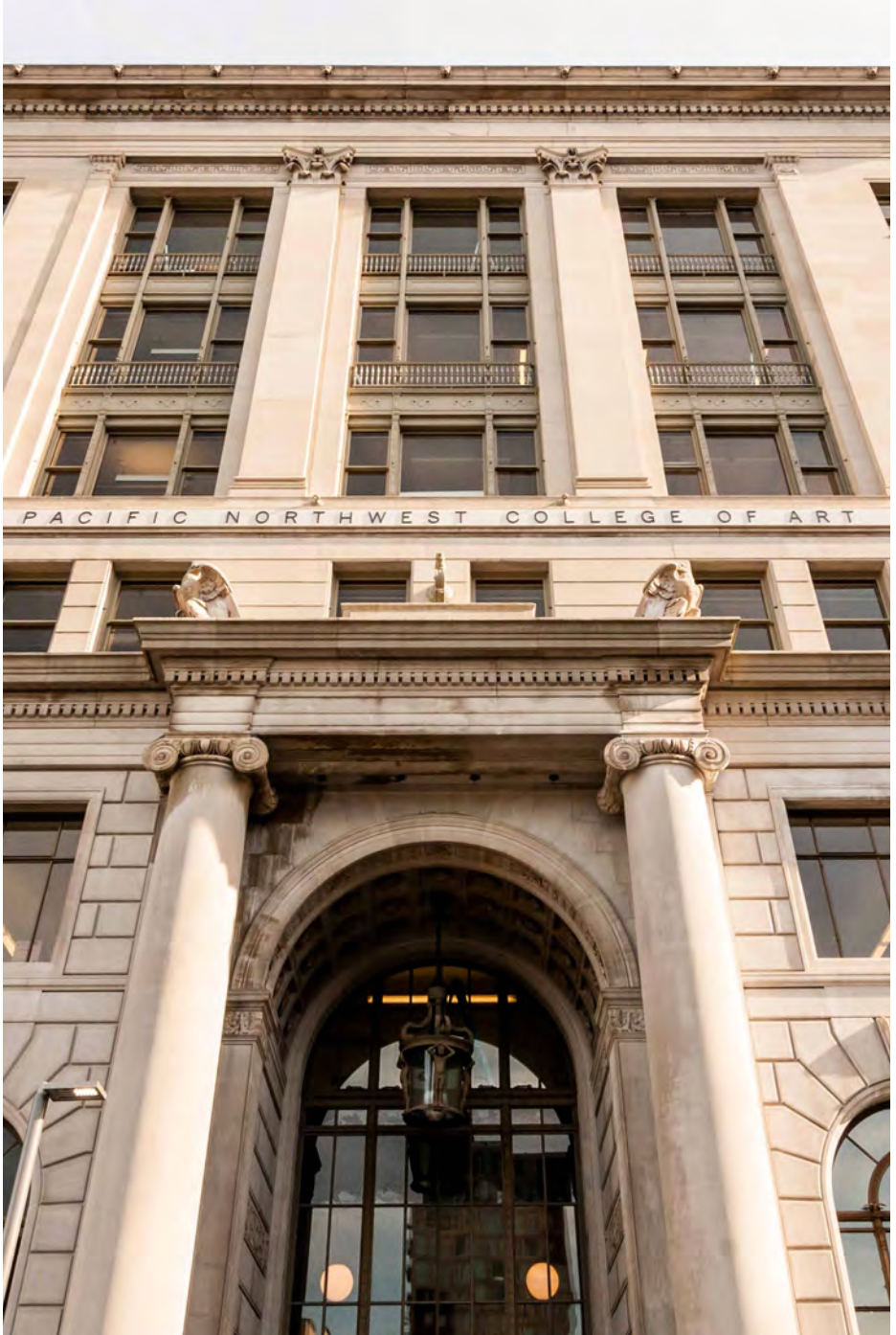
- a. "Rehab" =capital item that is depreciable over a 24-month period
- b. Substantial=greater than \$5,000 or adjusted basis (adjusted basis=purchase price + improvements less depreciation)

3. Certified Rehabilitation

- a. Rehabilitation consistent with historic (preservation) character
- b. Has to meet Secretary of Interior Standards

4. FHTC Characteristics

- a. The FHTC is equal to 20% (e.g., a \$1 million historic rehabilitation project reaps a \$0.2 million credit)
- b. FHTC is dollar for dollar credit (unlike property depreciation whose value depends on taxpayer's tax bracket)
- c. FHTC is in addition to depreciation of building (depreciation can reduce taxes on real estate or other income) But depreciable basis is reduced by amount of tax credit



PNCA in Portland, Oregon



Williamsburgh Savings Bank in Brooklyn, New York



Royal Palace of Caserta, photo: Gino Spera

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. (See page 8 in this syllabus for more details on the joint student research.)

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.

Naples, photo: Gino Spera





Procida, photo: Gino Spera



MODULE PAPERS and BIOGRAPHIES

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THE ISLAMIC DECORATIVE TRADITION: PLATO'S TIMAEUS AND MIMESIS IN THE MUSLIM MEDIEVAL ART

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Islamic decoration, which tends to avoid using figurative images, makes frequent use of geometric patterns which have developed over the centuries.

The geometric designs in Islamic art are often built on combinations of repeated squares and circles, which may be overlapped and interlaced, as can arabesques (with which they are often combined), to form intricate and complex patterns, including a wide variety of tessellations.

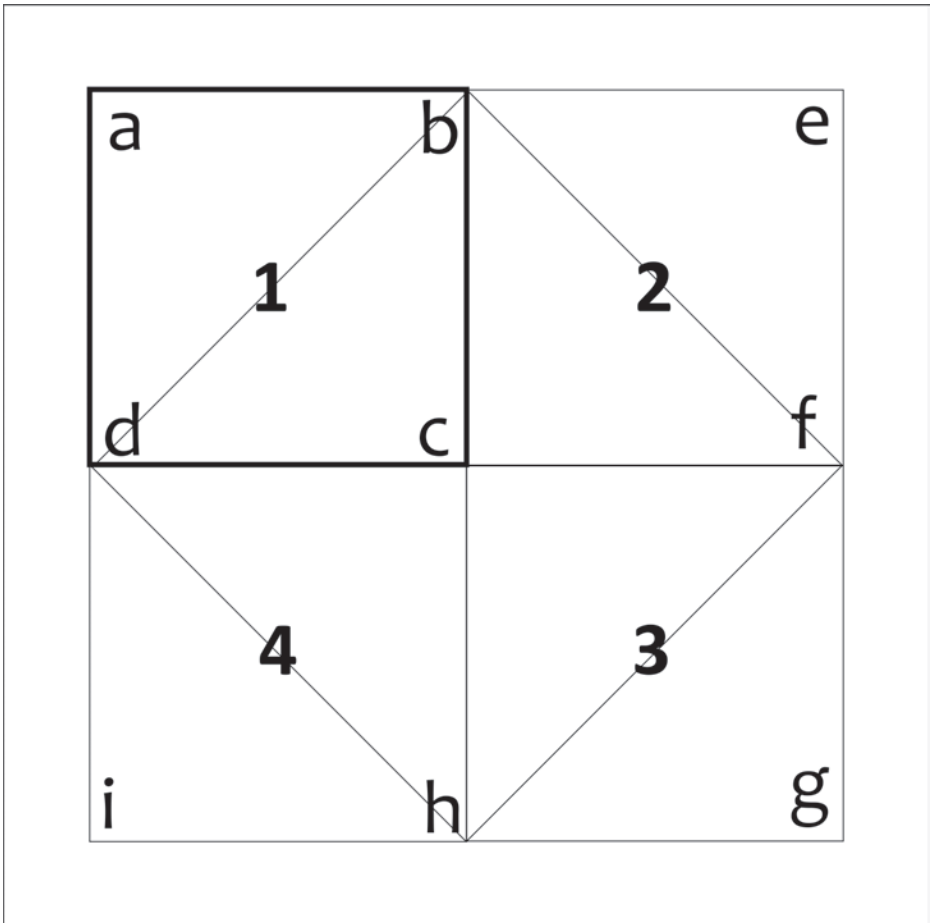
Interest in Islamic geometric patterns is increasing in the West, both among craftsmen and artists in the twentieth century, and among mathematicians and physicists including Peter J. Lu and Paul Steinhardt who controversially claimed that girih designs such as that used on the Darb-e Imam shrine in Isfahan were able to create quasi-periodic tilings resembling those discovered by Roger Penrose. They showed that rather than the traditional ruler and compass construction, it was possible to create girih designs using a set of five "girih tiles", all equilateral polygons, secondarily decorated with lines (for the strapwork).

Hankin, one of the early Western students of Islamic patterns, defined a "geometrical arabesque" as a pattern formed "with the help of construction lines consisting of polygons in contact". He observed that many different combinations of polygons can be used as long as the residual spaces between the polygons are reasonably symmetrical. For example, a grid of octagons in contact has squares (of the same side as the octagons) as the residual spaces. Every octagon is the basis for an 8-point star, as seen at Akbar's tomb, Sikandra (1605–1613).

More recently Valérie Gonzalez introduced the Aristotelian concept of "mimesis" about the Muslim medieval art: the Muslim medieval philosophers not only have incorporated this concept in their aesthetic theories, but also they have refined it with new complex notions like fantasy or "imaginary suggestion" and referred to "double ontology" of Islamic art.

The observations of Hankin, Lu, Steinhardt and Gonzalez provide much food for thought. The oldest philosophical speculation about polygons dates back to Plato. In *Timaeus*, the philosopher writes that Demiurgo formed the world according to a geometric-mathematical proportion.

Through a complex reasoning he explains the Platonic solid, a regular, convex



Plato, Meno. Duplication of the given square (step 1).

polyhedron, constructed by congruent regular polygonal faces meeting at each vertex. Five solids meet those criteria, and each is named after its number of faces. Plato theorized in his dialogue that the classical elements were made of these regular solids: tetrahedron, cube, octahedron, dodecahedron, icosahedron.

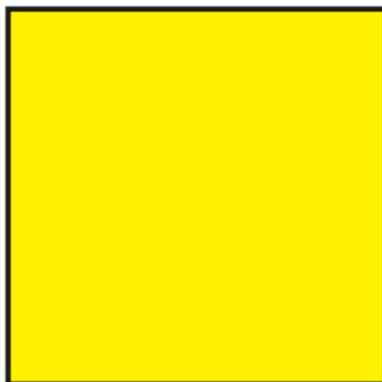
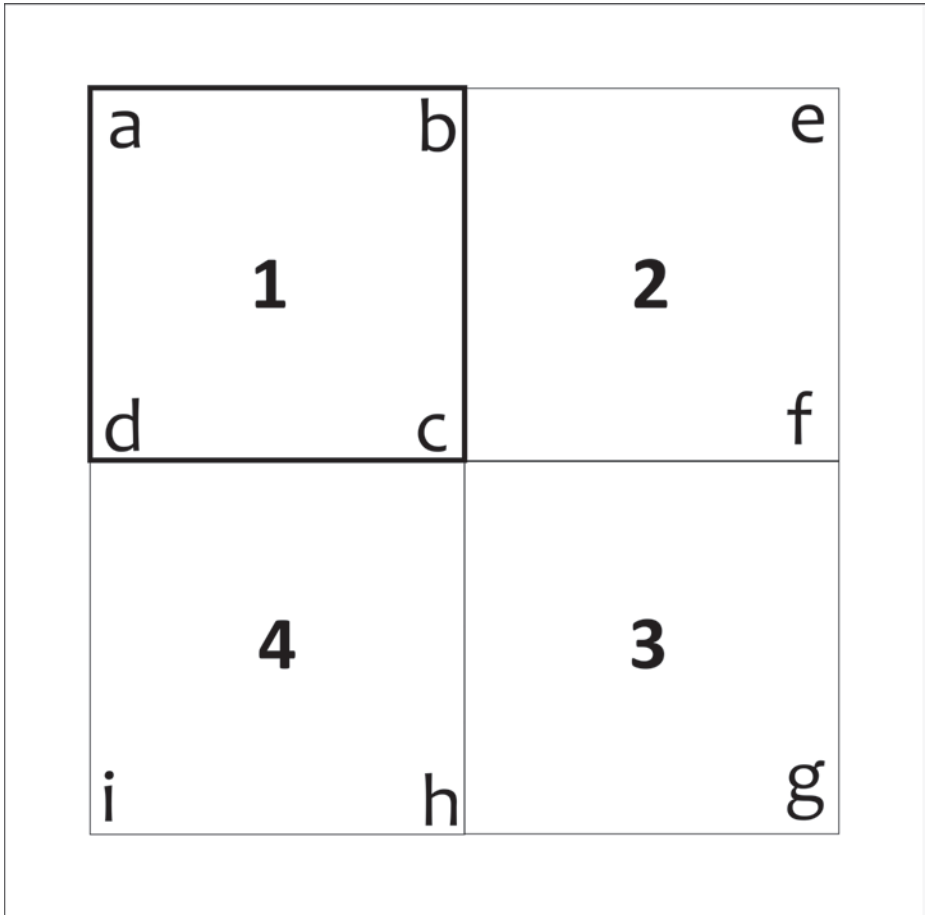
In the *Timaeus*, he says so also the origin of the golden section, the common element in architecture, politics, music, science, art.

Mathematical thinking of Plato was perfected by some scholars of the Hellenistic period and, as is well known, during the medieval age the Arabic scholars translated and studied Platonic philosophy and saved from oblivion .

Arab tradition is the most important because it is the nearest to Greek sources: in 529 an edict by Emperor Justinian closed the Academia of Athens and the exponents of the cultural Athenian life therefore refuge at the court of Persian King Cosroe I (531-579). Hence the Platonic philosophy merged into the cultural renewal program supported by the court of the caliphs of Baghdad an strongly syncretistic context. Under the reign of the Abbasid Caliph Mamun (813-833) and in subsequent years, the *Timaeus* least three times, sign, this, of the importance 'theological' that the Arab Middle Ages, as later the Christian, recognized to the dialogue of 'cosmology' Platonic.

Through the Christian Syriac culture, in the IX century, flourished the translations into Arabic of Greek texts directly from the original, but the only Platonic work translated in its entirety was just the *Timaeus*.

The knowledge of Plato succeeds useful to integrate Lu and Steinhardt's theory: the conventional view holds that girih (geometric star and polygon) patterns in medieval Islamic architecture were conceived by their designers as a network of zigzagging lines. Instead, according to the two scholars, by 1200 c.e. a conceptual breakthrough occorre in which girih patterns were reconceived as tessellations of a special set of equilateral polygons ("girih tiles") decorated with lines. These tiles enabled the creation of increasingly complex periodic girih patterns and, by the XV century, the tessellation approach was combined with self-similar transformations to construct nearly perfect quasi-crystalline Penrose patterns, according to the golden ratio $\phi = (1+\sqrt{5})/2$ in a regular pentagon , as



Plato says in the *Timaeus*.

According to Lu and Steinhardt, «Islamic designers had all the conceptual elements necessary to produce quasi cristalline girih pattern using the self-similar transformation method» (p. 1108): this system is in fact explained by Plato with the well-known theorem of the square duplication in the *Meno*, system fully theorized only by the philosopher in a text translated by Aristippo, in the composite Norman court in Sicily .

This system avoids any theoretical reference to purely geometrical concepts (especially measure, height, width): in fact, the operation performed by the slave boy of *Meno* in the homonymous dialogue is a triangulation which is a breakdown of the basic diagram.

In studying the probably 13th century manuscript by an anonymous author, *Fī tadhākul al-ashkāl al-mutashābihah aw al-mutawāfiqa* (Bibliothèque Nationale in Paris), one may find an interesting ‘practical’, albeit incorrect, solution for creating regular decagons and pentagons by cutting and pasting the kunya-5 triangle, a right-angled triangle with one angle equal to 36° .

According to some scholars “It is historically significant that as early as the thirteenth century A.D., it was known that what we presently call the golden triangle and golden gnomon are together capable of tessellating the Euclidean plane, and that during the Middle Ages, Islamic design continued in the tradition of the Alexandrian and other eastern Mediterranean schools of mathematics. The use of this five-pointed star appears to have stimulated mathematicians to work on these practical problems in design. The importance of this problem to the Muslim scientists may be inferred by the fact that they tried over the course of several centuries to find the perfect solution” . To this knowledge must be added, however, that of Plato, the starting point for reflection on symmetry and size and their practical applications.

The examples of Great Mosque of Nayriz (X-XV century) and Darb-e Imam shrine Isfahan (XV century), in Iran, the Topkapi Palace Museum in Istanbul show that five Platonic polygons were used to construct a wide range of patterns with decagonal motifs and decagonal geometry -thus enforced in a girih pattern formed by the tessellation of any combination of girih tiles- giving rise to



Istanbul, Turkey. Topkapi Palace Museum. Harem tilework

Islamic decorative motifs in the Muslim medieval architecture.

Özdural's paper convincingly shows how academics such as Abu'l- Wāfa in Baghdad or later Omar Khayyām in Esfahan and Jamshīd al-Kāshī in Samargand frequently met with artisans, architects, masons and carpenters in what he calls *conversazione*, i.e., seminars and practical sessions, where the then popular cut and paste technique of dividing larger material into smaller pieces was exercised and got a sound theoretical foundation, derivative -as evidenced by the knowledge of the Greek originals- of Platonic philosophy.

While the Golden Age of Islamic Science and Art before and around 1000 CE, in particular Persia, was brutally brought to an end by Mongol invasions after 1220, with catastrophic destruction and by and large architectural inactivity for several decades, later-on, during Ilkhanid, Timurid, and even Ottoman periods, scholars again took over in assisting those who created the most incredible geometric and arabesque tessellations, in the wake of the proportional rules fixed -for the first time in IV century- in the *Timaeus*.

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EVOLUTIONARY PERSPECTIVES OF LEGAL MODELS FOR COMMON LANDS MANAGEMENT

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It is well-known how in Italy a heated debate on “commons” and their role in contemporary society [1] has recently arisen, not only in academic circles, with it focussing on the possible reconfiguration of the institution of “usi civici” (rights of commons) [2]. In addressing the issue of alternative possession models to that of ownership [3], there is an evident need to find a way to overcome the inevitable conflicts between individual and collective interests that characterize the governance of commons. This is to avoid the so-called “tragedy of the commons” dynamic [4], according to which common lands would be inevitably destined to deteriorate, to the extent that their “fate” would depend on uncoordinated individual choices, all aimed at maximizing one’s own benefits without worrying about the simultaneous rights of others, nor the sustainability of the exploitation of the commons. There is therefore the search for a sustainable management model, in terms of, on the one hand, the preservation of the territory, while on the other, a proper regulation of the relationships between the commoners.

In this context, it is worth mentioning the English common lands, which represent one of the oldest (and still operative) management models of “common lands” in Europe, dating from the late Middle Ages. Created as an institution aimed at allowing the joint exercise of activities related to the survival and the management of lands for rent within the feud [5], the common lands were subsequently evolved through their development in a non-economic/productive sense, but rather a landscape/environmental one. In particular, with the Commons Act of 2006, the English legislator intervened on the common lands governance system by opting for a local level management model, bottom-up [6]. Thus, it provides for the allocation of programming and administration tasks to be carried out by Commons Councils, authorized private associations, made up of representatives of the various categories of stakeholders in the common lands, interested in the rational, sustainable and peaceful management of common lands (holders of rights of use, environmental associations, local development committees) [7]. These associations, amongst other things, are called upon to define shared rules of common lands use, which primarily ensure their environmental protection: to this end, they subscribe environmental agreements



Sudbury Common Lands Nature Reserve

aimed at shaping the different rights to common lands and the manner of their exercise, so as to ensure the achievement of high standards of environmental protection. The content of these agreements – this is the profile of greater importance – is determined by means of participatory democracy mechanisms, so as to make the commoners not only more aware, but actual protagonists of the environmental protection policies of the areas of interest to them.

The experience of the English common lands makes it possible to claim that it is not only still possible to have functional collective land management models – as an alternative to the exclusionary regime of private property – but also that, in some cases, this type of governance can also be more efficient, in terms of pursuing better public interests. It is obvious that we are not referring to an economic/productive efficiency, but rather to an easier achievement of high levels of landscape valorisation and environmental protection. There are, furthermore, arguments in favour of a valorisation of the cultural profiles of common lands [8]: the continuing application of ancient customary law rules; the use of traditional land exploitation methods; the maintaining of a natural condition, almost “wild”, of entire areas due to their status of common lands (not individually transformed by man), are all elements that also give a historical and cultural value to these territories, making them «a locus of community identity and cultural capital» [9]. This, however, presupposes the existence of certain elements, both purposive (sustainable development objectives) and managerial (involvement and empowerment of local communities in the decision-making processes), fully in keeping, moreover, with findings by theorists of the recent “rediscovery” of the commons [10].

In light of the above considerations, it is possible to explain the evolutionary phenomenon that has characterized over the past few decades the institution of “usi civici” (rights of commons) in Italy: the original productive function was later changed due to the profound social and economic transformations that occurred [11]. Therefore, the protection of “usi civici” today has its foundation – also based on the guidelines of the doctrine [12] and the Constitutional Court [13] – in their quality as ecological assets, protected by Article. 9, paragraph 2, of the Italian Constitution. On this basis, it is now possible to include the lands



Beverley Westwood common land (England)

subject to rights of commons in the so called “new commons” [14], due to being different compared to traditional shared ownership model, both in terms of objectives and beneficiaries of common resources: on the one hand, the objective is no longer that of the livelihood of the holders of rights to use, nor of a sustainable use of the land from a productive point of view, but rather that of the landscape/environmental conservation of the resources; while, on the other, those who enjoy the benefits of a proper management of the “usi civici” are no longer only the holders of rights of use (local population), but the entire community, as well as future generations.

This also involves a review of the governance models. With the economic-private dimension of exploitation of the land becoming recessive, and, on the contrary, the cultural-collective dimension of the protection and enhancement of the resources linked to it emerging, a purely private ownership approach – linked to the needs of the recipients of the rights of use, which does not take into account the substantial public profiles engaging the entire community – will prove to be inadequate. In this sense, the doctrine that has been the first to propose a systematic theoretical model of commons management has identified a number of essential conditions aimed at guaranteeing sustainability and efficiency [15]. Among these, the most interesting for purposes of this study are undoubtedly: the adoption of participatory democracy models in the defining of rules; the recognition of the right of the users to organize and manage themselves; the provision of multiple levels of management (local and national) of the common resources. In particular, the use of governance models inspired by the theories of participatory democracy, in this context, not only enables the surfacing of the “voices” of the different people who benefit and, at the same time, are responsible for the commons, but also facilitates the achieving of a better final result in terms of satisfaction of involved public interests: a participatory decision-making process, in fact, is not limited to listening to the views of the different stakeholders, but rather comparing and discussing the various interests, often conflicting, thus providing everyone the tools to go beyond their own individual position, by virtue of pursuing the common (and shared) interest to the most appropriate management of the asset [16].

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ISLAMIC INFLUENCES IN THE NINETEENTH CENTURY RESTORATIONS. THE AMALFI COAST

Saverio Carillo

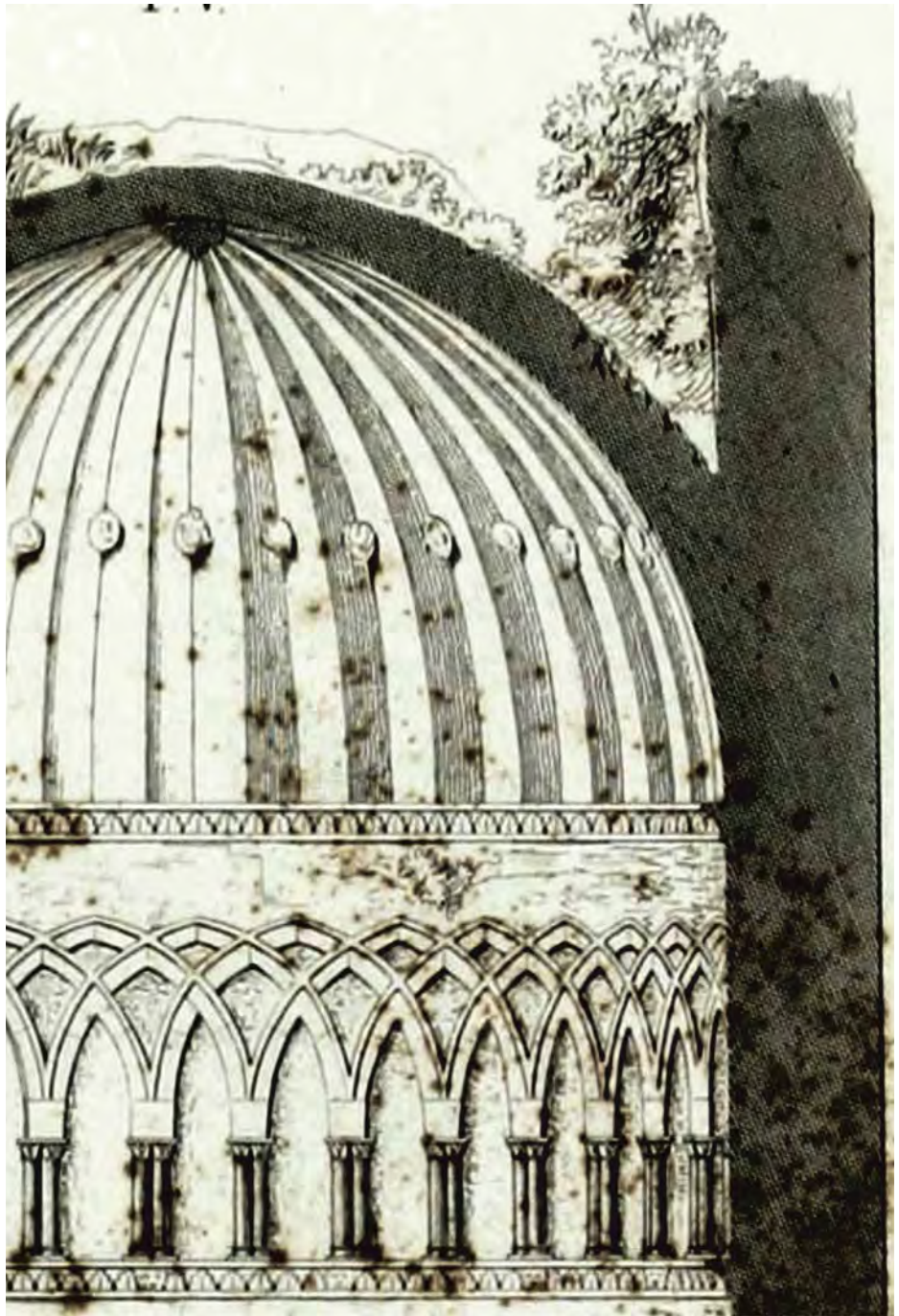
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The restoration of the monuments in the Amalfi Coast, in the nineteenth century, is the subject of this study. Several buildings, in fact, at this time, are transformed. The Cathedral of Sant'Andrea, for example, after a collapse, is enriched with a new facade. Even an aristocratic house of medieval age, already transformed over the centuries, is further restored when a Scottish gentleman named Francis Nevile Reid decide to purchase that. Islamic culture has helped to indicate the solutions for the restoration of buildings. The restoration work, in this way, is also inspired by the architectural style of oriental culture. Much attention is paid to the choice of materials.

Similarly he devotes attention to the choice of colors and surface refractive direct exposure of light. Brilliant effects of the color of gold mosaics help to give an idea of what may become the design concept of the facade precious and harmonic. The light, especially at sunset, for a traditionally oriented church from west to east, offers opportunities to grasp the variations of colors that adorn the scenery. The architecture of the place is built on the alternation between full and empty. Even the shadows of surface reliefs concur to define the design of the facades. A building materials embroidery constitute the surface of the spaces. The volumes, generally very simple, have enriched the game of wall thickness that retrocede or make projections on which rest terracotta's or stucco's small columns.

This legacy of shapes, inspired by the wisdom of Islamic decorative, realizes environments and public spaces rich of small columns and interlaced arches. The composition of the spaces is sorted by levels. The buildings are multi-story with several opportunities to living comfort. In the lower floors the presence of shade and proximity of gardens and water ensures the coolness in summer and warm during the winter season.

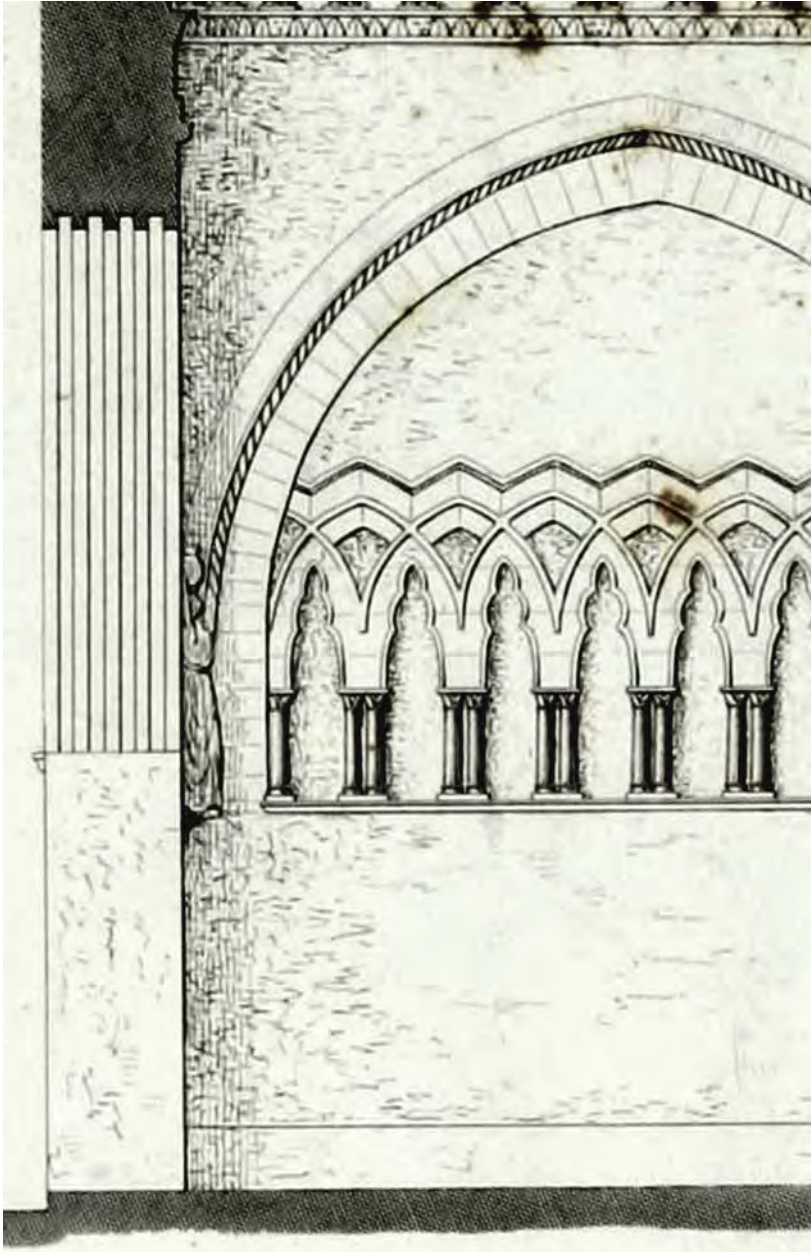
The first floor is enhanced by covered walkways that serve as external connectors between the rooms of the house. The use of corridors covered with an open front is the result of a design concept of a particular relationship with the habitat. In fact, it relates to the nature and to condition of the sites. Another significant aspect is documented by the management of resources. The design of roofs with the top surface exposed allows the recovery of rainwater. A major pipeline



Ravello, Villa Rufolo, Tower of ingress, roofing detail

system promotes water harvesting and storage in tanks.

The same water tanks are, in general, placed the basement floors and coated with hydraulic plaster. The ceiling of the tanks is usually a barrel vault. The materials for the realization of the traditional house are retrieved from the territory. The local stone extracted from the ground is used with a construction technique that provides for easy machining of the individual pieces. Each stone is cemented with a mortar obtained from the mixture of slaked lime and volcanic sand. The territory is made up of limestone which, subjected to baking, produces a good lime. Quicklime, macerated in water, it produces lime that mixed with volcanic sand and other eruptive products form an excellent mortar. The stones are arranged on several layers with periodic spaced horizontal leveling, in height, between 40 and 50 centimeters. Each layer can be recognized because it has smaller stones on the top of the layer while the larger stones are stacked from the lower level. Another important material in the traditional buildings of the Amalfi coast is the lapillo. The lapillo or 'lava foam' is loose material deposited on the ground as a result of volcanic eruption. It looks like lump of very light stone because, originally, in the incandescent matter that constitutes it, erupted from the volcano, there is also gas. Being very light is also the last material that is deposited on the soil especially on the lava solidified castings. The traditional construction uses the lapillus mixed with sand and pumice with the addition of slaked lime. This compound forms a conglomerate that is worked. To make it useful to the formation of floors and roofs is distributed on decks of wooden carpentry. Subsequently he worked for several days with vigorous typing actions so he can have a solid sheet at the close of the architectural space. Other place of flooring system is reserved for stately homes with the use of so-called "Riggiola" Neapolitan. The "Riggiola" is an earthenware plate on which there is a decoration in enamel on surface. After the decoration of the surface enamel it was the Riggiola is again in the oven to make cooking with vitrification of support. This treatment makes the waterproof Riggiola. Similar treatment is also used for the realization of internal water pipes. It also widely used for coatings of majolica domes of land's worship. In construction assumes significant value also the realization of perforated panels, to hurdle, for the division of the environments. At

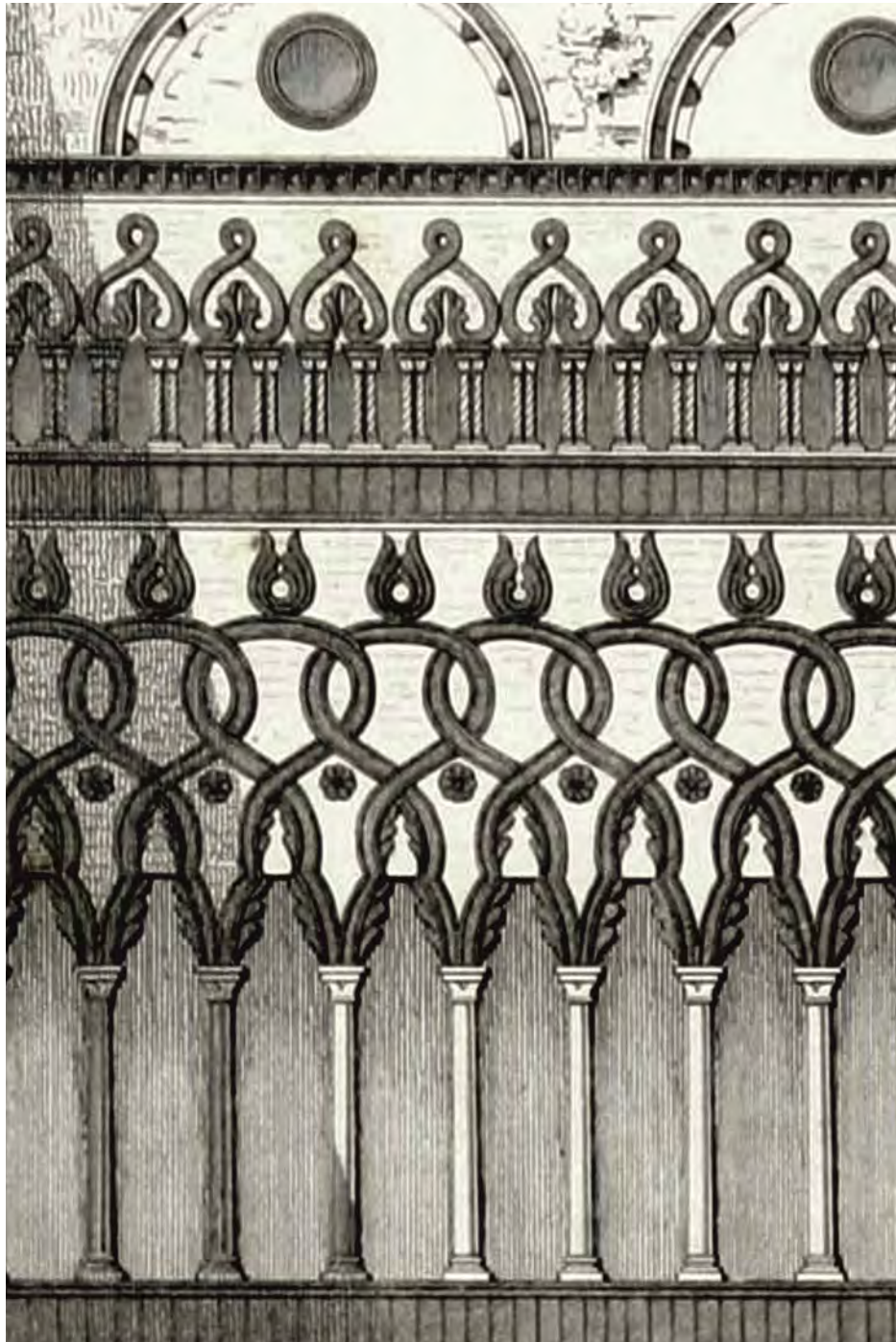


Ravello, Villa Rufolo, Tower of ingress, roofing detail

Villa Rufolo in Ravello a transenna with decorative motif that follows the design of intertwining arches works as a partition between the spaces of the first floor loggia. The light interior screen promotes living comfort with great advantage for the users of the house. Of course, the popular Islamic motifs in the area belong to the decorative tradition of the historic place. Testimonials significant in this respect are given by the bronze doors of the Cathedral of St. Andrew in Amalfi, St. Pantaleon in Ravello and San Salvatore de Birecto Atrani. No less significant are the mosaic panels of the pulpits of the cathedral of Ravello with the varied succession of geometric patterns and colors of clear Islamic ancestry. The geometric composition of the decoration takes up the themes that come from the Islamic tradition of decorative carpets. The warps and textures are composed of geometric shapes such as fabrics and play on different response that the surface layer of material provides the refraction of light. As recalled, the value of the space is functional to the comfort they offer to users. For such reason, very significant is the environmental setting in which they are located and are restored historic homes. The conversion works of Villa Rufolo have paid great attention to the arrangement of the wooded grounds surrounding the residence. A garden full of trees is also home to its ruins of historic buildings also contributing to the creation of a renewed urban landscape for the same Ravello.

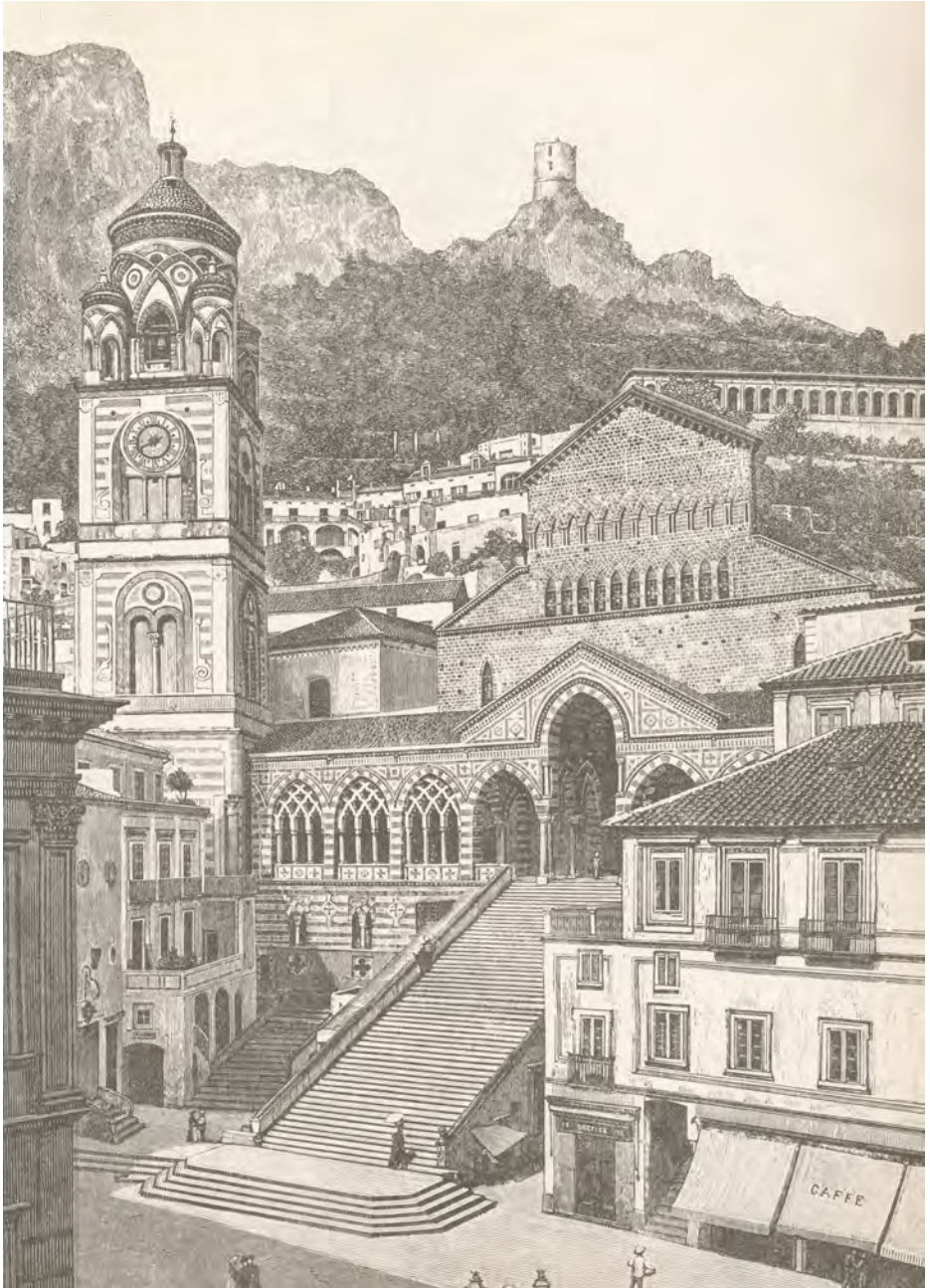
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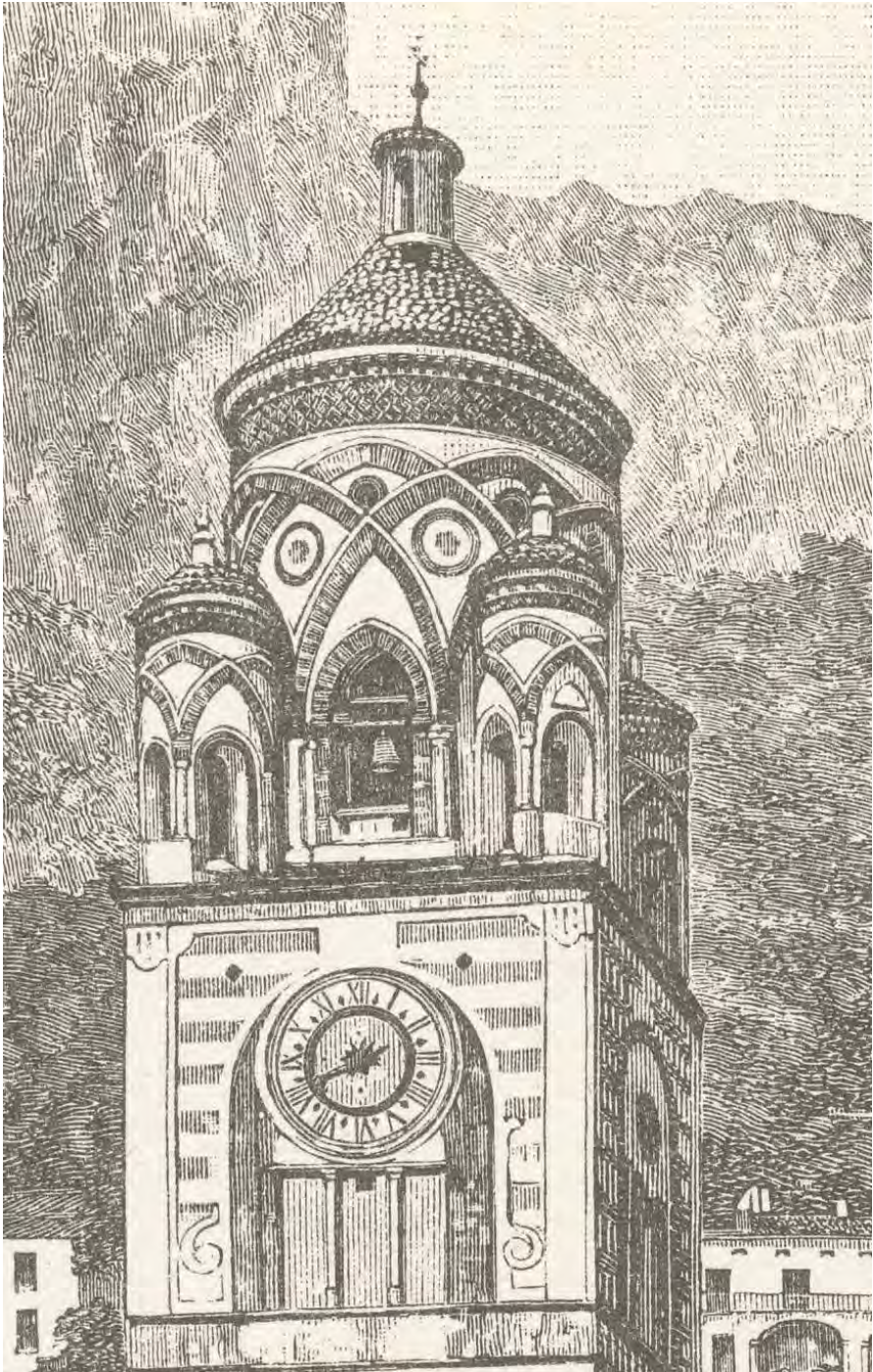


Details of the portico

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Amalfi, Cathedral, facade and detail of the bell tower



RELIGIOUS ARCHITECTURES UNDER THE EFFECT OF THE L'AQUILA EARTHQUAKE (ITALY). CRITICAL CONSIDERATIONS ON THEIR STRUCTURAL BEHAVIOR THROUGH THE ANALYSIS OF SOME CASE STUDIES

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Introduction

The study of historical masonry buildings has always been a very interesting and complex issue to be analyzed, regardless of the specific area you want to investigate. The analysis on traditional artifacts, especially if they fall into the category of cultural heritage, cannot prescind from achieving a level of knowledge as comprehensive as possible, through a careful intersection of data from the historical documents with those ones arising from their meticulous and direct knowledge.

The work aims to describe the experience of three representative churches, the Churches of St.Maria del Carmine, St. Agostino and the Basilica of St.Bernardino, placed in the historical centre of L'Aquila before and after the 2009 earthquake.

The goal of this research is to compare the building, that we consider the “theory”, with the very different reality of the construction site, that we consider the “practice”, by analyzing the case studies above mentioned. The comparison shows inequalities and the attempt is to offer a prospect of a possible solution.

Critical considerations on the relationship between the theoretical issues (literature) and the constructional praxis (practice) in the post-earthquake construction site.

The concerned case studies underline the complexity of coordinating the data arising from the study of the building (theory) with the very different reality of the construction site (practice) above all in the post-earthquake construction site [1-10].

Concerning the Church of Santa Maria del Carmine, the study of the different collapse mechanisms triggered after the earthquake, on the one hand showed a number of defects but on the other hand also hidden structural potentialities. In particular, the church is the final result of several stratifications that took place over the centuries in the total lack of appropriate interventions aimed at structural and united connection between the new elements and the existing ones. This aspect, that any theoretical study of the structures would consider neg-

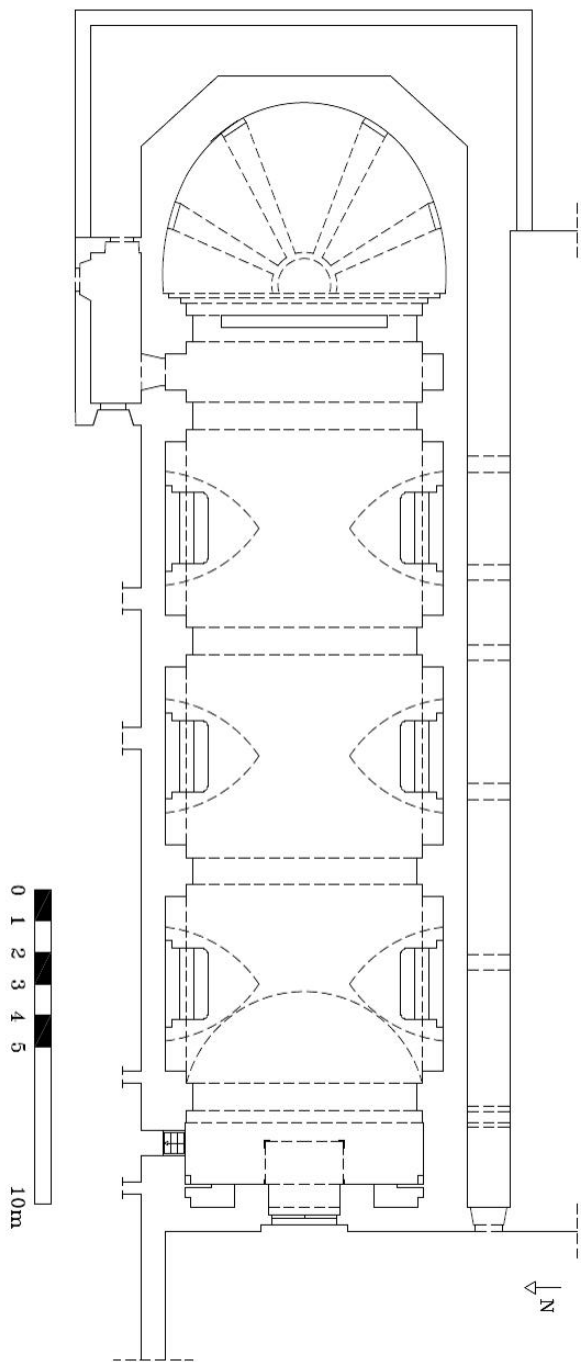


Figure 1. Church of St. Maria del Carmine, L'Aquila (Italy), horizontal section.

atively, however, has had positive effects in the post-earthquake construction site: in fact, from the visual analysis of the damage can be seen that this seismic vulnerability indicator has proved an excellent anti-seismic device, since the damages are not extended to the whole structure, but they are confined and localized only in specific areas [11,12].

Figure 1.

The Church of St. Augustine is very different from the previous case: the construction presents efficient connections between the different structural elements, which ensure a global behavior of a unitary type, achieved exactly because of the structural solidarity between the individual elements. In case of a less aggressive action of the earthquake, this factor would have been an effective anti-seismic device. But, due to the violence of the earthquake occurred at L'Aquila, it proved to be a vulnerability factor for the entire structure, changing again, also in this case, the relationship between Theory and Practice [13-15].

Figure 2.

Finally, the case of the Basilica of San Bernardino highlights the influence of interventions in reinforced concrete, realized in the second half of the twentieth century, in the spread of the damages. These interventions, aimed at improving the seismic behavior of the building, have become themselves the main cause of some collapse mechanisms, and therefore of the most important damage in the post-earthquake construction site [16,17].

Figure 3.

Considering the studies conducted, the comparison between the theory and the construction site appears to be a theme of great relevance, especially for masonry structures. In these buildings, in fact, being inappropriate the assumptions of the elastic calculation used for steel or reinforced concrete, the comparison between theory and practice is even more interesting. The huge heterogeneity that characterizes the traditional masonry buildings, the infinity of different cases between them at an international context and the numerousness of the qualities and critical issues that they have shown over the centuries, invite us to reflect on how important it is to perform correct reviews on the structural subject [1,2].

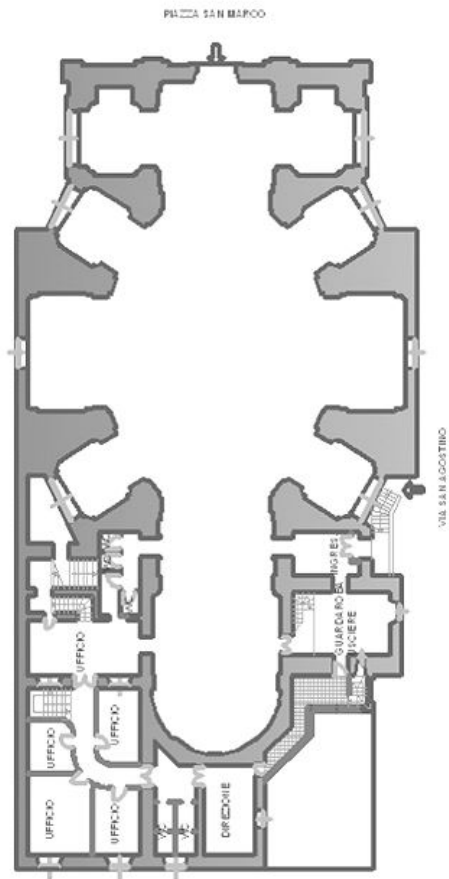


Figure 2. Church of St. Agostino, L'Aquila (Italy), horizontal section.

Several times, even if the analysis appear correct from a theoretical point of view, they fail to represent in full the constructive, evolutionary and behavioral complexity of the historical artifacts. The elements of the masonry structural system, can contain various components inside with also very different characteristics: they can be manufactured according to the rules of the building or not, they may have been subjected at alterations which have distorted the original behavior and they may show states of damage and/or degradation [1,9].

So, it is very difficult to fit all the information described above within a model [1,2].

Figure 4.

Scientific progress is moving towards sophisticated computerized setting methodologies but, often, of a meager feedback, which may prevail over any approach of traditional analysis, based on in-depth principles and on qualitative ones reasoned with short computational systems but significant, aimed at corroborate the effectiveness of the employed choices [9].

The viable option would, however, that of identifying some analytical models capable of interpreting the real behavior of buildings in traditional masonry, case by case, in order to improve their performance, without altering their principal architectural and structural conformation [9]. Order to do this, it is necessary to invest heavily in studies of the examined structures; it is necessary to consider the building as a document and model of himself: a full-scale model that has undergone over time a secular experiment in which the construction has been subjected to continuous tests that history suggests including trauma, alterations, collapses, etc. which led to continuous changes of its appearance and of its structural behavior [18,19]. To shed light on the lives of buildings and, therefore, properly understand their final structural configuration it is necessary the successful collaboration between historians, renderers, physical, chemical, structural engineers and restorers, etc. in order to rebuild, in a comprehensive way, the long experiment, identifying external actions and responses of the building, putting together the results of a accurate interdisciplinary and multidimensional research with those ones resulting from a meticulous direct knowledge of the construction [18,19]. Figure 5.

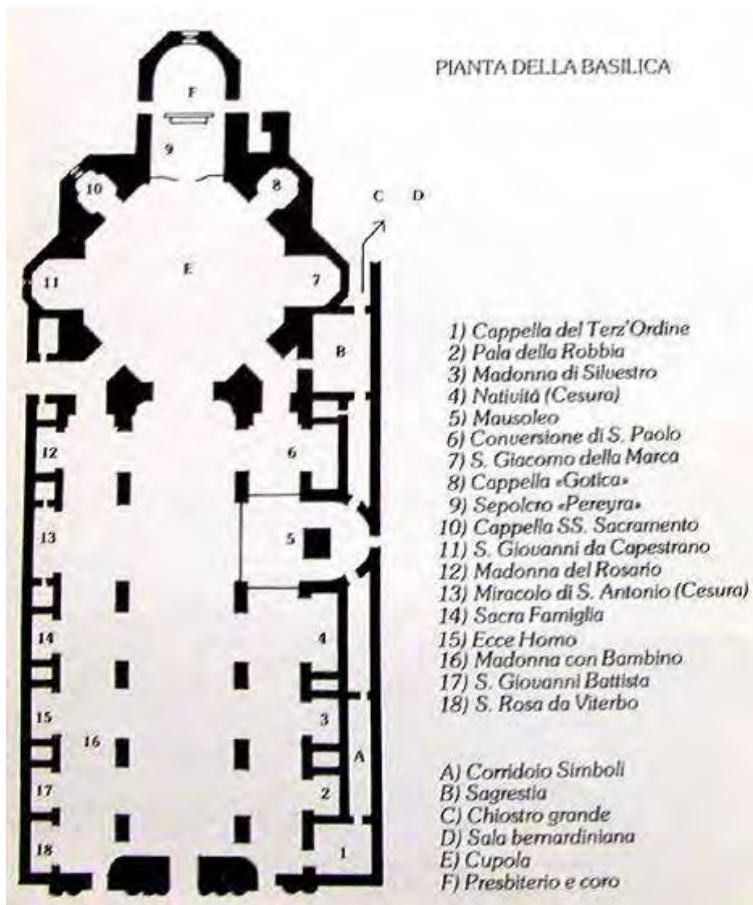


Figure 3. Basilica of San Bernardino, L'Aquila (Italy), horizontal section.

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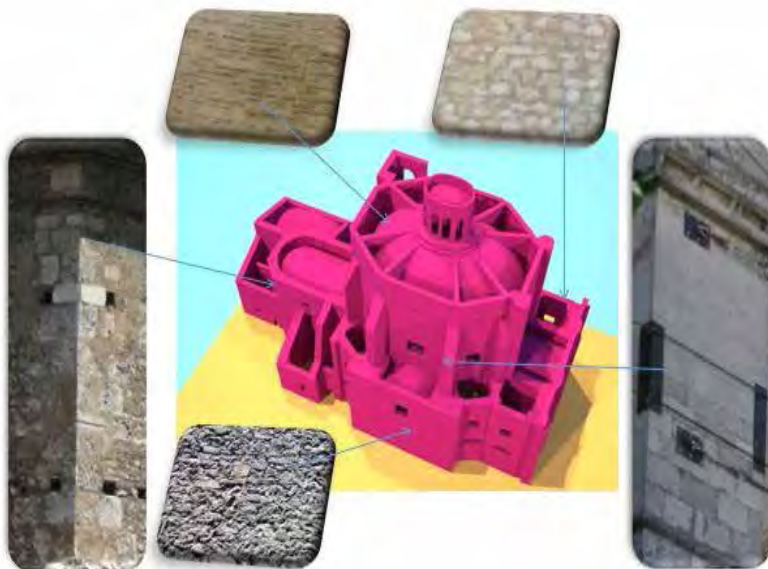


Figure 4. Three-dimensional model and classification of the various construction techniques in the Church.

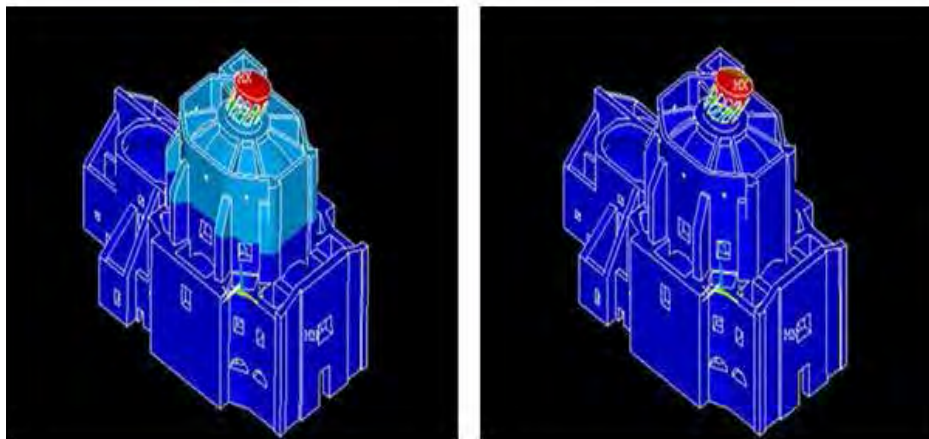


Figure 5. Modal analysis on 100 modes of vibration along the y axis. a) Mode 2 freq. 2.61 Hz, participating mass 45%; b) Mode 3, freq. 2, 93 Hz, participating mass 11%.

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DESIGN AND REPRESENTATION OF HISTORICAL HERITAGE: LATE BAROQUE TOWNS OF THE VAL DI NOTO (SOUTH-EASTERN SICILY)

Alessandro CIAMBRONE

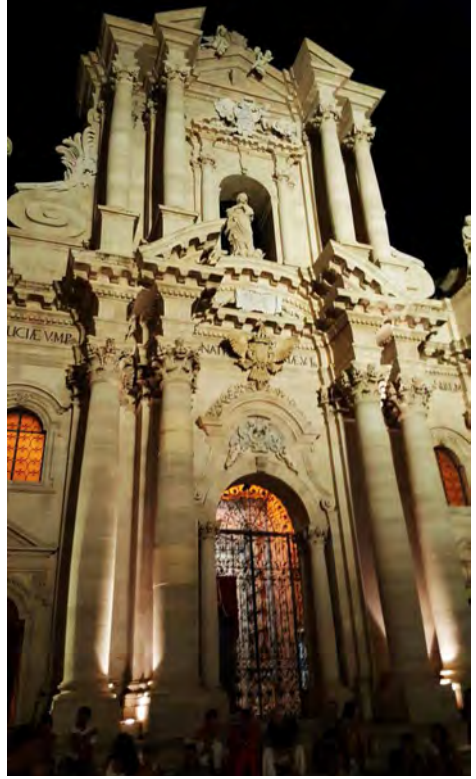
Centre of Competence for Cultural Heritage, Ecology, Economy BENECON, UNESCO Chair on Landscape, Cultural Heritage and Territorial Governance - Pegaso University

Following a United Nations Conference on the Human Environment in Stockholm, Sweden, in 1972 and the work of expert groups involving IUCN, ICOMOS and UNESCO, all the proposals came together in the Convention concerning the Protection of World Cultural and Natural Heritage, which was adopted by the General Conference of UNESCO in Paris on 16 November 1972. The most significant feature of the 1972 World Heritage Convention is that it links together in a single document the concepts of nature conservation and the preservation of cultural properties. The Convention recognizes the way in which people interact with nature, and the fundamental need to preserve the balance between the two. Only countries that have signed the World Heritage Convention, pledging to protect their natural and cultural heritage, can submit nomination proposals for properties on their territory to be considered for inclusion in UNESCO's World Heritage List.

To be included on the World Heritage List, sites must be of Outstanding Universal Value and meet at least one out of ten selection criteria. These criteria are explained in the Operational Guidelines for the Implementation of the World Heritage Convention which, besides the text of the Convention, is the main working tool on World Heritage. The criteria are regularly revised by the Committee to reflect the evolution of the World Heritage concept itself. Until the end of 2004, World Heritage sites were selected on the basis of six cultural and four natural criteria. With the adoption of the revised Operational Guidelines for the Implementation of the World Heritage Convention, only one set of ten criteria exists.

In this framework, 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 1052 properties included in the World Heritage List (WHL) in 165 State Parties, which are divided in the following categories for properties: 34 transboundary; 2 delisted; 55 in danger; 814 cultural; 203 natural; and 35 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



Late Baroque Towns of the Val di Noto (South-Eastern Sicily), World Heritage property (Caltagirone, Milietello Val di Catania, Catania, Modica, Noto, Palazzolo, Ragusa and Scicli), source: Unesco World Heritage Centre. Photos: Alessandro Ciambrone, site visits AUGUST 2015-16

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.

The eight towns in South-Eastern Sicily (Caltagirone, Militello Val di Catania, Catania, Modica, Noto, Palazzolo, Ragusa and Scicli) were included in the World Heritage List in 2002 on the basis of the following criteria:

Criterion (i): The Late Baroque Towns of the Val di Noto in South-Eastern Sicily provide outstanding testimony to the exuberant genius of late Baroque art and architecture.

Criterion (ii): The Late Baroque towns of the Val di Noto represent the culmination and final flowering of Baroque art in Europe.

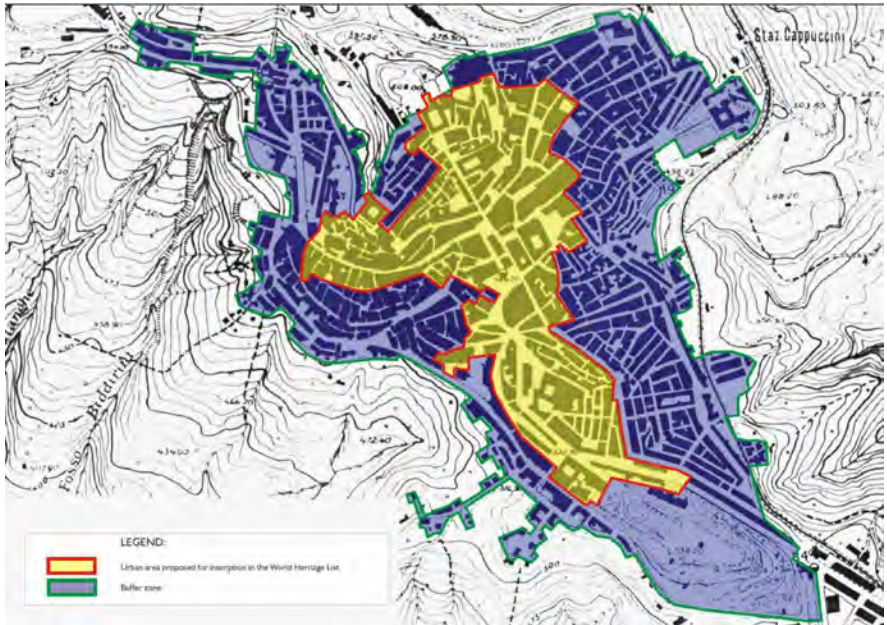
Criterion (iv): The exceptional quality of the late Baroque art and architecture in the Val di Noto lies in its geographical and chronological homogeneity, and is the result of the 1693 earthquake in this region.

Criterion (v): The eight Late Baroque Towns of the Val di Noto in South-Eastern Sicily are characteristic of the settlement pattern and urban form of this region, are permanently at risk from earthquakes and eruptions of Mount Etna.

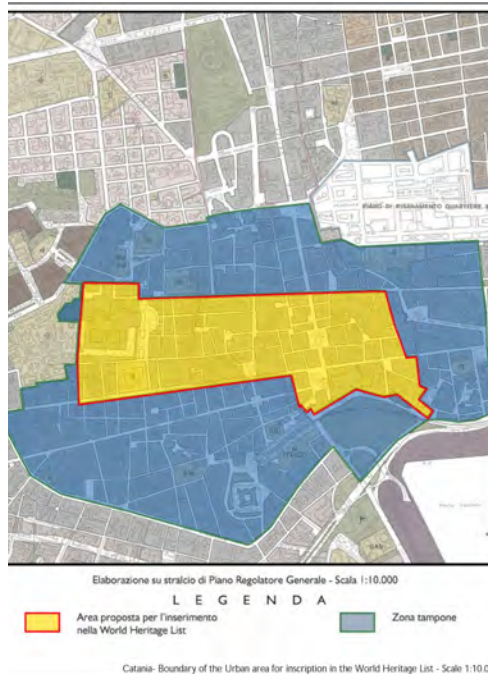
These eight historic centres and urban environments reflect the great, post-seismic rebuilding achievement of the decades following the catastrophic earthquake of 1693. The rebuilding, restoration and reconstruction of these communities resulted in the creation of an exceptional group of towns, all reflecting the late Baroque architecture of the 17th century in all its forms and applications.

Catania was rebuilt on the site of the original town while others, such as Noto, were rebuilt on new sites. At Ragusa and Palazzolo Acreide, new urban centres were created next to the ancient ones. The centres of Scicli and Modica were moved and rebuilt in adjoining areas already partially urbanized, and Caltagirone was simply repaired.

A property in order to be included in the World Heritage List should preserve



Caltagirone, World Heritage Property, core and buffer zones, source: Unesco World Heritage Centre



Catania, World Heritage Property, core and buffer zones, source: Unesco World Heritage Centre

its integrity and authenticity. Considering the aspect of integrity, the 1693 earthquake created an opportunity for an enormous artistic, architectural, and anti-seismic renewal of the cities. The centres retain their residential function, along with a lively society of inhabitants.

Considering the aspect of authenticity, the almost completely preserved town plans, which have seen only few alterations, express a variety of reactions to the destruction caused by the earthquake. Anyway, the property has been affected by further seismic activity as well as long-term degradation, and a great many buildings and monumental complexes require major restoration, consolidation, and maintenance interventions.

The Regional Provinces of Catania, Ragusa, and Syracuse, as well as the Municipalities of the eight towns have the responsibility for looking after the urban and architectural heritage in their respective territories.

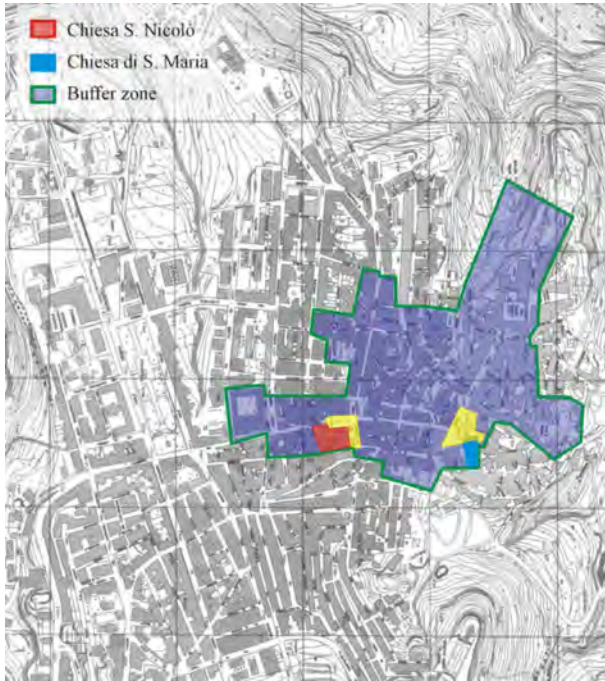
These cities are interesting for their urban design and stratifications as well their spectacular architectures:

Caltagirone is the most westerly of the eight cities nominated, its inner city is significant for its multifaceted town planning and architectural facades, and for its unusual link between the pre and post 1693 periods. Its rich architecture exists inside an urban context resulting from the configuration of the site;

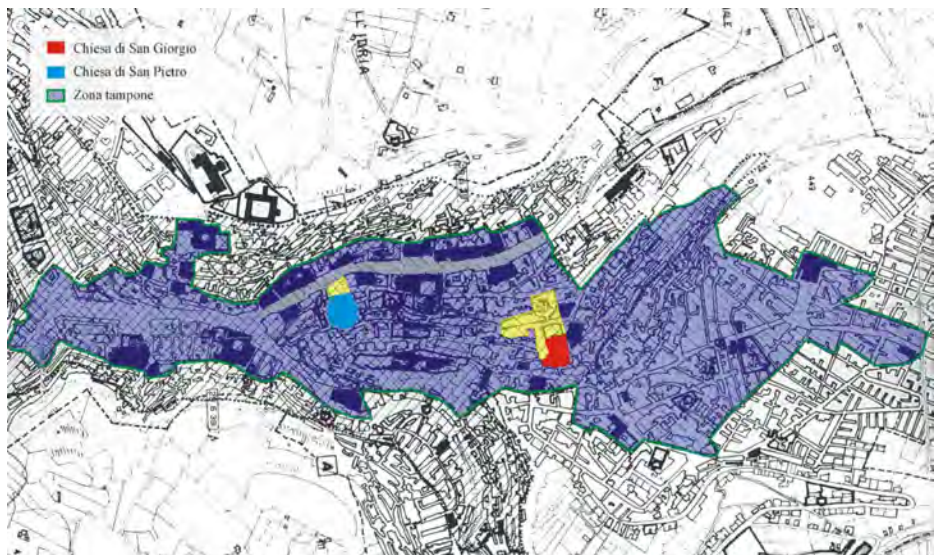
Militello Val di Catania is significant for its wealth of architecture from the 14th century onwards, and for the outstanding 17th century, walled pre earthquake town plan which was in the vanguard of

Sicilian feudal towns and was then faithfully followed in the late Baroque reconstruction; Catania acquired a particular quality of urban design when it was rebuilt on a comprehensive, geometric unitary plan among the rubble of the destroyed city; Modica consists of two urban centres, the older perched on the rocky top of the Southern hill, the other rebuilt further downhill after the 1693 earthquake with imposing and conspicuous urban monuments;

Noto, outstanding among the towns that were totally rebuilt on a site close to the original town, is on two levels, an upper part on the plateau and a lower, newer part on the slope below. The latter accommodates the buildings of the nobility and the religious complexes of the 18th century, the topography, town-plan, and



Militello in Val di Catania, World Heritage Property, core and buffer zones, source: Unesco World Heritage Centre

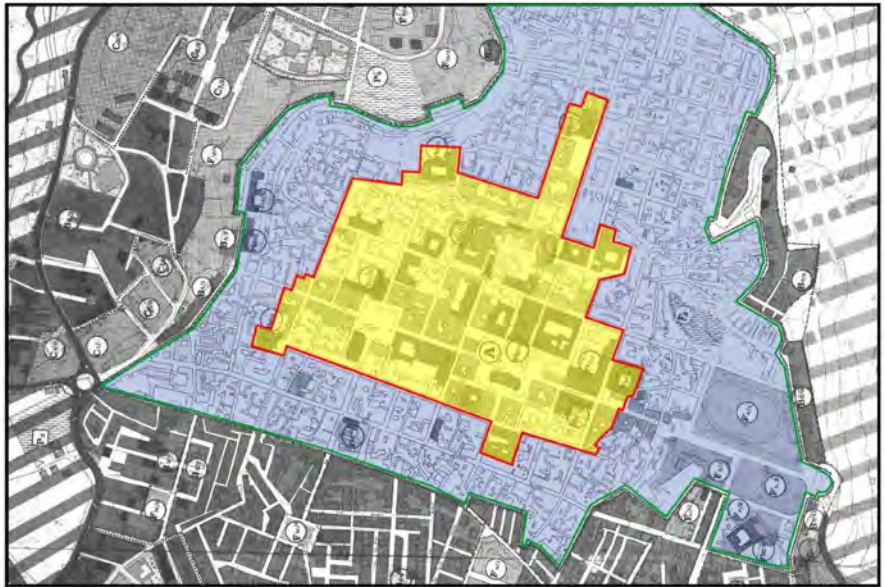


Modica, World Heritage Property, core and buffer zones, source: Unesco World Heritage Centre

architecture combining to create a spectacular 'Baroque stage set'; Palazzolo, like Modica, has two centres, the medieval one on which a new town was reconstructed on the old site but along a new axis, and a post-1693 'new town' which was developed along a crescent up to the earliest site of all, the Greek Akrai; Ragusa, the ancient Ibla, is built over three hills separated by a deep valley. It, too, consists of two centres, one rebuilt on the old medieval layout and the other, Upper (present-day) Ragusa, newly built after 1693; Scicli is characterized by an urban setting where churches rise alongside patrician buildings of late Baroque age. Three churches (St John the Evangelist, St Michael, and Saint Teresa) are from the 18th century. According to the Unesco Periodic Report - Second Cycle 'Protection, Management and Monitoring of the Property' section, the boundaries and the buffer zone of the World Heritage Property are adequate to maintain the property's Outstanding Universal Value. However the buffer zones of the WHP are known by the management authority but are not known by local residents, communities, and landowners.

The majority of the properties in all eight towns are in private ownership. The religious buildings open to worship are mostly owned by the Diocesan Curias; some are owned by the Italian State through its Ministry for Internal Affairs. Most of the monumental buildings of architectural value are owned by the Local Authorities. All such are public bodies, and the assets for which they are responsible are considered as public property.

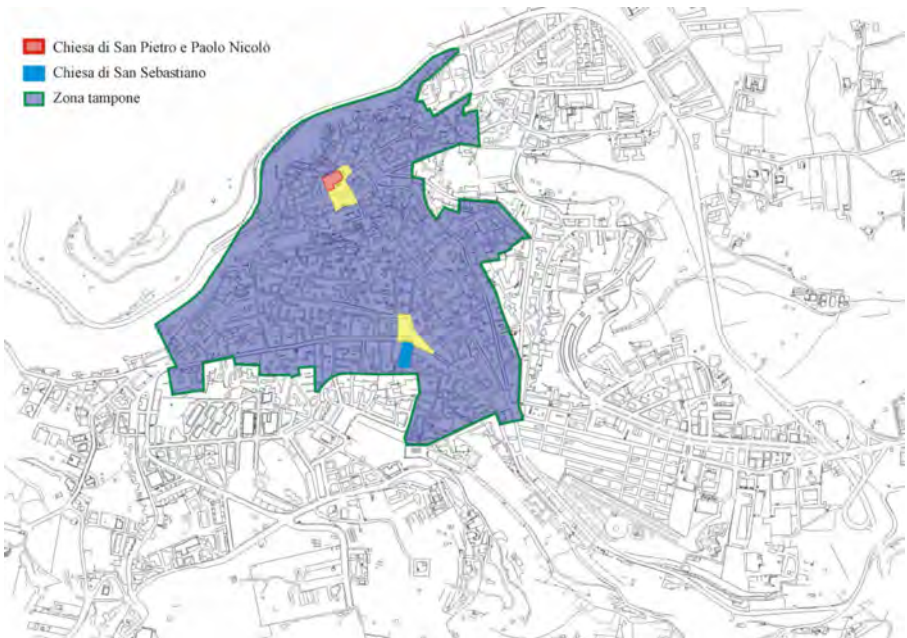
A management plan for the entire property has been drafted but not yet sent to the World Heritage Centre. There is coordination between the range of administrative bodies involved in the management of the property (i.e. national, regional, provincial, local, municipal etc.) but it could be improved. The cooperation with World Heritage property managers or staff is generally poor or very poor with local communities, residents, municipal authorities, landowners, researchers, and tourism industry. This relationship can be considered good with visitors. The author for research purposes visited the WHP in August 2015 and 2016 for around one week each time. The general perception is that the cities are very well preserved and there is a great sense of hospitality as well as the



CARTA DEI VINCOLI - Scala 1:5.000
Elaborazione su stralcio di Piano Regolatore Generale Comunale 1993 - Scala originale 1:2.000

Note
Boundary of the Urban area for
inscription in the World Heritage List

Noto, World Heritage Property, core and buffer zones, source: Unesco World Heritage Centre



Palazzolo, World Heritage Property, core and buffer zones, source: Unesco World Heritage Centre

services for tourism are authentic, and characterized by a clear sense of local identity. The inscription of each city in the World Heritage List is not so clear even though it is possible to find the Unesco World Heritage Convention emblem in street signals, brochures, publications and promotional tools. Maybe a 'communication plan' could be created in order to create a cultural and touristic network among all the eight cities belonging to the World Heritage Property. This would reinforce the sense of identity for local communities and the perception of the territorial Outstanding Universal Value.

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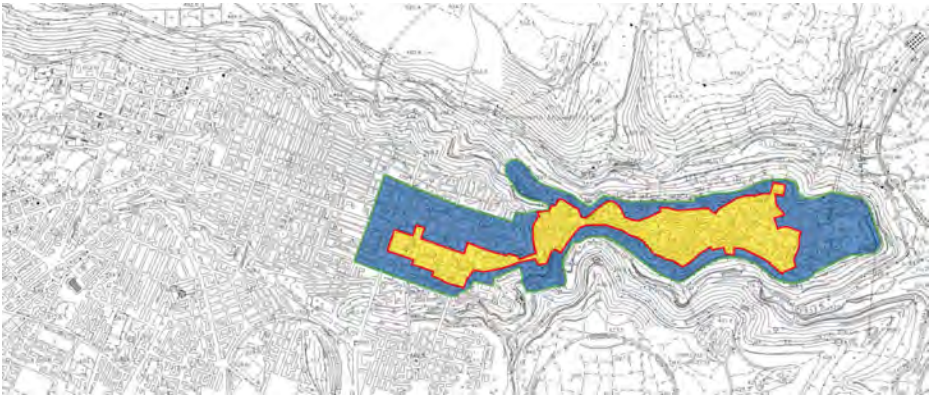
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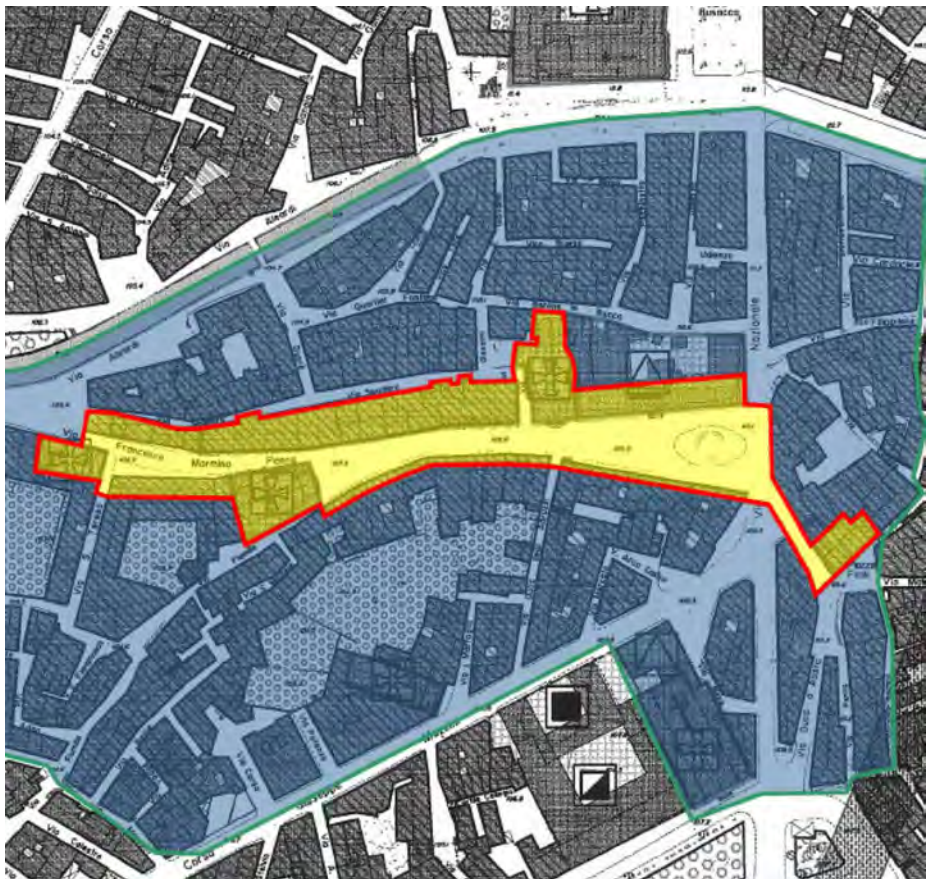
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Ragusa, World Heritage Property, core and buffer zones, source: Unesco World Heritage Centre



Scicli, World Heritage Property, core and buffer zones, source: Unesco World Heritage Centre



Noto, World Heritage Property, photos: Alessandro Ciambone, site visits in August 2015-2016

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PLAN FOR TAVOLIERE (Puglia – Italy)

When does the Petrucci Plan the achievements of the previous plan (eng. C. Savoia) are very poor, the centers have not been achieved and the farmhouses they carry only 565, 58 old buildings are being renovated and land with farms are about half of those provided.

Petrucci involves the construction of a dense network of roads between farms in concentric rings and a new system of settlements as civil and administrative point of reference for the new areas; three villages are planned: Giardinetto, Cervaro and Arpi, to which are added then two more, and Colonial New Passo di Corvo, the last three, however, will never be started and the construction of three new rural municipalities: Segezia, Crowned and Daunilia .

The Plan was approved only in 1941, and is written in a manner parallel to the joint project, and satellite towns that are entrusted to direct commission ONC to trusted technical: Segezia_Petrucci; Daunilia_eng. Dagoberto Ortensi team-leader company, Eng. Vincenzo Civico and Ettore Granelli, Arch. Giulio Risecco; Incoronata_Giorgio Calza Bini team-leader and Roberto Nicolini.

The plan is embodied in three major macro-areas identified by the names of major new rural municipalities that insist on them and which are positioned in a way satellite around the main town of Foggia: north Daunilia; Southeast Crowned, with rural Borgata newly Masseria; southwest Segezia, with rural villages to Cervaro station and Trojan station.

The design and artistic direction of Post Tuoro, a little later renamed Segezia, is assigned to the same Petrucci, with a letter dated 16 January 1939;

SEGEZIA

The idea is that it should be only a symbolic place to aggregate and identify with the community for those who are scattered over the country; the place, therefore, to rediscover the public and religious institution, in this regard the first works are always built public buildings, and are left in last residential buildings, precisely because that is not the main purpose for which they were born.

SEGEZIA_PROGETTO DEL 1939

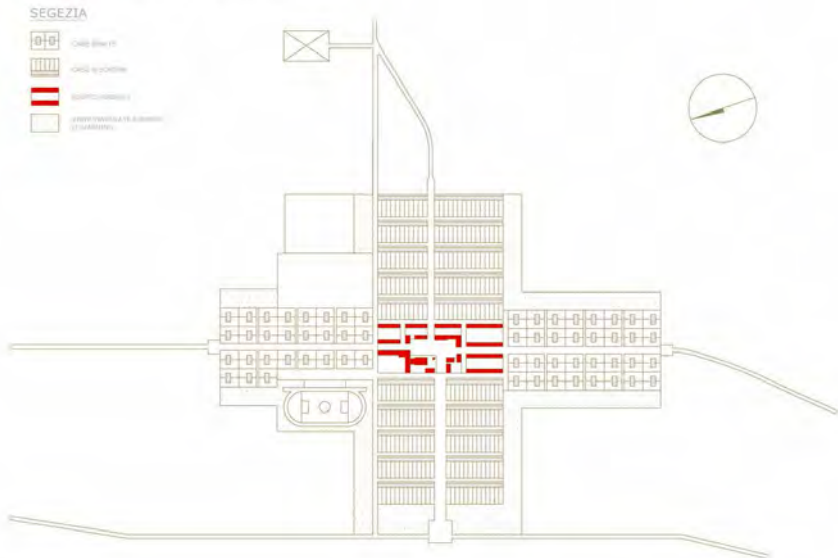


Figure 1. Plan Petrucci 1939

The project for Segezia, certainly represents a point of arrival for Petrucci, is clearly visible stylistic leap made in the elaboration of the plan and in part built; So as a rule, the strongest element is the square with public buildings, one square, the hub of composition from which to start the arms of the cross, the main axes that slip in the square and stretch out in the countryside; the artifice of the offset allows you to have as a backdrop the public buildings.

The square is, therefore, characterized by the strong presence of the bell tower standing sleek and slender composition expanse of buildings; staggered along the arms are arranged in a very simple composition of the houses for the residents in the city: the north-south split houses and orthogonal to it, east-west, terraced houses with garden. (picture1)

The design plan for Segezia loses, so even the rigidity of the Roman fort, there remains only the *cardo-decumanus* intersection, but you lose the idea of a city rigidly circumscribed by a fence; It is an open *ante factum* city.

The central square is of adequate size to the village, measure m. 40 x 100, with the long edge towards the *Via Nazionale*, in order to show himself on the way to Naples in a more consistent way.

The church is obviously designed in continuity with the bell tower, the two buildings are undoubtedly the most important pieces of the whole composition; They are bonded together by the square in front of the church façade.

The access road to the center leads us to the town hall, which has the side buildings of the (homes and offices) and the post office. On the west side there are other houses with the bar-restaurant and a side of the church, one from which you open the doors of access, as the main entrance is usually closed; adjacent to the church are located school buildings: the church and asylum, then close their *Onc* buildings, the police station, the surgery and the covered market.

The House of the beam is clearly subdued than previous examples; the Fascist tower is tentatively reported above the atrium, the coating is made of stone from nearby Apricena, the "arengario" and richly decorated with sculptures of Francesco Magni; It is connected to the City via the post office that is placed on the



Figure 2. Segezia. Axonometric view project

ground floor, while upstairs there is an apartment.

The barracks and surgery constitute a separate body to the opposite side of the building for housing and shops, the barracks on two floors on the ground floor offices and dormitories, kitchen, upstairs two housing for the military.

Homes and shops are arranged in two-story buildings. Item IV; this last is formed by a quadrangular gallery covered with a light shelter in reinforced concrete with the access permit from underpasses; making exclusion for the building intended for the coffee and restaurant inn, this is essentially a minimum aggregate consisting of shop and back room on the ground floor and living quarters upstairs, the way is to create an intimate relationship between house and shop as usual in small villages.

REGENERATION PROJECT

The regeneration project of Borgo Segezia starts from the consideration that the rural landscape is the main element from which to start to get a complex design that holds together several elements. (picture2)

- 1- Report with history
- 2- Genius loci
- 3- Increase the power of village Attraction
- 4- To revitalize public spaces of great quality
- 5- Big presence of green public / private

The village is surrounded by large extensions of public property, so it is easier to intervene by creating a green belt that contains the building development areas. The planned and organic growth, in harmony with the landscape, preserves its own character and allows a new development.

The creation of the green belt creates an opportunity to propose a settlement



Figure 3. Perspective view

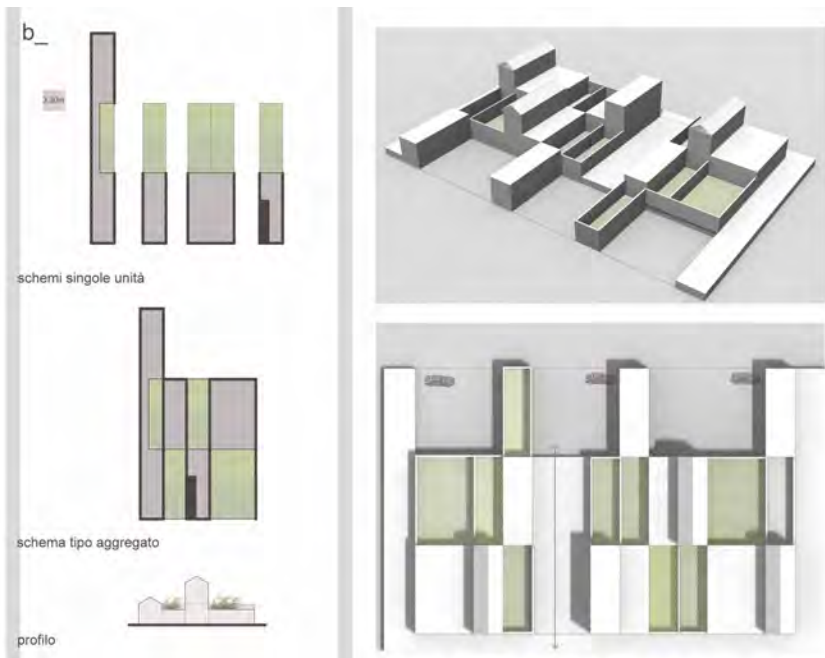


Figure 4. Aggregate scheme

thinned model that leaves great space for collective use areas.

The new neighborhood will enjoy a very high amount of green, parking, equipped parks, play areas for children, for the use of the inhabitants courtyards and public parks, as well as equipped parks and squares.

There are picnic areas for children or for the elderly, spaces devoted to the cultivation of small gardens and allotments, a large allocation of areas for group activities and a part of parking.

There are also a number of services designed to create an induced wider area users: you think the citizens of the city of Foggia, or the nearby cities.

It is specialized functions link to the search field: it was decided to activate the agreements with neighboring universities for the use of areas for experiments on site. It is specialized functions link the field of education, such as the areas dedicated to experimental educational workshops.

The new design of the green part from the traces of the old Petrucci design.

The location of trees, pedestrian walkways, parking areas, recovers the old original design for the development of the township.

They respect the principles with which the axes were distributed, divided isolates, organized spaces.

The intent is to recover and maintain the metaphysical atmosphere and evocative that still retain these places. (picture3)

The square recovers the role of centrality and core composition of the project, through a re-design of the floors and retrieve rows of trees.

In parallel to the long side of the square are planned terraced houses, while parallel to the short side are provided for double or triple houses, the house system is based on a square of side module 3.30 m.

The houses consist of four distinct models:

- 1- The simplest type consists of 3 modules (33 sq.m) for the house and the courtyard in front of the same size;
- 2- Model 1 on two floors (66 sq.m) plus the front yard;
- 3- Model 1 doubled on the long side (66 sq.m) plus twice the courtyard;
- 4- 1 replicated the model on the short side and connected via a corridor (77

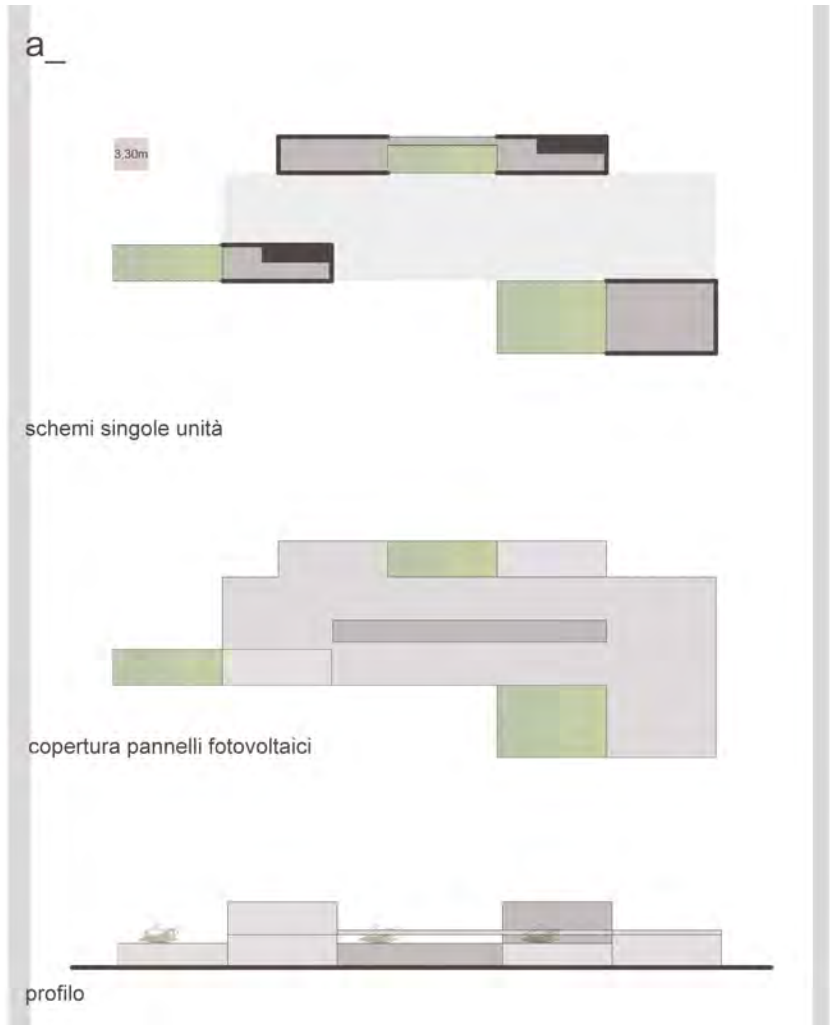


Figure 5. Aggregate scheme

sq.m) plus a courtyard of 22 sq.m. (picture4)

The double houses are formed from models 2 and 3 with a photovoltaic roof that connects them.

The triple homes are formed by the patterns 2, 3 and 4 with a perforated photovoltaic roof with a long narrow opening to allow the lighting in the underlying part. (picture5)

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EXPLOITATION OF CULTURAL HERITAGE IDENTITY

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Each local community can capitalize and protect its environment and more broadly the landscape, must consider the material and immaterial values as variables to be measured, to discretize and to draw it as a re-crossed from knowledge.

Measure and capitalize the endless reasons of nature, as we recommended Leonardo, it is to recognize the environmental context the genetic heritage, identity, founding of the ongoing recovery process and regeneration as modification against any hypothesis of transformation. Transform, in fact, implies an operation conducted past the limit imposed by knowledge, while measuring and designing the changes, we send to the future tracks and fragments tangible and intangible one.

The man entered the territory, during the course of time, "new contents that have altered the natural environment in the artificial one, producing a new perception of space. Therefore, it is delivered to the memory a unique example, a material object, in which the embossed door environment, in addition to the form produced by the man, the thought that originated this form, in a word, the culture of the place. "

Modification, ethical concept "other" from the transformation, it is both the protection, conservation, maintenance of the traces of the past as circumstantial paradigm and approval to the present, the natural human needs that precipitate physicality in determining a form of this time, however, while needing It is handed over to men of the future if the current act as if they were already posthumous, or as those who inhabit the future living the present. The cognitive approach so that it can not present itself as an exploration of the multiplicity and complexity of a world in which the intervention of man becomes an integral part of nature. This exploration is an extremely complex process that involves several disciplines, each of which contributes to the acquisition of knowledge in the field that is proper.

In this action the current technologies, offering increasingly sophisticated measuring instruments, they transfer information with an accuracy unthinkable until a few years ago. The important thing, though, is being able to interrelate this knowledge, so that we can evaluate the suitability of the sites for current and

future uses. This can be achieved by surveying and unique planning method for all the areas, with common rules for the collection and monitoring of data, the ability to continuously update and dynamic consultation 2.

"The integration [...] requires the construction of bridges across otherwise separate sciences, an attitude that finds resistance in institutions. Meteorologists deal with the climate, soil, geologists, hydrologists, water, agronomists vegetation; historians studying the monuments, archaeologists unearth the evidence of past civilizations, planners involved in the planning, the economists of the financial and economic analysis, the architects are interested in an ever organizable knowledge to implement each of values in a continuum of data be extrapolated to the developing reality. [...]. It is important to be able to place these correlating knowledge so that we can evaluate the suitability of the sites for current and future uses. The presumptuous objective is to create bridges between knowledge, making judgments eligibility, define the lines to create a local and national inventory of landscape and urban resources, propose a project examples, set priorities for action and analyze the costs and benefits of the operation. It comes to identifying a detection and unique ecological planning method to all the areas, activate common rules for the collection and monitoring of data, to propose methods of assembling, updating and interpretation of all relevant territorial and environmental data, digitized for the development of a data-base at the local level but generalized to "3 national scale.

Thanks to research and technological innovation these goals are pursued through knowledge of the complex system tools, such as, for example, GIS (geographical information system), which is an information system on a geographical basis which allows a discretization first and then integrate the different disciplinary readings and can be continuously implemented with new knowledge.

This method of breaking down the phenomenon in its measurable components to be able to be observed, analyzed and measured was used by Leonardo, anticipating the so-called decisive moment of Galileo.

Leonardo thus appears as a model for his desire to "have the painting to philosophy" since "his painting always demands from him a detailed analysis and preliminary object that wants to be" analysis that is not limited to their appearances visual "but that goes to the most intimate or organic, physics, physiology to psychology." Painting is by Leonardo, "a task that requires all the knowledge and almost all the techniques: geometry, dynamics, geology, physiology": he is the "type" of the conscious work in which "the art and science are inextricably



Fig. 2: The large stones of national park Appia Antica (Rome)

mixed "specimen" of an established art system analysis general and always eager, especially when it works, only to be composed of elements that are verifiable. "The representation of a battle presupposes the study of reels and loose powder that, in any case, the painter will depict not before they have observed with wise eyes, impregnated with the knowledge of their laws."

Leonardo's method is to collect and keep in his mind "a crowd of beings, a crowd of possible memories, the power to recognize the extension of the world an extraordinary number of different things and put them in a thousand ways. In our memory, we may remember a hundred faces, vaguely. In her, the faces were put in order, the faces are followed from one; from one irony, by a greater wisdom to a lesser extent, of a goodness to a deity, for symmetry ". This ability to store many "components" then makes it a natural consequence to design, invent, build the set: a painting, an object, a system. Building remains an important act, however, made possible by the common measure of all the things collected, imagine.

Leonardo, however, according to Paul Valery, is a philosopher who has painting as philosophy. "Because his painting always demands from him a detailed analysis and a priori of the objects meant to represent, an analysis that by no means limited to only visual character; but also it goes to the most intimate or the organic, physics, physiology, psychology up to ensure that the pangs his eye is preparing in some way to perceive the visible model of accidents resulting from its hidden structure "4.

Leonardo painting in the Treaty supports the argument that everything can be meshed and analyzed "[...] any continuous quantity is infinitely divisible, eye motion that regards your hand, and you move from 'a to b is ab moves by one space which even it has continuous quantity, and consequent divisible into infinity, and in every part of motion varies the 'look and shape of the hand in his view, and so will make moving around the circles, and the like will the hand that s' raises in his motion, that will pass through space that amount. "

It is clear, then, that already for Leonardo, the representation is multidimensional, in the sense that contains fragments of knowledge from different knowledge



GENERAL PLAN



PARK PLAN WITH SPORTS FACILITIES

and techniques, since not only must be geometrically definable, but the object of knowledge must be discretized in batches, noted in its components, in order to produce a result whose value can be quantified by the difference between the value of the data, as it has come, and the value achieved for the activities by understanding, modification and management on it, we can activate.

The integration of sectoral skills, in fact, presupposes syncretic action able to invest the knowledge, experiences and activities and the derivative product knowledge that is obtained and is shown in its multidimensionality, whose size is equivalent to the reasons that Leonardo himself ascribes to nature 5.

The unvarnished observation is not enough, there are "endless reasons" in nature "were never occurred in experience". The phenomena of nature, in short, can be understood only on condition that we discover the reasons. Today technological innovation has integrated the endless reasons for Leonardo, speeding up the identification and study of genes of the human organism as well as the territorial one. The approach to the conservation and enhancement of heritage must be to predictive medicine, which tends to discover and evaluate probabilistically the factors that, for a specific context, may favor the onset of a "disease", to better target towards specific solutions. At the base of this type of approach is the knowledge of the intrinsic characteristics, over that of the extrinsic, to be able to define the intervention. Knowing the identity of a place and its genetic heritage, it makes competitive the territory to which it belongs.



PARTICULAR SIDEWALK WITH PAVING AND CYCLE PATH

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AFFORDABLE HOUSING IN EU/ITALY: FINANCING MECHANISMS

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1. Affordable Housing in the European Union: context and financial tools

In accordance with Eurocities [1], affordability in housing represents one of the main challenges that European cities share today in order to achieve social cohesion. Affordable Housing (AH) is generally understood as a «permanent accommodation for individuals and families who cannot otherwise access or afford free-market housing». In the European Union AH «is characterized by the wide diversity of national housing situations, conceptions and policies across member states; a variety of approaches are implemented in terms of tenures, providers, beneficiaries and funding arrangements»[2].

AH may have different forms, depending on national and local conditions, although it is possible to identify two main types: “rented social housing”, rented homes owned by local authorities and managed directly or through specified agents and “intermediate affordable housing” for sale or rent, at rates higher than social rents but below market rates.

A common characteristics of the housing markets in the EU is the high share of home ownership, particularly among southern European countries (as in Italy, where it represents 67,2% of the total housing stock), also if, the recent dynamics register an increase in rental housing [3].

From an economic and financial perspective, occurs highlight that the investment costs in financing the new production of housing is the main problem, as the cost of construction and the price of the land. Furthermore, to reduce such costs, different public aid schemes exist.

With particular reference to the financial tools, although they vary across countries considerably, as suggested by Eurocities, among the “focused financial tools” (only deal with a segment of the housing market) three financial tools stand out as being common: a) grants; b) loans and c) public private partnerships. Regarding grants, they represent capital public funds governed by national governments, the municipalities or by independent Ngo’s or firms directly able to influence housing supply, but limited to available funds and political commitment to housing.

Public loans, traditionally the primary financing strategy for social/affordable housing programs, are provided on special terms and conditions. In the public



Image 1: Social rental housing as percentage of total housing stock (source: CECHODAS, 2012)

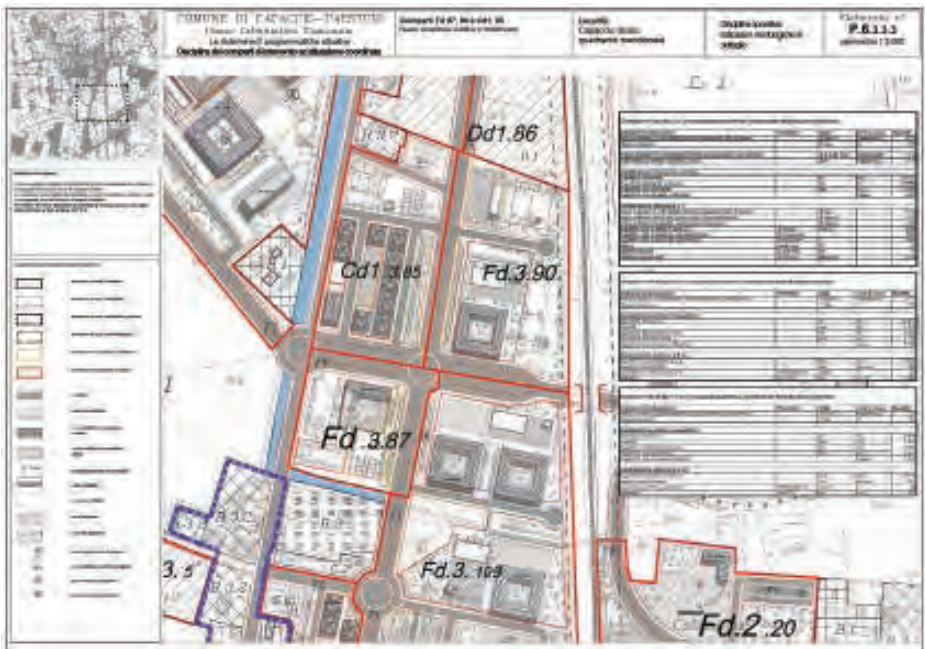


Image 2 : Urban equalization in the Capaccio Urban Plan (source: Forte Francesco, Il caso Capaccio, 2005)

private partnerships (PPPs), private developers or non-profit agencies receive, with special conditions, some funds or support from the municipal, state, or regional government in order to build or renovate and manage affordable housing. The developers are obliged to rent out or sell housing opportunities to specific target groups, encouraging low-income home ownership. As part of their strategy for affordable housing, some cities give out substantial subsidies for housing projects and tax incentives, as income and investment deductions; depreciation allowances; reduced sales and property taxes; exemptions from capital gains tax and reduced VAT rate.

A further important tool in supporting the provision of affordable housing is the availability of land at discounted prices; in this perspective particularly effective result the mechanisms of “equalization” or “compensation” for the free acquisition of the lands in the implementation of urban plans.

Finally, it is important to highlight that an «increasingly form of public-private partnerships consists in to set a minimum percentage of social housing in new developments or redevelopments as a condition to obtain building permits for private developers» [4]. This strategy is adopted also in Italy, as in the next paragraph.

2. Social Housing in Italy: the public-private partnership

In Italy the issue of “Social Housing” is of significant interest within the prospective of urban regeneration programs. Over the last few decades, the transformation of Italian cities has been characterized more by a policy of infrastructures, public facilities and services, rather than by the “housing” dimension.

Nowadays, Social Housing raises this issue, but not as in the past, for example, after the Second World War with the Fanfani Housing Plan, where the “popular house” was the only specifying definition [5]. Nowadays Social Housing policies aim to satisfy a demand from different subjects emerging from the actual conjuncture: the so called “grey area” whose incomes are too little for market housing and too high to qualify for public social housing (in Italy the 66% of the population between 18 and 34 years old lives with parents!).

In accordance with Cittalia [6], it is possible to identify two main area of hous-



Image 3: Scampia, Naples (source: "Restart Scampia", 2016)



Image 4: "Parco Merola" Ponticelli, Naples (source: inward)

ing deprivation: the first composed by subjects affected by an “absolute” housing emergence, as in the ETHOS (European Typology on Homelessness and Housing Exclusion) definition. While, the second includes subjects which do not present conditions of absolute precariousness, frequently with an income or a pension, but are unable to sustain the actual housing market.

Specifically this latest area, the so called “grey area”, is highly consistent in Italy, (comprising single adults, young couples, elderly, students, foreigners, single-income families, etc.). In the absence of public funding, social housing initiatives tend to focus on the above intermediate segment, between public housing (ERP – Edilizia Residenziale Pubblica) conditions and standard market rates.

Traditionally, in Italy there are three main forms of public supported housing: subsidized housing (*edilizia sovvenzionata*), assisted housing (*edilizia agevolata*) and agreed housing (*edilizia convenzionata*). Financing is provided by the Regions; Municipalities together with the Regions co-finance personal aids for the rental sector, and allocate land to providers. The central government is responsible for macro-programming and co-financing of projects through housing allowances, co-funding of urban renewal programs and programs to support social rental housing. [7].

In this perspective it should be placed the first National Housing Plan (Piano Nazionale di Edilizia abitativa art. 11, Decree Law 112/2008; Law 133/2008) with the goal of “guaranteeing minimum essential standards of housing across the whole national territory”. Social housing consists “mainly of dwellings rented on a permanent basis; also to be considered as social housing are dwellings built or rehabilitated through public and private contribution or the use of public funding, rented for at least eight years and also sold at affordable price, with the goal of achieving social mix”.

The plan is significantly innovative in its approach to financing social housing through new forms of public/private partnerships, focused on non-financial compensation planning tools, as: transfer of development rights to developers which increase the residential stock; density bonus aimed at enhancing public services and spaces and improving urban quality; compensation through development rights of the construction also of council housing to be rented at affordable



Amsterdam, project Wozoco MVRDV photo: Alessandro Ciambone, site visit August 2017

rates or sold to disadvantaged categories [8]. In all this forms the evaluation of the conveniences for public and private subjects plays a central role[9].

For the implementation of the National Housing Plan, the Ministry of Infrastructure and Transport has allocated to the Regions €377,885,270 (of which €41,168,899.68 to the Campania Region) to finance the increase in the public housing patrimony, financing housing project and incentives as well as integrated programs for the promotion of social housing. However, up until now, social housing in Italy has been difficult to start, as in Campania Region [10].

In any case, for the economic feasibility of social housing and its concrete implementation, some answers are in the : legislative and fiscal levers, as tax incentives for building stock rehabilitation or for new construction with more energy efficient criteria; urban planning lever, through public-private partnership, or urban equalization; finally, financial lever, with the introduction of new actors and tools [11], as the national and local System of housing funds, instituted in 2010.

The System of housing funds was created for the construction and purchase of properties for residential housing, as well as new instruments for financing building, involving both public and private funding, to take advantage of and increase the rental offer with a strategic role for the Cassa Depositi and Prestiti and the SGR (Società di gestione del risparmio – Savings Company) dedicated to this objective that, with the related building fund, represents an instrument that is undoubtedly innovative.

It is important to conclude this concise overview underlying the importance of the regeneration interventions of the existing public housing stock, rather than the ex novo programs. In this perspective are the financial opportunities offered by the 2020 European Strategy centered on the urban regeneration and the social innovation. In the same perspective is the project “Restart Scampia” presented by the Public Administration of the city of Naples and financed by the central Government through an extraordinary program for the urban requalification and the security of the outskirts in the metropolitan cities (2016).



Rotterdam, project: Cubic Houses by Piet Blom, photo: Alessandro Ciambone, site visit August 2017

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OFF-GRID SYSTEMS FOR THE REBALANCING OF ANTHROPIZED CONTEXTS

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1. The characteristics of off-grid systems (Rossella Franchino)

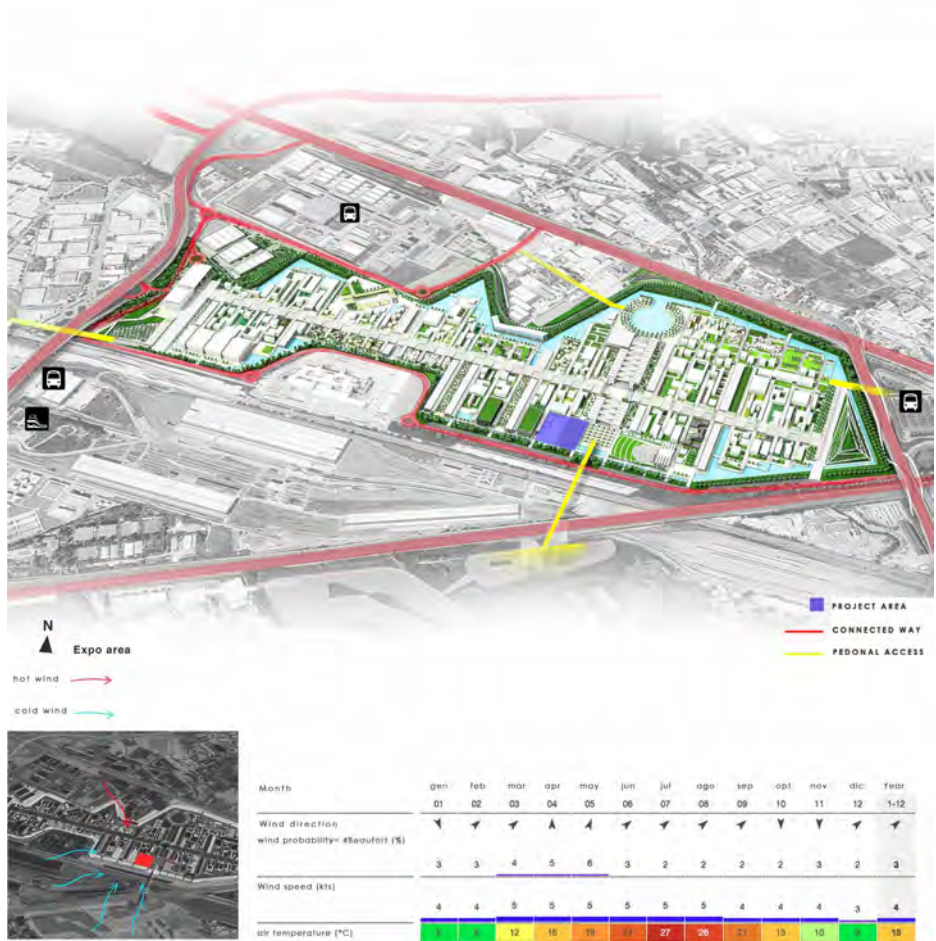
The forecast of further significant urbanization in the next few years has led to considering the future of towns and cities, along with their use of natural resources.

To take action on the development of the anthropized territory in order to find an alternative to the model which has prevailed in the last century, the consolidation efforts must address environmental compatibility. In addition, the transformation interventions of the anthropized territory must be orientated, among other things, along with the ecological conservation of biodiversity in order to safeguard the natural processes that form the basis of the survival of ecosystems.

In order to structure these actions within an eco-oriented perspective, the environmental rebalancing interventions should pay attention to the contribution of natural resources with the aim of using the principles of nature as a model of sustainable management by stimulating their inherent potential. This approach, therefore, contributes to solving the problems associated with increasing urbanization and the consequent climate change through the use of natural systems that allow for correct water cycle management, improved air quality, the use of renewable sources energy, greater biodiversity and less territorial fragmentation. Using the capacity of nature is also convenient, not only environmentally but also economically, since it allows to contain the need for costly plant solutions.

In order to fulfil these objectives, the contribution of using off-grid systems for territorial infrastructure is particularly important. To study the applicability of these systems, it is essential to identify the links of the infrastructure networks with the ecological-environmental base in which they are carrying out the service in such a way as to optimize the configurations for which the networks assume the status of off-grid networks in relation to the various types of urban and territorial contexts.

In urban redevelopment interventions, studying the control of the transformations of the environmental state with conservation and preservation objectives,



through the advancement of off-grid networks, implies using a complex model that can be traced to easily assimilated syntheses and that allows to become aware of highly significant facts. In the design, construction and operation phases of networks connected to infrastructure or urban complexes, it is possible to add quality, safety and reliability that not only valorise the environment but also do not cause it any harm. Valorising the environment means recuperating the quality levels it had prior to the anthropized interventions or, in some cases, taking the quality to possibly even higher levels.

This system is characterized by the design criteria of integration with the surrounding climate and environment, from an infrastructural complex tending to off-grid, as a structure with a large technological and environmental potential of protection of the sub-air, water and soil systems.

The off-grid system, made up of local networks detached from the territorial ones, is generally used for the limited extension of settlements, in areas where infrastructure networks are not sufficiently disseminated or anywhere wanting to make a demonstrative application. This system is self-sufficient, not connected to large distribution networks and manages the primary needs (energy, water) by making use of the natural resources in the area. To achieve this goal, the system must be structured obligatorily using recoverable and renewable uses of both energy and water.

The project of an off grid system foresees the following phases, not necessarily all in succession:

1. determination of the typology of users;
2. individualization of the area and population to be served;
3. definition of the needs and water and energy uses;
4. compilation of the local energy balance;
5. census of all local energy and environmental resources (territorial audit);
6. change of the local energy balance in use of demand and availability;
7. examination of the feasibility of the territorial energy use;
8. change of the energy and water uses;
9. redefinition of the energy balance;
10. production of a coherent system of use of the local resources, their saving



and their use and reuse.

These off-grid systems, characterized by the design criteria of integration with the environmental resources and surrounding environment and climate as well as oriented to the self-sufficiency of the environmental resources, are proposed as structures with great technological and environmental potential for the protection of the air, water and soil sub-systems.

The following sections present a particularly significant case study that allows to arrive at an applicative definition of the aforementioned concepts.

2. Towards the off-grid (Carlo Mele)

The research for alternative and clean energy sources, leads to design innovative solutions especially adaptable to the domestic dimension where the need to optimize consumption is the first prerogative.

In this sense, the case study exposed, concerns the planning of an Milan EXPO area. The experience made is the design of a student house with annexe an urban farm. So the application of technological systems for reuse and the exploitation of renewable sources has been fundamental.

In this project the installations are not completely isolated from territorial grid but they provide an important energetic contribution to the residential complex. In particular the project is characterized by the union from the student houses and the public functions as open spaces, crops, commercial spaces, student services.

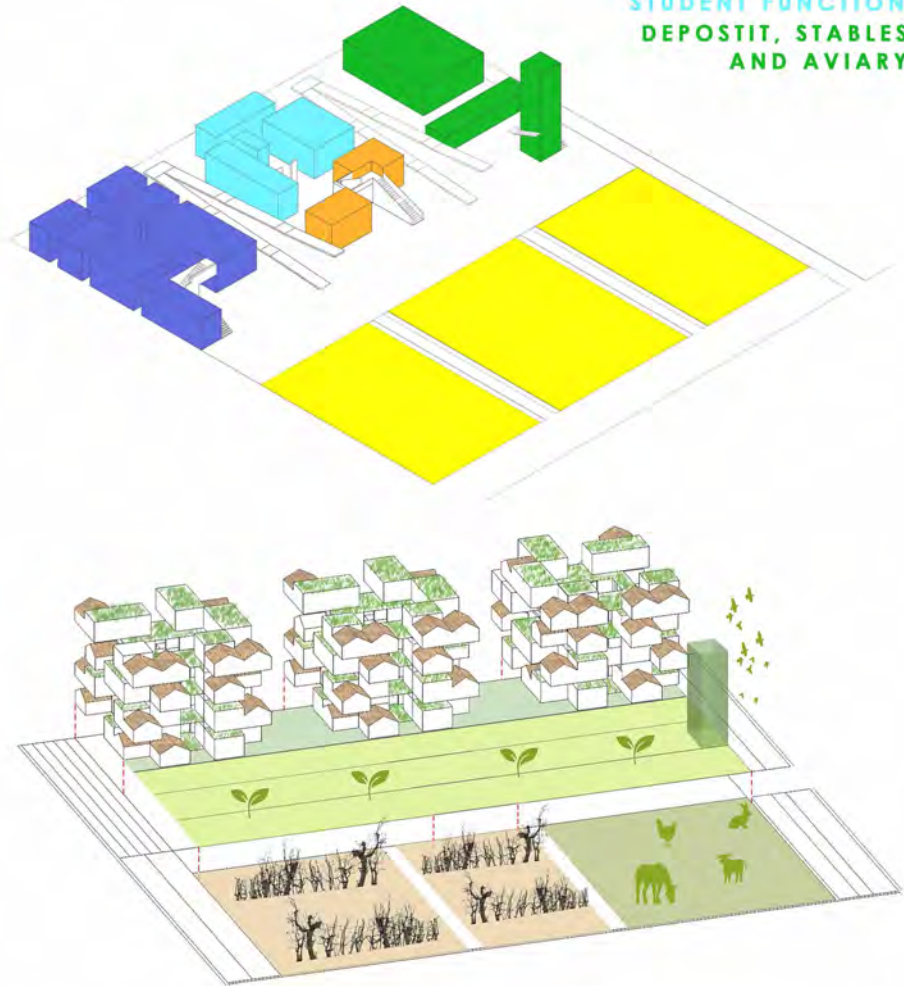
The sustainable strategies adopted provide the installation of a photovoltaic system, a micro eolic system and a water recovery and reuse.

2.1 Photovoltaic system

In the project the photovoltaic installation is connected to the electricity grid and provide solar energy during the day, guaranteeing the possibility to exploit the grid electric energy by night or when the installation production is not enough to cover the needs.

The photovoltaic panels are located on the slopes covering of three building, oriented both south east. The panels are red, individually 1,4 sqm and totally

FARM AND CROP
COMMERCIAL
BAR AND MARKET
STUDENT FUNCTION
DEPOSITIT, STABLES
AND AVIARY



18 exposed to the south and 3 east. The energy recovered from panels is used for the lifts, the irrigator and the comunal lighting. Individually the panels produce 270wp generating 6761,2 kwh at years. Once captured solar energy, the inverter converts it into alternating power, the energy is measured by a counter of production and a counter for energy fed into the grid. This system guarantees an economic balance related to the amount of energy recovered with panels and measured by production counter.

2.2 Micro wind system

The electricity is obtained by exploiting the kinetic energy of wind; the air masses pin the blades of a propeller; in turn the propeller is connected to a generator that transforms the mechanical energy to electricity. The project is characterized by the use of micro wind turbines, which produce energy from the wind in reduced spaces, comparable to the balcony of a house. This type of wind turbines are silent, suitable for an urban area, are able to produce electricity even when the wind blows slow, compact and minimally invasive architecturally. The micro turbines are 27 in total, divided into 9 on each of the 3 residential blocks, placed exclusively on horizontal roofs and not on those pitched.

All the turbines of a single housing block are connected to a single generator that pick up the mechanical energy transforming them into electrical energy.

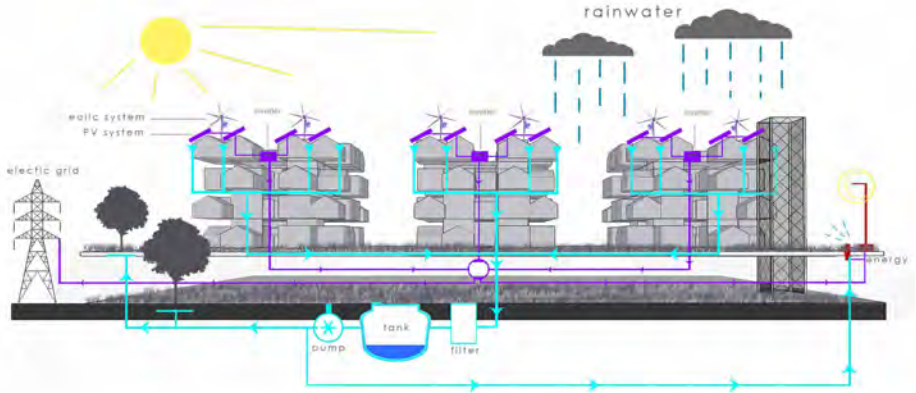
3.1 The recovery and reuse water system

The recovery and reuse stormwater system are one of most efficient method for solve the waste problems, lack of water and increasing water supply costs.

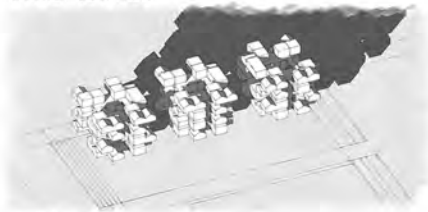
The potentials are to avoid overloading of the sewage systems during the heavy rainfall; in the home about 50% of the daily water can be replaced with rainwater, the water reuse can be employed in other services such as flushing of the toilet, consumption for the cleaning, the laundry and irrigation garden.

The installation for the recovery of rainwater is basically composed of two sub-systems: the system of accumulation and reuse system. The first is a simple exhaust system for the type of material and the laying system operates, the second is an hydraulic system which serves to collect the water stored in the tanks and to distribute the apparatus that the reuse.

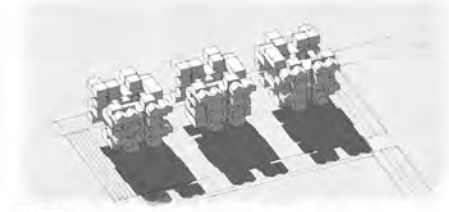
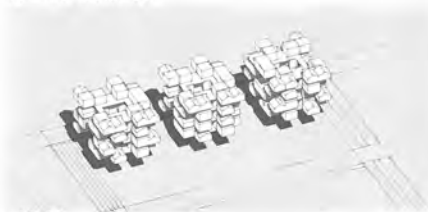
In the project, , the water is recovered from the roofs of residences, from the



winter solstice



summer solstice



platform where there are vegetable gardens and from the green street. For residences harvesting gutters are incorporated onto the roof slab, so as not to modify the aesthetics of the structure. The green street consist from green flower beds on either side of the access avenues and the ramps, which allow to recover rainwater and also avoid overloading the sewer system. The species present in the green street are Rushes marsh and Alisyum.

The water after they have been retrieved are transferred, by means of pipes with diameter of 10 cm, in a cyclonic filter which allows to separate the aggregates from the water, depositing them in a settling tank, easily accessible by means of a door for maintenance. Once treated the clear waters reach a collecting tank of 4 square meters, in which two submersible pumps reintroduce the water in the irrigation system.



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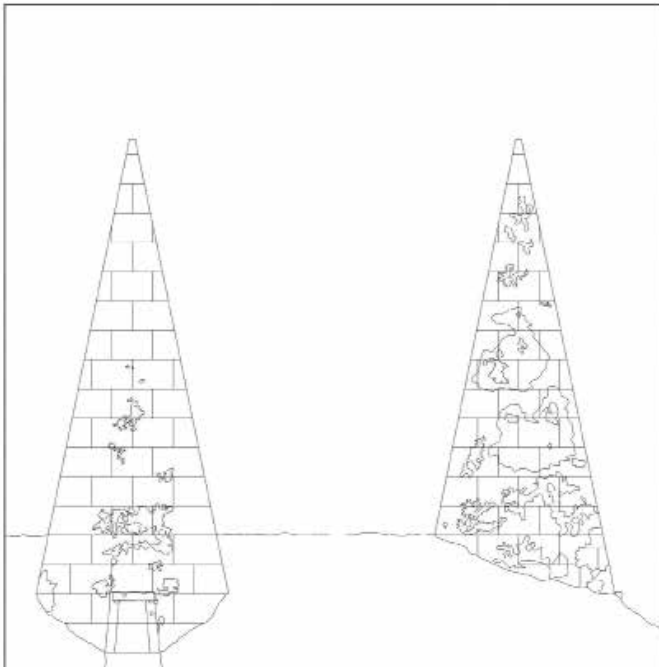
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1. The Giardino Inglese of the Reggia di Caserta: the survey of the pyramid.

THE CRITICAL DRAWING OF THE ARCHITECTURE

Paolo GIORDANO

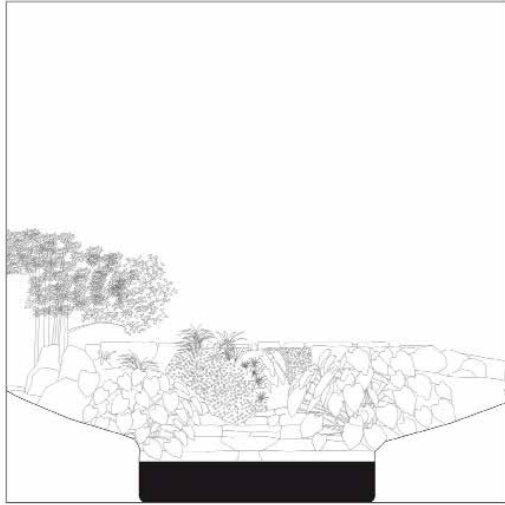
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The English Garden is built by Carlo Vanvitelli thirty two years after the start of work of the Royal Palace and only after the realization of the great ending linear park to the north with the fountain of Diana and Atteone and the scenic artificial waterfall designed by his father Luigi. The settlement area of the English Garden, chosen by the gardener John Andreas Graeffer, is located on the north-eastern side of the monumental Park and its main entrance is reached by tangential side clearing the fountain of Diana and Atteone. The Royal Aperia is, at present, the most monumental architecture of the English Garden. Building that, since 1826, takes on to neoclassical exedra configuration going to complete a powerful infrastructure fragment dating from the eighteenth century: a linear dike consists of nine bellies with sloping front end by the maximum share of the annual plan. The Barbican, masonry elements of hydraulic engineering are capable of breaking down the hydrostatic thrust agent from a reservoir behind it, whose function is to assist in the sealing of the thick supporting wall of the tank and never finished designed by Luigi Vanvitelli. A tank which, most likely, was an additional element of sophisticated hydraulic engineering represented from the Aqueduct Carolino namely that complex infrastructure system consisting of bridges, canals, breathers, compensation tanks, fountains and wells designed and built to allow water features scenic inside the Royal Palace Park, to feed large tanks or ponds and serve the many fountains which are used for recreational or civic use not only in the park but also in the Royal Palace and several buildings built around the latter. An interesting iconographic document of the water structure of the former tank of Vanvitelli is represented by drawing preserved in the archives of the Royal Palace: a floor plan that reveals the area of the future English Garden, traced only in its northern part, where it is clearly visible the water containing structure and a series of pillars, behind the latter, able to bear the thrust of the cover structure of the tank never realized. In close relation to the unfinished Royal Aperia tank, downstream of the latter in the east of the garden, is located the Pyramid, another element of the water infrastructure system designed by Luigi Vanvitelli according to the same functional and compositional parameters of the multiple shower heads that furnish the waterway Carolino Aqueduct in his long route from Monte Taburno in Benevento until

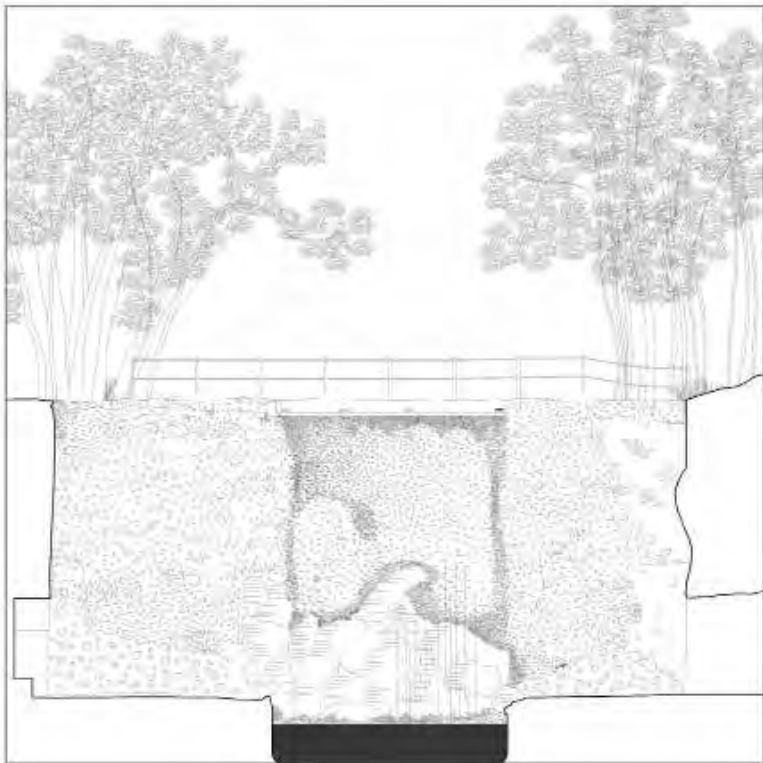


2. The Giardino Inglese of the Reggia di Caserta: the survey of the nineteenth greenhouse.

the Royal Palace of Carditello located in Caserta plain. Architectural element that becomes a fundamental point of hydraulic hub for supplying water to the water chain consists of the Fountain of Pastor, the small water canal below the latter, and, through the share jump made with waterfall and pool of this collection on the eastern side of the Bagno of Venere, the whole system of canals and artificial lake with islands it occupies, as a whole, the central part of the English Garden. Confirmation of a clear water feature of the Pyramid not created, as it appears at present, the dramatic order but as infrastructural element in support of that system of complex water courses and mirrors of vegetation fence by Maria Carolina, wife of Ferdinand IV. On the opposite slope to that inhabited by the the Pyramid it is placed the Temple Italico or a reconstruction of fake ruins with walls in opus reticulatum, drums of columns, parts of architrave and sculpted decorations. A composition which, starting from the northern side of the English Garden, is tangent to the sloping path that leads to the above Royal Aperia. In addition to the various architectural fragments materialized by drums of columns broken the most characteristic element is the high stylobate with steps that, in addition to supporting a group of columns with lintel, measure, with its height, the height difference between the path and the support surface of the Temple itself. The Temple Italico with Royal Aperia, the Pyramid and the Fountain of Pastor, structure the northern area of the English Garden with great sensitivity by exploiting the scenic topography sloping soil that allows almost always to perceive these architectural objects from bottom to top. Well other status settlement is instead exploited in the central part of the pleasure garden divided, in turn, into two compartments: the main one, structured around water courses and mirrors, and the eastern, leaning against the wall that separates the Garden English, through the narrow street of the mills, the main Royal Park. The Eastern center sector is one in which, above all, by the will of Ferdinand IV, it is to structure the so called Botanical Garden in the English Garden. Or from the north to the south, a succession of blocks of buildings, gardens, greenhouses, nurseries and fountains or pools set against the low wall of the ancient Via de Molini. The first, the House of the gardener or the house where he lived on the first floor, the John Andreas Graeffner gardener but Maria Carolina had orig-



3. The Giardino Inglese of the Reggia di Caserta: the survey of the bridge.



4. The Giardino Inglese of the Reggia di Caserta: the survey of the waterfall.

inally wanted as Caffehaus and later, between 1790 and 1796, transformed into a tool shed. It is a building with two levels featuring double pilasters rustic order soaring on high stylobate of the coated ground floor of local limestone hammered. Downstream from the Gardener's House stands the translucent Serra Ottocentesca characterized by large windows with two leaves and a canopy cover with iron trusses and roof made with glass plates. Classic example of building for the planting of delicate essences of the nineteenth century. In the lot below, of a minimum share jumping but highly distinctive, is located the Scuola Botanica, which together with Serre Settecentesche and green areas and the walled gardens, defines the Botanical sector of the English Garden. In this area, in addition to these buildings the presence of water basins, fountains and, especially, long linear or curved elements in a pyramid, designed to house small clay pots, decorate the context in question according to sobriety and strongly utility in contrast with the landscape aspects of romantic present widely type, almost without discontinuity solution, in the English Garden. A real English garden that combines those innovative character of the project of ground vegetation that were scattering in major European parks through the contribution of theoretical and landscapers as M. A. Laugier with its landscaping of the gardens in *Essai sur l'Architecture* or through the theory treated the gardens had printed in London in 1770 by Thomas Whateley *Observations on Modern Gardening, Illustrated by Descriptions* or even the *Dissertations on Oriental Gardening* William Chambers 1772. Also the neo Palladian architects such as Colin Campbell in the house Henry Hoare II Stourhead which has a picturesque garden with rustic grotto designed by Henry Flitcroft. Well all these influences unfold, according to metaphysical mode and surreal, in the landscape system devised by the architect Carlo Vanvitelli and the John Andreas Graeffe gardener for the central part of the English Garden. A suggestive concatenation of architectural episodes, ponds consist of canals and reservoirs, small infrastructure such as bridges and dams, classical sculptures and archaeological finds which rest on the bottom of an orographic depression strongly shaded by thick vegetation and impenetrable. First, the Bagno of Venere, a body of water inhabited by a marble sculpture of the Roman goddess squatting on the water and surrounded by a stone am-



5. The Giardino Inglese of the Reggia di Caserta: the survey of the island.

phitheater formed by large boulders blanks in rustic work. A rocky amphitheater that presents, on the north side, three front and two side entrances to Criptoportico semi underground: an indoor semicircular plant tunnel by a barrel-vaulted coffered characterized by fake injuries and large gashes which are showing the thick vegetation of the ground level higher. Further defined by three exedras manned by Doric columns of tiles placed on a stand. The central exedra is furnished with a monolithic marble bathtub that arises in line with the prospective telescope that frames on the opposite bank of the basin the Venere is crouching. The basin in front of the Criptoportico is interrupted in the vicinity of a small waterfall that leaves drain the water towards the so called Superior Canal crossed by a semi-elliptic arch bridge and by a next step placed on the edge of the second jump of water that feeds the Lower Canal. When the first bridge parapets has plastered masonry, with fake deficiencies which are showing underlying masonry textures in opus incertum and opus reticulatum, the second pass is made with pillars and horizontal elements in iron forged of solid section. At below this element is constituted of the water chain which measure the dimension jump between Superior Canal and Lower Canal. The latter collects the water that flows into the artificial lake inhabited in turn by two small islands: the first, on the western side the artificial basin, characterized by the presence of a small temple with a pronaos characterized by ruins of columns and architraves of Order Corinthian; the second, conversely, host a small pavilion with vaulted hemispherical dome having a shelter for lake birds function. The southern sector, finally, is characterized by its orographic simplicity: a large clearing marked by tall trees and, on the extreme south side, from a grove of oaks that surrounds the temple designed by Carlo Vanvitelli and that, behest of Ferdinand IV, was surrounded by a maze made with plants of Bosso. The English Garden is, ultimately, a unique testimony and rare in the art history of European gardens especially for this interesting relationship between green, architecture, archeology and water infrastructure: a parsed and reassembled complexity through the critical tool of the drawing of the Architecture.

THE ORIGIN OF THE NEAPOLITAN CONDOMINIUM (1855-1939)

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The origin of the Neapolitan condominium (1855-1939)

At the beginning of the 1950s, in Italy living in a condominium became a custom. Indeed, in this period people started to own their apartments in collective buildings. The custom has a “long duration” and it is interlaced with the history of the laws that have regulated it.

The separation of the ownership in apartments “one on top of the other” of different sizes was sanctioned in Italy in 1865 by the Napoleonic Code, which in turn reflects the French legal Code [1]. This legal system was very important and for sure it reflected an already widespread custom: considering property as something stratified. In fact, this new kind of parcelled property brought about a new way of intensive land use.

In his best known book, Lando Bortolotti said that in Italy at the beginning of 19th century the condominium was a sporadic, abnormal phenomenon, consistent only in Naples [2]. He also cited a neoclassical architectural treaty published in 1808, which confirms this thesis [3]. In this treaty it is possible to read that the custom of parcelling private housing was already a common practice at that time, something regarded with disapproval by the author: *Io non posso encomiare l'usanza praticata in Napoli, ed in alcune altre città capitali dell'Europa; che i varj piani di un edificio medesimo sieno da diverse famiglie abitati: le quali hanno comuni le scale, e la porta su la strada* [4].

So that, already before the Unification of Italy, the housing density together with economic needs caused the big aristocratic buildings to be parcelled and extended in height to get as many rooms as possible [5]. One crucial moment in the consolidation of this custom was the abolition of feudal rights at the beginning of the 19th century [6], when many aristocratic or upper-middle class families had to share their property. At that time, a flourishing middle-class composed of bureaucrats of numerous embassies, many priests, soldiers, officials and employees of the Bourbon administration, doctors, surgeons and lawyers were living in Naples together with a rich royal court. Francesco Saverio Nitti called Naples at that time the largest consumer city in Italy [7].

The tendency to increase income by parcelling pre-existing buildings seemed



to be more convenient than to build new buildings [8]. In the business even the once rich and famous families gained from parcelling their big houses. The raising of three or four storeys (on four-storey-high buildings) was carried out without any knowledge of statics, and created an excessive density of the neighbourhood, jeopardized safety and created bad hygiene conditions. Then, when the tenants became the owner of the apartments they began in turn to rent them, further subdivided, to the urban lower classes, speculating on their investment [9]. Therefore, important Renaissance and Baroque buildings became a sort of ante litteram condominium.

The first examples of life in condominium coincided with the beginning of the so-called “vertical segregation”, which means the co-habitation of different classes in different floors of the same building. “Vertical segregation” became a kind of topos, considered in some ways picturesque by scholars, poets and writers [10].

The most common scheme of vertical distribution was the following: the first floor, called “noble”, belonged to the patron family, the basement was for the domestics, while the second, third and fourth floors were rented to the middle-class. The higher the floors, the more the internal height of the apartments decreased, the more uncomfortable were the rooms and the cheaper the rent. The basement, once stalls, was often used as an artisan workshop or basso, i.e., off-the-street accommodation where the poorest families lived.

This process increased with the onset of the cholera epidemic in the summer of 1884 and, consequently, special laws for the Risanamento (urban clearance) of the city of Naples were enforced in January 1885, which gave way to the most impressive urban program ever carried out in the city [11]. At that time, the political authorities, by adopting specific urban measures, on the one hand encouraged the division in socially homogeneous districts and, on the other, gave new impetus to the condominium promoting the building of new intensive residential complexes.

With the founding of the Società del Risanamento in 1888, composed of numerous national banks, for the first twenty years of the 20th century, a fertile building market developed in Naples. It was based on the European model of



demolishing and constructing homogeneous social areas, to deal with the urban overspill.

The Risanamento period saw the creation of the modern apartment block. In many cases it followed the historical typology of the buildings with a central courtyard [12] built in long lines. The residential buildings in Corso Umberto I is an emblematic example with recurring elements adopted in later periods, e.g., lift, doorkeeper's box, service staircase and a vertically recurring layout. These buildings were often single ownership with rented apartments.

Later, the history of the condominium was marked by national political measures relating to "controlled rents" established during the First World War and in force until 1930. Although as early as 1923 Mussolini declared his intent to restore a free rent market, the process was slow and uncertain.

Finally, rental deregulation brought about important changes that contributed to the spread of condominiums. In particular, parcelling out the ownership was encouraged to guarantee access to housing through mortgages. In many cases, instead of paying increased rent, tenants were offered the possibility to pay up in instalments to become the owner of their own apartment or of another available on the market.

Overall, the importance given by the Regime to property ownership led to a series of government measures, which favoured the spread of the condominium, together with the extension of housing credit.

As Lando Bortolotti said, the aspiration to property ownership by the middle and working class resulted in 1927 in the setting up of a commission, including, among others, Calza-Bini and Gorla, as presidents of the Istituto Autonomo Case Popolari – IACP – respectively of Rome and Milan, to facilitate the condominium [13].

The definitive recognition of the condominium as a widespread regime occurred in 1939, when the new Land Registry introduced a tax for real estate units, instead of for whole buildings, thus facilitating the transfer of single property units. The second half of the 1930s saw the building of the first modern Neapolitan condominiums. Instead of the traditional "closed block" with technical load-bearing masonry (often in tufa), the "in line" type with a concrete structure became



popular, like several condominiums built in via Carducci or in the Carità district. One example is the “open block” building in via Carducci designed by Paolo Platania (1938), with balconies and catwalks, inspired by the Casa Rustici by Terragni and Lingeri in Milan. Also, the two buildings by Ferdinando Chiaromonte built by the companies Persichetti and Fernandez (1939) [14] present an interesting solution that articulates the volumes, like the long balconies on the corner of the façades in the first building, or curved balconies in the central courtyard of the second.

The critics have given just merit to this architecture [15] which constituted a real prototype of the modern condominiums that began to spring up after the Second World War, when several other factors contributed to their spread.



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FRANCESCO VANVITELLI'S WORK FOR THE REALES SITIOS OF CHAPULTEPEC IN MEXICO

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1- Architecture and urban planning of the eighteenth century in Mexico (D.J.)
The urban developments in the eighteenth-century Spain are part of a broader political project through which the Spanish monarchy tries to deal with the ongoing transformations in the major European capitals, especially after the return of Charles III of Bourbon to the Spanish throne from the Kingdom of Naples in 1759. The renewal programs experienced in Spain Enlightenment were also exported successfully in the provinces dominated by the Bourbon crown. The system of the royal residences, the Reales Sitios, closely linked to the demands of court life, but at the same time experiment in avant-garde production management, were born on the same criteria in both the Spanish mainland, in the territories controlled by the Bourbons in the Kingdom of Naples and in Latin American colonies. During the eighteenth century, Mexico was involved in a great building impetus, also boosted by the population growth recorded on the end of the century, when Mexico City grew to about 100,000 inhabitants [1]. It was therefore necessary to adjust both the structures and urban infrastructures to the new demographic situation. In most of the cases the military engineers realized the works that defined the new face of the city. With the reformist policy of Charles III, the number of engineers for the Nueva España was increased; they also dealt with assignments not closely linked to military works. Real Corps of Engineers, especially created to meet the needs of building fortified systems in defense of the Spanish colonies in Latin America, came to play more and more extensive tasks, dealing with road works and hydraulic and civil architecture built in the manifestation of the vice-regal power [2]. In the absence of technicians, the viceregal authorities, in fact, resorted to military engineers for any type of public buildings and to develop some of the most important cartographic works. The buildings were known for their formal characteristics of stability, security and strength which, in the intentions of the government and the clergy, were to reflect the characters of stability and strength in response to the situation of social and economic crisis and political turmoil that crossed the country. The straight avenue, flanked by a double row of trees, provided along its way three large round in each of which was located a fountain. During the administration of Viceroy Matías de Gálvez y Gallardo (1783-1784) and his son and successor, Bernardo de Gálvez, (1785- 1786) the Chapultepec site, now abandoned, met

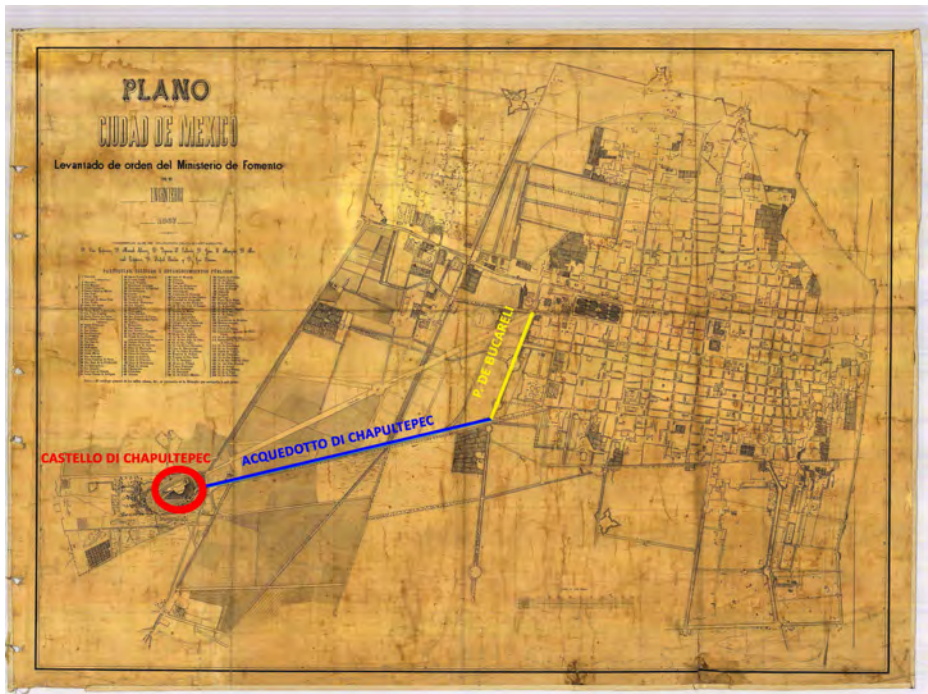


Photo 1

The Mexican capital met the moment of greatest development in the second half of the century, with the embellishment of the urban accesses, the realization of the great boulevards, paseos, and construction of the aqueduct. The city adapted to the new economic, social and administrative conditions, renovating its town planning, not only from a quantitative point of view, but above all from the qualitative point of view, with the reconstruction of the water channeling works, roads and bridges, the creation of the lighting and urban sanitation systems and the division into districts, all works realized mainly in the period of the government of viceroy Antonio María de Bucareli y Ursúa (1771-1779) and his successor Martin de Mayorga (1779-1783). Large tree-lined avenues were built in Mexico City, linking the strategic points of the city such as Paseo de Bucareli or Paseo Nuevo inaugurated in 1778 on the orders of the viceroy Antonio María de Bucareli y Ursúa, in relation to a larger modernization plan in order to enrich the city with new urban infrastructure in a project which included the construction of main roads lined with trees and adorned with fountains, such as the urban planning of the contemporary European capitals inspired by the neo-classical reformism. In the intentions of the viceroy, the new Paseo, designed on an existing stretch of road in the western part of the city, crossed it from north to south connecting the ancient city with the Royal Site of Chapultepec. In the redesign of the city, Chapultepec Castle became, therefore, one of the most significant urban nodes, around which the spectacular aristocratic residence was being reorganized, expression of a wide and integrated territorial concept, with obvious implications on the urban scale, extending at the level of the landscape scenic implants that rotate on the royal palace, arranged as a pivot of a system of roads oriented like a the trident to the city.

a new season [3]. In the *Suplementos a los tres siglos de Mexico* is reported that Matías de Gálvez was the first one to be interested in Chapultepec site. In 1784 he decided to reconstruct the building. After his death, the next viceroy, Bernardo de Gálvez, son of Matías, resumed work in the Palace. In July 1785 he decided to build a simple "casa de campo", and he commissioned lieutenant colonel of infantry and ordinary engineer Don Francisco Bambiteli (Vanvitelli) to organize the formation of the project, the management and the completion of the work, with the recommendation not to lose sight of the décor, the solidity and the appropriate extension to the intended use, to avoid unnecessary ornaments and not indispensable works. Work began on August 16. Already December 23, 1785 took place the ceremony of the laying of the first stone, as recalled in the *Gazeta de Mexico*. But Francisco Vanvitelli in the meantime left Mexico to go back to Havana, leaving the task to continue the construction site to the engineer Manuel Agustín Mascaró. We do not know the original project by Francesco, son of the famous architect Luigi Vanvitelli, author among other things of the Caserta Royal Palace. However, it is likely that the expressed demands of the customer (simplicity, decency and solidity) found in the Italian architect an interpreter of the new neoclassical inspirations that spread in the Spanish colonies in the last decades of the century. Once abandoned the old image of the palace-fortress, the aristocratic urban residences adapted, in fact, to the court residences model, provided with a spacious atrium which is accessed by grandiose portals, with a differentiation of the spaces intended to various functions and with the disposition of local deposits and stables on the ground floor. Bernardo Galvez expressly required to Vanvitelli to stick to a sober architecture, in line with the new neoclassical inspiration that simplified and rationalized the cheerful polychrome colonial architecture. It can be assumed that the work presented, then, a shift towards a more rigorous, rational spatial order, with modest decorative motifs inspired by the Spanish Baroque and motif of classical inspiration: the same principles applied by Francesco himself to the project conceived a few years later, in 1790, for the House of Charity in Havana, the drawings of which are preserved in the Military Archive of Madrid. The project for the House of Charity of Havana reveals a symmetrically organized structure along



Photo 2. In Plano Real Sitio de Chapultepec, kept in the Archivo General de Indias, dated 1792, represents the whole site that consists of an area with the Real Alcázar, which rises on a hill surrounded by a path and lands with woods in the west side at the foot of the hill. The southern side of the cerro is marked by an aqueduct ending with a reservoir located at southeast of the hill. It is definitely the source for the water supply of the oldest cities of Mexico used since the kingdom of Chimalpopoca (1418 d.C.). The Real Sitio entrance is located at the south of the hill and the Chapultepec Forest. It consists of a wall flanking the entire perimeter from the entry of the site until the docks and the fábrica de pólvora. In the fifteenth century, by the initiative of Viceroy Antonio de Mendoza, a wooden fence was built to protect the garden. Around the middle of the seventeenth, it was removed to facilitate the activities of hunting, leaving in the palace of Moctezuma a green area. Plano del Real Sitio de Chapultepec, Archivo General de Indias (AGI), Mapas y Planos, MP-MEXICO f.437.

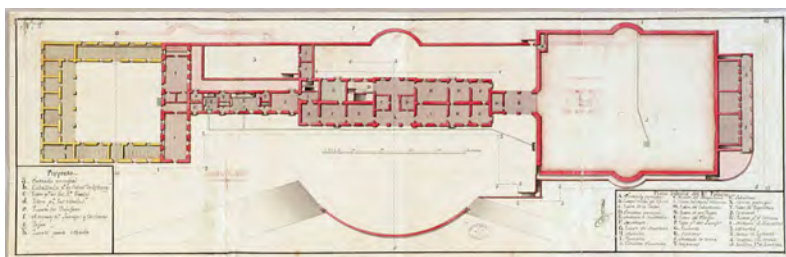


Photo 3. In the Plano inferior del Real Palacio de Chapultepec, the area of the project and the state of opera are identifiable. The first red part, which shows the central part of the Palace, houses the local of the administration. The second, in yellow, is the expansion project and homes the stables for horses and storage for carriages. The new volume balances planimetrically the whole composition, creating a symmetrical upstream space to the downstream backyard, in which the water systems for the fountain of the upper level are allocated. Plano inferior del Real Palacio de Chapultepec, Archivo General de Indias (AGI), Mapas y Planos, MP-MEXICO f.405.

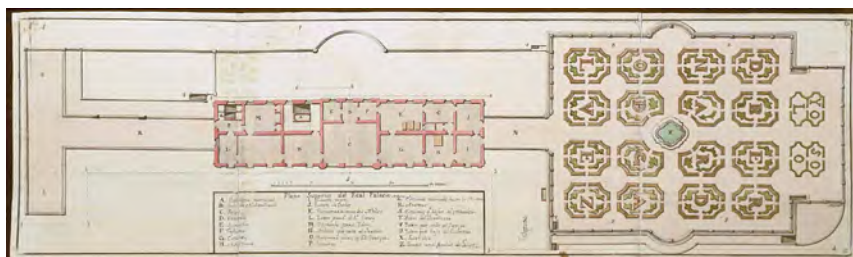


Photo 4. Plano Superior del Real Palacio de Chapultepec, Archivo General de Indias (AGI), Mapas y Planos, MP-MEXICO f.405.

a central axis with four big giants courtyards and well-measured spaces, revealing a commitment to the European neoclassical architectural themes adapted to the colonial architecture baroque spirit [4]. Drawings for Chapultepec are an expression of this kind of choice and even if we do not know if and how much they correspond to the original project by Francesco Vanvitelli, they revealed in the articulation of structures and in the architectural configuration of prospects, the rigor and the simplicity required by Bernardo de Galvez, whose name, along with the slogan "Yo Solo" that accompanied the corps of the viceroy, is reported in the flowerbeds in the design of the upper floor, a tribute to the enlightened patron. In the work of Luigi Vanvitelli's students in Spain and in the American colonies - among which we can include Francesco Sabatini and children Pietro and Francesco , as well as Antonio Bernasconi and Marcello Fonton - we can observe a more robust aspect of the vanvitellian lesson, not only in terms of architectural language, but in an undoubted technical ability to operate in different areas, by adapting the neoclassical applications of Italian and European matrix to the vernacular colonial-inspired language.

2-The Real Sito of Chapultepec (G.L.)

The heritage site of Chapultepec is the largest green lung in Mexico City and it extends down on an hill of over 686 hectares on the western edge of the city [5]. The area of Chapultepec, named for the náhuatl word which means "Chapulín'hill" or "grasshopper's hill", is characterized by a very ancient geological formation of volcanic origin, which attracted different populations who have occupied the site over the centuries [6]. The hill was occupied as a shelter by Aztecs during their endless wanderings and then became the elegant holiday residence of the members of their aristocracy. In the XV century, during the Moctezuma I Ilhuicamina's reign (15th a.C.), the ruler of the city-state of Texcoco, by watching the topography of Chapultepec, characterized by rocky terraces, natural caves and, above all, the presence of water sources, built an aqueduct in order to carry the water across the lake de Texcoco until the pre-Hispanic capital [7]. The location became therefore a sacred place and a building dedicated to Moctezuma II Xocoyotzin was erected there, at the foot



Pho 5. Varios perfiles y diseños de la fachada del Palacio de Chapultepec, Archivo General de Indias (AGI), Mapas y Planos, MP-MEXICO f.406.



Photo 6. Military College of Chapultepec, published by Nathaniel Currier, 1847



Photo 7. Chapultepec Castle, view

of the hill, which gave shelter to many pilgrims. During the viceroy period, the Chapultepec site was still appreciated as a place to stop and rest. The ruler's residence was expanded and became a palace with spaces in support of social and military life. In the XVIII century, due to an explosion in one of the storeroom for ammunition at the foot of the hill, the majestic building was totally destroyed. It was decided that the area once used by a small chapel dedicated to the Archangel Michael on the hill would be occupied by the new palace and the overall area underwent substantial renovation and redevelopment and the project was entrusted to the military engineer Francesco Vanvitelli ordered by the Viceroy Bernardo de Gálvez. Francesco Vanvitelli went to Mexico City with the engineer Juan Bautista Crouset who was given the role of master builder. Crouset kept working to the project that came under the direction of Manuel Agustín Mascaró, Lieutenant Colonel of the Military Engineers Corps [8]. In the Archivo General de Indias three panels testifying the original project are preserved, neither signed nor dated, which represent, respectively, the inferior of Plano Palacio Real de Chapultepec, Varios perfiles y diseños de la fachada del Palacio de Chapultepec, Plano Superior of the Palacio Real de Chapultepec. Through the tables analysis, you can see how at the end of the eighteenth century, all existing civil, military, and engineering works are inserted into the Chapultepec forest natural landscape: the gateway, ramps, aqueducts, the Palace, the factory and the ovens. In subsequent years, the area suffered numerous changes until it was completely abandoned [9]. In 1864 it became the official residence of Maximilian of Habsburg and Charlotte of Belgium who built a paseo, now the Paseo de la Reforma, to connect the building to the city. He later became a military college and then a prison until the arrival of José de la Cruz Porfirio Díaz Mory, president of Mexico, when it was again used as the official residence. The President Lazaro Cardenas, in 1939, established that the castle would have become the seat of the Museo Nacional de Historia placing the collections of the Museo Nacional de Arqueología, Historia y Etnografía, and was declared Monumento histórico [10]. Opened in 27 September 1944, it continues to be constantly visited with its 19 rooms where you can retrace the history of the whole country through works of painting and sculpture, drawings, historical documents, flags,



Photo 8. Chapultepec Castle, facade.



Photo 9. Chapultepec Castle, garden.

coins and clothes.

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LIVING THE MODERNITY IN NAPLES: VIA PETRARCA AND THE POST-SECOND WORLD WAR HOUSING. THREE BUILDINGS BY THE ARCHITECT STEFANIA FILO SPEZIALE IN PARCO RUFFO [RUFFO PARK]

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Via Petrarca, one of the most famous streets of Naples for its fine view, was planned to be a “half-way” of the Posillipo hill, as great alternative to the long and winding via Posillipo [1]. The construction of via Petrarca, originally named “via Panoramica”, was started approximately between the end of 1926 and 1929. However, the street was neither part of the 1926 master plan, designed by a Commission headed by Gustavo Giovannoni but never approved in its entirety, nor was it in the list of the works by the Alto Commissariato, planned for the “Rebirth and Magnificence” of Naples [2]. Precisely, the S.P.E.M.E. spa Company [Società Partenopea di Edilizia Moderna ed Economica, that is Partenopea Company of Modern and Economic Building] was entrusted with the construction of via Petrarca by a building agreement signed with the Municipality of Naples on October 20th, 1926 (then, integrated and rectified up to 1960). The document allowed the company to build a new residential neighbourhood on the Posillipo hill’s south slope.

This settlement, called “Sannazzaro-Posillipo” and, then, known as Rione SPEME, was designed by the engineers G. and A. Ippolito in 1925. After the first supervision of the Municipality’s Technical Committee on September 13th, 1926, the “Sannazzaro-Posillipo” plan was officially approved on October 12th, 1926 by the Alto Commissariato Decree No. 10565/1175.

Precisely, on March 31st, 1926 the company drew up a new plan including all changes the 1926 Master Plan’s Commission asked for. Then, on April 8th, 1925 and on July 27th, 1926, the plan of the settlement was approved with the “Determinations”, as it is jotted down on the bottom of the 1926 plan enclosed to the building license [3].

Proposal of the project was the development of the Rione SPEME along and all around a new street, called via Orazio, between the Mergellina’s touristic bay and the Posillipo hill’s ridge, that is represented by via Manzoni. In exchange for the building permit and its facilities, the S.P.E.M.E. Company had to take charge of all the costs to build the supporting road network, the primary urbanization services (with the exception of the sewage and the electric systems) and a cable-railway from Mergellina to via Manzoni.

This praxis was introduced in 1885, when the first master plan – so called “pel



Napoli, the fourth building permit for the S.P.E.M.E. [S.P.E.M.E. neighbourhood] master plan (State Archive of Naples, City Planning Section, Raccolta Iannello, Progetto di esecuzione della S.P.E.M.E. del rione Sannazzaro-Posillipo, via principale e funicolare. Planimetria del 1926, Fald. 203, cart. A, ambito Na)

Risanamento della città di Napoli” [Master Plan for the Renewal of Naples] – was approved and the “Società pel Risanamento di Napoli” [Corporation for the Renewal of Naples] was established as a consortium of companies unrelated to the city and mostly from northern Italy. As it is well known, these companies, to whom pieces of master plan were entrusted with several advantages and facilities, were the leader actors of those events, which carried out Naples toward the modern urban face. Nevertheless, the companies were also the causes of deep building discrepancies and mismanagement of the city, because they worked above all private interests. Among them, the Società Veneta di Costruzioni [Building Company of Veneto], whose headquarter was in Padua, worked especially for the health transformations of the ancient centre of Naples; the Tiberina Bank and the Società Edilizia Laziale [Building Company of Lazio], both from Rome, were employed in the construction of Fuorigrotta and Bagnoli districts; the Società dell’Esquilino [Esquiline Company] built Santa Brigida’s area and was entrusted with the construction of the Galleria Umberto by a public contract. These new projects were justified by the so-called principle of “public utility”. In fact, up to the First National Urban Law, published in 1942, new works of urban transformations could be planned in many Italian Regions by way of derogation from Master Plans and urban regulations in case of urgent reasons of public health or public needs. It was quickly extended also to works of aesthetic improvement. So, although it was an excellent legislative opportunity for a valid urban planning, private interests got the upper hand, causing further urban dysfunction, misinterpreting and misconstruing of the “Code of Hygiene and Public Health” adopted in 1888.

Via Petrarca, therefore, came as part of those road infrastructures, on which the Sannazzaro-Posillipo district has developed since 1926. In this year, in fact, the construction of that amazing long street started and included the excavation of the northeast slope of the Posillipo hill, as two IGM’s 1929 photos show. One of these shoots via Petrarca under construction and proves that, at first, the works went on promptly and quickly, because the segment of the ground from via Manzoni to the Neogothic villa Ruffo della Scaletta was already levelled. Instead of this, the other 1929 photo shows the bottom of the Posillipo hill towards



Napoli, via Panoramica (today, renamed via Petrarca) under construction, in 1932 pictures.

Mergellina but there is no mention of via Petrarca.

Nevertheless, also the plan enclosed to the above-mentioned 1926 building permit, proves that the last segment of via Petrarca, connecting to via Orazio, was not at all designed up to the end of 1926, when the project of the Sannazaro-Posillipo district was approved and the building license was signed. If this was the situation of via Petrarca in the 1926 Master Plan, on the contrary, the profile of the street was well-defined in the 1939 Master Plan, the first approved in its entirety.

Additional unpublished documents, stored in the Historical Archive of Naples, show the subsequent phases of the construction of the road [4]. Among them, there are also several maps attached to two news building license obtained by the company – the fourth and the fifth building permit–, compiled on September 23rd, 1948 and October 19th, 1960 [5].

These drawings prove the layout of via Petrarca (here, called via Panoramica) and the building and environmentally protective restrictions. After the Second Post World War, namely during the period of economic recovery and the 1960s-70s building boom, via Petrarca was still under construction but ten years later it was linked to one of the largest increase in housing of the city. New residential buildings were built on the road. The apartment-buildings – that usually we called “Condominiums” – of via Petrarca became characteristic examples of Modern architecture, not for being specific masterpieces, but rather for their interpretation of the Eighteenth century Neapolitan palace through linguistic and functional contemporary expressions. This housing type was well-known in Italy and abroad, but, in Naples, it was both the proposal of a new way of living for the middle-upper and upper bourgeoisie – which was the new emerging and growing class –, and the recovery of a characteristic social microcosm. In Naples, in fact, the “palace-condominium” was part of a more complex aggregation of 3 or 4 enclosed buildings, at least, made up of an all-homogeneous whole, like a residential park, surrounding by green, or, more frequently, flowers inside the fence.

Along via Petrarca, since it was finished, there was the highest number of residential parks. Many of them came from the close synergy among excellent



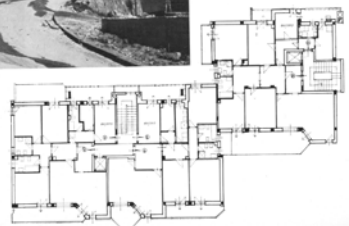
Napoli, via Petrarca, Parco Ruffo [Ruffo park]. Model and site plan of the site, in unedited three 50s pictures



PARCO RUFFO - FABBRICATO 5
128 VANI



PARCO RUFFO - FABBRICATO 6
128 VANI



Napoli, Parco Ruffo. The No. 5 and No. 6 buildings, and ground-floor plants, in two unedited 60s pictures

architects, good building societies and acute clients, which promoted a copious and articulated repertory of interesting architectures. Among these, first of all we should mention the six buildings – “A” and “B”, “Azalea”, “Orchidea” and “Rondini” – completed between 1952 and 1954 by the Domenico Laudiero’s company and designed by Davide Pacanowsky [6]. In a right balance, each of them is a mixture of Mediterranean linguistic expressions, but filtered through the Milanese experiences and the Modern Movement lesson, although Pacanowsky did not look at Le Corbusier’s lesson but rather at Alfred Roth’s work for the design of these architectures.

We should mention also several others parks, including that called “Serenò”, designed by Raffaello Salvatori, built perpendicularly into a tuff rock and completed in 1955 [7], and Parco Lamarò [Lamarò Park], composed by 14 palaces, whose construction began after 1959, when the area was purchased by the homonymous company. During the Sixties and Seventies, in Naples, there was a substantial increase in this building typology, especially in via Petrarca. Here, several of the most interesting residential parks of the Posillipo hill were completed, including the Miranda Park, designed by Fernanda Licenziati and completed in 1968, while the Parco Le Rondini [Le Rondini Par] and the Parco Primavera [Primavera Park] by Tommaso Pugliesi and Elio Lo Cicero, started in 1964, were almost to be completed (their construction ended in 1969) [8].

The Sixties – the most fecund period – started with the residential park located at the No. 141 and composed by three buildings built in 1960 and designed by Stefania Filo Speciale with her two young partners, Giorgio De Simone and Carlo Chiurazzi. The following year, Luigi Casalini designed others three buildings, whose park was completed in 1963. Located at the No. 175, they are characterized by articulated shapes of the apartments, oriented towards the landscape view and the sunshine [9].

Stefania Filo Speciale (1905-1988) was one of the best architects of the Second Post War generation, the same of Carlo Cocchia and Giulio De Luca, though she started working in the Thirties as Marcello Canino’s pupil [10].

Mainly known for the Metropolitan cinema-theatre (1948), a reusing of natural tuffaceous cavities, and for the project of the Società Cattolica di Assicurazione

[Insurance Catholic company] skyscraper (1953-58), a controversial work because of its too innovative typology for Neapolitan coeval culture, Filo Speziale designed more than 150 architectures, including her contributions to the Mostra d'Oltremare (1937-40) and the Commission for the 1958 Master Plan. In spite of that, she is not widely known and her works have been studied only for a few years.

From 1963 to 1967 Filo Speziale designed also four other buildings in via Petrarca. They are part of Parco Ruffo [Ruffo Park], the residential park carried out from the transformation of the beautiful and wild villa Ruffo della Scaletta's garden [11]. The four-storey buildings have different shapes but long and deep balconies, running along all the main facades, characterize all of them and stress the horizontal rhythm without solution of continuity. Furthermore, the balconies accentuate the chiaroscuro values on the facades, which are completely free from jutting out elements. The elegant and sober building, composed by very comfortable and rich flats – the flats of the No. 8 building have three bathrooms – are in continuity with the research line drawn by Filo Speziale since her work experience at the Mostra d'Oltremare and the public housing projects, especially those for the Soccavo district. Definitely, she was one of the young architects of the post war generation which was able to translate the Rationalism language into a Neapolitan expressivity of the Modernity at best [12].

Notes

[1] About more general information on Posillipo hill, see: D. Viggiani, *I tempi di Posillipo dalle ville romane ai casini di delizia*, Napoli: Electa Napoli, 1989; R. De Fusco, *Posillipo*, Napoli: Electa Napoli, 1988; C. Gambardella, *Posillipo moderna*, Napoli: Clean edizioni, 1999; I. Ferraro, *Napoli. Atlante della città storica*. Posillipo, Napoli: Oikos, 2016.

[2] “Alto Commissariato” was a special administrative office, nominated directly by Benito Mussolini in 1925, during the Fascist period.

[3] The drawings of the first, the third and the fifth building permit are in F. Mangone, G. Belli, *Posillipo Fuorigrotta e Bagnoli. Progetti urbanistici per la Napoli del mito. 1960-1935*, Napoli: Grimaldi, 2011, pp.110-112; 118-120.

[4] State Archive of Naples, Urbanistic section, Raccolta Iannello, Progetto di esecuzione della S.P.E.M.E. del rione Sannazzaro-Posillipo, via principale e funicolare. Planimetria del 1926, Fald. 203, cart. A, ambito Na.

[5] Ibid.

[6] D. Pacanowski, Tre palazzine panoramiche, in “Edilizia Moderna”, n.55 (1955), pp. 39-44. Particular reference to this can be found in E. Manzo, Napoli. *La cerniera urbana di Posillipo e Davide Pacanowski*, in C. Ingrosso, E. Manzo, L. Molinari, R. Serraglio, *La città che si rinnova*, Napoli: La Scuola di Pitagora, 2017.

[7] A. Castagnaro, *Architettura del Novecento a Napoli*, Napoli: ESI, 1998, p. 172.

[8] Ibid., p. 218.

[9] Ibid., p. 209.

[10] See: M. Tedeschi, *Lo spunto formale e la creazione dell'ambiente*, arch. Stefania Filo Speciale, in “Domus”, 1950, n. 251; *Architetture del Moderno a Napoli tra progetto e prassi. La casa di Stefania Filo Speciale*, in *Il Moderno tra Conservazione e Trasformazione. Dieci Anni di Do.Co.Mo.Mo. Italia: Bilanci e Prospettive*, International Congress in Trieste 5-8 dicembre 2005, Trieste: Edit-reg, 2005, pp. 155-164; M. Burrascano, M. Mondello, *Lo studio Filo Speciale e il modernismo partenopeo. Palazzo Della Morte*, Napoli: Clean, 2014, to which we refer to an extensive bibliography.

[11] I. Ferraro, Napoli. *Atlante della città storica. Posillipo*, Napoli: Oikos, 2016, pp. 442 and passim.

[12] She wrote on the topic in S. Filo Speciale, *la casa di abitazione*, Fausto Fiorentino, Napoli 1953.

CULTURE-DESIGN IN THE CITIES OF AVERSA, NAPLES, POMPEI

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Abstract

The experience is aimed at the development of a system to build places of the heritage of Campania with agricultural activities and food, generate employment for long-term social, in the Abazia di San Lorenzo ad Septimun in Aversa, in the Mostra d'Oltremare of Naples, in the ancient city of Pompei.

Children, citizens, tourists become "travelers" and are invited to participate in workshops in creative exploration. The workshops are divided into three phases: historically, the Architecture is lived - not seen with paths dramatized; naturally, the garden is explored through agricultural operations of planting, harvesting, creatively, diaeta the ingredients of the Mediterranean - Unesco heritage - are collected and processed in laboratories in the gardens of cooking in a convivial. The project includes the implication of associations and third sector organizations in the activities of creation and management of green spaces and laboratories and the involvement of design students in the project of memorabilia that will be marketed.

Keywords: diaeta, cultivars, art, social, design

1. Culture-design (Sabina Martusciello)

For this project we have chosen two monuments: the first one is the Abazia di San Lorenzo ad Septimun in Aversa and the second one is the Mostra d'Oltremare in Naples. Both places have been selected because they are a historical and architectural highly prestigious heritage not completely appreciated from a tourist point of view even though close to the main tourist flows (historic centre of Naples and Caserta Palace). The Borgo San Lorenzo is in Aversa. In addition to the late-gothic church, also the seventeenth-century building, which was the accommodation of Benedictines, is part of the monumental complex. This build has a large two-level cloister (one of the few examples in Campania) and today it hosts the Department of Architecture and Industrial Design of University of Study of Campania "L.Vanvitelli". The wide wall also surround San



Lorenzo Garden, a garden of agriculture used for a long time as a parking and then turned again into garden orchard open to schools and managed by the association Orto di San Lorenzo.

The Mostra d'Oltremare was inaugurated in 1940 in 36 pavilions on 1.066.197 square meters. It is a large multifunctional park equipped with 720.000 square meters of a prestigious tree, architectural and artistic heritage, which merges precious architectural works and urban green. The Mostra, with its urban scheme which is almost unchanged from its birth, has its international value. In both complexes, surrounded by walls, the green spaces and the land are structural elements within the architectural project: these characteristics allow the integration of the touristic and historical value of the buildings with the possibility to develop activities and services linked to culture and "cultivations" of the Mediterranean diet and of Campania wine and food panorama.

"Culture-design" has been preceded by actions concerning culture, nature and environment, the dissemination of products and projects and respectful initiatives that valorized cultural, rural and natural environment and propose to safeguard the rural, handicraft and wine and food local heritage, even through agreements and co-operations with public and private companies in the organization of training activities for a culture of a new rural and urban agriculture which improves the territory: from the realization of the garden/orchard in the Abazia di San Lorenzo in Aversa, to 2011 with the Oscar Green of Coldiretti Giovane Impresa, to the cultural and educational initiatives directed to all schools, through creative and sensorial multidisciplinary workshops that stimulated the knowledge of elements and processes of agriculture and healthy diet. Also UNICAMPANIA students and researchers also contributed to extramoenia initiatives to organize educational gardens in schools.

These are the results on December 2017:

- Involvement of 3000 students of the University course in Design and Communication and Fashion;
- Participation of 450 Campania schools;
- 40.000 school students;
- Design and construction of 350 gardens in schools;



build heritage + urban agriculture

from tourist / visitor to **traveler**, from contemplative opera to **active place**

>500.000 visitatori/anno  Reggia di Caserta

Aversa



Abazia S.Lorenzo ad septimum 

- Recovery of 400.000 square meters of areas intended for agriculture gardens.

2. Historically, naturally, creatively (Sabina Martusciello)

“Culture-design” is aimed to activate a group of services in the selected architectural complexes to strengthen their attractiveness for tourism. The starting point is to turn tourists who passively consume their time and space into travellers who live and positively interact with places. The Building heritage must be an active and alive heritage which produces, (softly) changes and interacts with travellers. The project includes the utilization of green spaces to create gardens and settlings of urban agriculture that can be the core to realize workshops on the culture of the Mediterranean diet and Campania food and wine. The workshops will take place in three levels:

STORICA_MENTE (HISTORICALLY): it is oriented towards the knowledge of the artistic and architectural context through a narration of places, the history of monuments and their connection with the land. A “widespread museum of work” will be able to improve and facilitate the access to information through digital resources and tools.

NATURAL_MENTE (NATURALLY): it includes workshops on sowing and/or harvesting, according to seasons, in the gardens and green spaces of the monumental complexes, to know the key elements of the Mediterranean diet.

CREATIVA_MENTE (CREATIVELY): it is a workshop which allows travelers, in a convivial dimension, to learn to transform products who have been cultivated, harvested or sowed in the gardens and the green spaces of the involved areas. The project includes partnerships with third sector bodies to develop extramoenia agricultural services aimed to improve green areas. This model is scalable for other regions and architectural complexes containing areas to be turned into gardens and workshop spaces.

Through various meetings and workshops this project is a network of third sector branches that can be involved both directly, in the management of artistic complexes and services, and to map skills, resources and new “art areas” in which to implement the CULTIVARS model for new services. Meetings and



workshops with the third sector actors will be an opportunity for socializing in which to identify the necessary skills to set up the staff of experts who will plan the workshop contents and will train the operators. The project includes small operations to improve green areas, with the co-operation of associations in the different territories. These areas, called “tissues of urban agri-cultures”, will be widespread in the cultural approach of the project and will also have the task to promote and communicate the initiative. The third sector will be also involved in the development and production of memorabilia designed by design students and to be sold in the hop; partners who have handicraft productive skills will have the opportunity to apply for the production of memorabilia, even by networking to integrate their skills. In the final part of the project there will be workshops to identify new art spaces where to implement “Culture-design” services and laboratories and create partnerships between subjects who can manage the initiative in the territory.

The project provides partnership with professional tour operators who are directed to an international public, as well as partnership with tour operators of cruising and hotel sector. This activity will be taken into care by the project marketing referee. Through “Culture-design” the different tour operators will be able to improve their offer by proposing a new and involving kind of travel which combines the artistic and historic dimension with the food and convivial one (which is strongly attractive for the foreign market and not fully exploited!). This offer is highly competitive in South Italy tourism, where advanced services for accurate and not trivial experiences are rare. The valorization of architectural works such as those of the Mostra d'Oltremare with specific services for language targets adds value and competitiveness and shows an unusual vision of architectural heritage in Campania. The project “Culture-design” provides the development of a system of reception and services for cultural and linguistic targets with ad hoc communication and digital supports. Partnership with university departments of foreign languages and cultures and conventions encouraging students traineeship will allow an offer which is qualitatively adequate to the international market.

The project develops web and new technologies through different solutions.

The project provides the creation and the installation of interactive video projections stimulating the user through a recreational and creative approach on three thematic levels corresponding to laboratories: *storica_mente* with artistic and cultural contents; *natural_mente* which concerns the garden care and management; *creativa_mente* with interactive installations stimulating the use of garden elements and artistic contexts for the virtual creation of products, recipes and narrations, suggestion. The installation will be dynamic works changing according to seasons and the intervention of users who can add and modify elements or information. 2) Widespread digital museum: the architectural complexes and their green spaces will be enriched with elements allowing, through smartphones and tablets, to use contents which will strengthen the access to information. 3) Web platform will be helpful both in managing the organizational phase, through reservation and services customization, and contents presenting “Culture-design” art places and exploring Campania and Mediterranean agri-food issues. This platform offers contents extending the user’s experience, making accessible photographs, productions, contacts created during the user’s real presence in “Culture-design” (For example the user can see the growth of the young plant he contributed to plant or cure).

3. The worksites of know-how (Maria Dolores Morelli)

The project “Culture-design” considers the period of start-up and building of spaces and services as the opportunity of developing training laboratories for tutors and operators, the worksites of know-how. Training activities will be directed to tutors and operators and will be based on the action learning that is training combining theory and practice. Construction and activation of the spaces and the services will be the training worksite where operators will face critical issues and will find solutions in a participatory way. The worksites of know-how have three thematic levels that are parallel to workshops: *Storica-mente*: this worksite concerns the valorization of the two selected monuments, therefore it will be focused on: the dissemination of contents referred to artistic places, the development and the dissemination of the contents in language for the inter-

national users, the development and the dissemination of the contents in language for the special users (lis and different abilities), the installation of the work museum and of information and communication materials. Natural-mente: this worksite is focused on the creation and valorization of green spaces and urban agriculture within the two artistic contexts; basis and elements of the agricultural technique on-site, typical Campania agro-food, the design of garden and green, field preparation and creation of the urban garden. The participants in the training activities will receive the qualification of “urban farmer” and can be involved in maintenance and management of gardens and green space. Creativa-mente: this worksite is focused on the activities and contents of cultural and educational laboratories: the development and management of workshop contents, the development and management of the support for laboratories, the creation and setting up of laboratories.

The activation and maintenance of spaces, the co-operation in the management of “Culture-design” workshops will be entrusted to social cooperatives or third sector bodies to build processes of work inclusion involving at least 50% of operators with different abilities or coming from difficult situations. The operators will be trained in the phase of start-up and will receive the professional qualification of “Urban Farmer”. Through some “special editions” of workshops, the project “Culture-design” is aimed particularly to emphasize the involvement of people with sensorial disabilities (both as users and as operators): for example, deaf persons will be directly involved in the tour of art places and in services for laboratories for deaf people, events in LIS (Italian Language of Signs) will take place. Blind persons can be involved in sensorial workshops about taste and touch. All laboratories will be open and accessible to people with different abilities, a specialized tutor will follow the activities of special users. The project “Culture-design” will also facilitate some micro-operations for the valorization of green or agricultural spaces in all Campania, these “tissues of agri-cultures” will be activated in partnership with associations of the third sector that are active in the involved territory, in the selection of partnership to activate policies and practices directed to the work integration of persons from so-called “poorest categories” will be an advantage, as well as to involve poorest categories in the

CONTENT

-  HISTORY, TRANSFORMATION AND TASTE MEDITERRANEAN DIET
-  MUSIC OF THE EARTH AND ITS FRUITS
-  NARRATED TASTINGS
-  CYCLE AND RECYCLING OF EARTH PRODUCTS

* ...



CANTIERI DEL SAPER FARE

DEVELOP INNOVATIVE SKILLS WORKING

action learnig

 + 

TO DO is TO KNOW



identification of those who will produce memorabilia.

4. Best practice to Pompei and for the world: International Interuniversity Master [diaeta mediterranea: landesign/ali-ment-azione] (Maria Dolores Morelli)

The project “Culture-design” has seen in the ancient city of Pompei the possibility of its development through the knowledge of the ancient city which admirably combines not only archaeology, architecture and art but also agriculture and food and investigates the roman house as agricultural company ante-litteram. Like the “diaeta”, the space of the roman house designed to reception and relationship, the International Interuniversity Master [diaeta mediterranea: landesign/ali-ment-azione] of the Department of Architecture and Industrial Design UNICAMPANIA and of the Department of Pharmacy UNISA is the place of re-formulation of the relationships between man and environment, food and health, land and design, content and container, of the research and scientific innovation for the development of products and service of the food production chain: [ali-ment-azione] ali = creative ingredient + mente = scientific ingredient + azione = productive ingredient.

Through an educational new model [landesign/ali-ment-azione], with a multidisciplinary approach, participants will be trained to the management of the food production chain in its formal and functional, medical and nutraceutical, food and wine and culinary, anthropological and symbolic, economic, environmental and emotional aspects.

Participants will receive the qualification of EXPERT IN MEDITERRANEAN DIET aimed to the work integration in companies of agri-food, nutraceutic, gastronomic, design, fashion, tourism sector and to the constitution of new agricultural enterprises and of green economy.

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Recovery rural spaces (Francesca Muzzillo)

The rural landscape is a multi-layered system, both for its functional organization and for its intangible values, in a combination of production, culture and environment. It is based on the interconnection between human activity and environmental system, in which man's ability to affect the territory is expressed in different ways, in relation to dissimilar environmental conditions and different production techniques; but in any case there is the requirement of a balance with the environment in which it operates.

An evaluative and prescriptive framework for balancing the different requirements is useful, in view of a return to the identity of a place, together with the goal of an economic profit for the community. In this perspective we could be helped by a large amount of experiences of interchange between the two urgencies: the need of economic return for people living in the country, on one hand, and the environmental urgency for an enhanced quality of life in rural territories, on the other hand. Semi-abandoned villages open, for example, interesting recovery prospects. Particularly the connotation that makes it possible is the reorganization of diversity: diversity in space, in time, in seasons. It is the combination of history and nature that compounds a variable diagram of diversity into a rural environment. It is true that cultivation has sometimes a perceptive impact, with the consequent homogenization of local identity, while during the past, as in the ancient experiences of South of Italy, a mixture of different elements was well disposed, and this organization influenced the latent opportunities of territories to take advantage for community. But also today there is a way for reducing visual impact, realizing at the same time an integrated component into territorial dimension and a well-functioning socially and politically context. How to work in an innovative way and maintain the sense of the past? There is a way of compounding natural and artificial resources, inspiring to the traditional way of working in a natural asset of people during time. In that way the central concepts of sustainability are applied to a rural environment, like into ecomuseum experiences, looking at a local approach, especially if a grade of community consensus is reached. So the contrast between different areas should convergence in



Cascina Salterio

coherent perspective, which is apt to realize process of cohesion among people living in the place. Speaking of vineyards, for example, a mosaic of vineyards into a landscape is essentially not invasive only if the economic dominance is related to the community, with a varied disposition of enclosures and, at the same time, with a variation of propriety, as it was in the majority of internal areas of South of Italy. Moreover tourism is a substantial factor on economic development processes. In fact it is an integrated component into territorial dimension as it expresses itself through multidimensional and cooperation processes, both socially and politically. And it is the historical memory, even before the character of places and architectures, to direct tourists to a fruition of the territories more rooted to the contexts and less hasty. Regarding the idea of ecomuseum, it can still today be the basis for promoting a more conscious tourism that meets the needs of the area, while it is adequate to be revisited in order to move experimentation of a new sustainable tourism. Focusing on existing relations between human habits and natural ecosystem, the ecomuseum moves again towards an integrated structure rediscovering cultural identities of local communities. And in this perspective the fundamental aspects of ecomuseum should be revisited in order to launch experimentations, especially if the experiments led to results from which testing more specific contexts, with relevance onto the economic plane. Nevertheless the main congruence is on the plane of “time” because the main dimension of a cultural landscape and the character of places and architectures is mainly given not by the physical appearances of places, but by the alternative use of the territories more rooted to the contexts and less hasty. Cultural Enhancement for a territory is a result of the coming together of different factors, identity, heritage, economy. The last factor is fundamental as it is not always possible to sustain it, especially if it is possible to obtain only local funds. But experience teaches us that, without taking into account each specific environmental situation and its own particular constraint, there is no homogeneous disposition for sustainable recovery of rural environments. An appropriate relationship between a cultural territory and a vaster environment is difficult to define even in a specific site. Obviously there is a gap between what a community need in a specific rural area and what government thinks could be



MUSA

the real opportunities for the place. But research works could help to put together these two different ideas of future. A well-articulated framework of specific characteristics of a place could be an useful instruments for an exchanging of points of view. Size of rural properties, social structure, density of population, social habits give a perspective of first identity principles of rural areas, but the “case by case” strategy remains still the best approach in order not to change the last remaining identity characters, which will never be found again if they disappears.

MUSA: case study (Fosca Tortorelli)

The idea of being able to discover, enjoy fine wines and admiring landscapes and tourist trail is one of the prerogatives that affects the wine, which can produce the possibility of an experiential approach to the discovery of the rural, the “terroir” represented as one fundamental values of food tourism through the close relationship between planning, agriculture and tourism.

A good example of this is represented by the Tuscan village of Borro. This village placed in the green hills of Tuscany and today recognizable as medieval village, was already present in the twelfth century. The remains of the ancient walls and the bridge, make presumes that it was a fortress located on a cliff, a spur of rock. However it should be emphasized that the Borro has had over the centuries a great importance from the standpoint of political strategy, its road system (presumably of Etruscan origin), linking Fiesole with Arezzo and even the ancient Roman routes - such as Clodia and Cassia - passed near the ancient fortress. From the first documents available it seems that the fortress was purchased by Borro de Borris of Medulano (Podesta of Arezzo which took its name from the castle). The respect for nature is expressed through many projects and trade choices introduced in 2011, like homes to zero energy consumption, photovoltaic systems; but is especially its special blend of the Borro village with the history and traditions in wine production, that reinforce this connection. It is also possible to observe another case study of rural landscape reconfiguration that describes a situation in a tight contact with a widespread urban environment. The southern area of Milan, is one of the oldest areas of human settlement in the European urbanism landscape, as have witnessed countless



transformation activity of soil introduced by agricultural practices of the Cistercian monks, who skillfully used in a rational way the natural resources present and have gradually given a new role to wild-lands. Precisely in this structural logic can be focused the intervention of recovery of Cascina Salterio, located in the municipality of Zibido San Giacomo, which allowed to preserve and prevent the deterioration of a building heritage, and in some urban sense. The recovery is not just about the field of architecture, but also extends to environmental fields, landscaping, functional and microubanistic aspect, material, in a overall design logic, not the sum but for intersections of design choices that will affect each other. The location, the size, the particularity of the place and its planivolumetric organization point to a unitary design of urban design, in order to combine the renewed orchestration planivolumetric with the remodeling of the close rural landscape (the landscape close to the Cascina membership and to while the Cascina determines). Perhaps the true essence is above all the continuation of the ancient logic of conservative transformation of the environment-urban-rural landscape. It is in this logic that the work conducted defines the architectural quality of Cascina Salterio (Figure1-2). The objectives and the steps necessary to demonstrate the compliance of the proposal to the entrepreneurial project goals, combined with the consistency of the different hypothesis of the project, a focus on sustainability and the technical prescriptions regulations on urban renewal, have made Cascina Salterio a reality in which to reside. So the MUSA, based in the former stable of Cascina Salterio is the result of this transformation and result an interesting case study. It is not a rural life museum but a place which houses various activities and which aims to develop agriculture, organizing educational activities concerning nutrition and landscape, building synergies with international and Milan cultural reality, working for a connection of a network of farms. So it becomes also a widespread laboratory where, through the experience of taste and landscape, it is possible to comprehend the memory of a territory and of its people. Here a cultural project is proposed in order to archive, using the territory resources, a new sensitivity towards landscape and nutrition. MUSA hosts food experimentation activities, research, education and training programs for different users ranging from primary school pupils to pro-



professionals. And it is a space for learning, discovering, experimenting and playing. In connection with the museum the memory of the territory is preserved, through a network of farmhouses which offer cultural and nature tours, and also tasting experiences with food which is produced in relation to Musa innovative works. Inside the museum there is a laboratory too, which is dedicated to the experience food through the collection of botanical garden herbs. It also offers courses and events, for a theoretical and practical educational journey to learn about the semi-processed materials and related nutritional aspects. The courses are taught by nutritionists and cooks for a fusion of knowledge: so the goal is achieving a knowledge of nutrition applied in relation to culinary arts. The method is based on a participatory process, and depending on the participants age and culture it includes also fun and ludic schedules for a better collaboration and communication. The idea of discovering, to enjoying delicious products of rural places and simultaneously admiring landscapes and tourist routes is one of the prerogatives. It can produce the possibility of an experiential approach to rural habitat and “terroir”, in a perspective that consider it as one of the fundamentals values of tourism through the close relationship among landscape, agriculture and tourism.

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THE MEMORY OF THE PLACES AND THE DESIGNS IN INDIA MADE BY LUDOVICO QUARONI IN 1947: ARCHITECTURE AND LANDSCAPE

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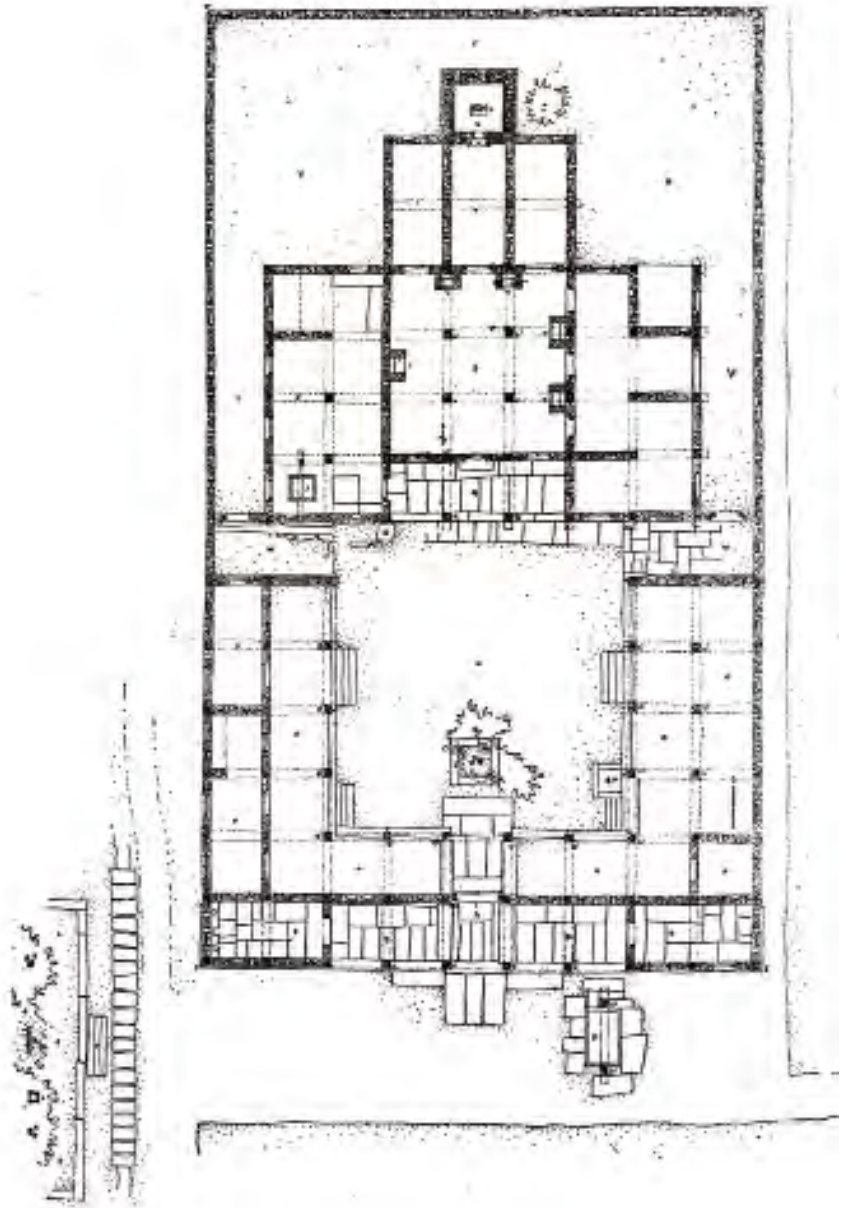
In 1947, Ludovico Quaroni represents in a sketchbook architectures of a rural community at the base of the Indian's economic and social life.

The designs, quoting Quaroni himself, "of a piece of color of the Indian Village as it is still today, like an reached expression of a civilization, that is as a community" in a moment of great debate between the members of Cottage Industry contrasts with the Big Industry in a rising urbanism, are the sources of a picture of a world that start to move after three thousand years of stopped life.

Quaroni's designs staring at an age where 90% of the population of India lives in seven hundred thousand communities in a territory of five million square kilometers and 72% of the inhabitants support themselves with the earth's products. Only "four large ports, founded all by European settlers, Bombay, Calcutta, Madras and Karachi centralize the export and import trade, the medium and heavy industry, and the whole life of Europeans. A network of small cities, regional government offices of British India seat or capitals of native states, serves as a connection with the seven hundred thousand villages".

Gandhi, pandit Nehru, socialist leader Jaja Prakash Narayan, the industrialists and economists of the Bombay plan call for a right preparation to face the problem of the effects of a disordered urbanism. Therefore, of an India that tends to made metropolis, Quaroni's witness has a considerable importance for understanding the roots of a people, through the foundation architectures and monuments connected to them, for example the Sanchi stupa.

"And so: architecture is conquered. We have to arrive in front of her with that particular effort, to feel it, already made aware of a certain environment of preparation, in that light, in that air, in those dimensions. We can not frame it, reduce it to two dimensions, removing the others, the depth, the time, and abolishing, with a straight line, clear, all that is above and below, on the right and on the left. If I look at a monument or a simple house, it's also part of them the land and the trees and the sky and the things that are my shoulders; I don't look at them any more but I saw them, they are already in me. If sometimes the presumption of an architect believed that he could become free from this slavery, and he wanted to conceive the building for himself, abstractly, he did nothing but avoid exploiting things that can not be abolished, he could never do



Map of the bull's temple, L. Quaroni in Metron n.16 - 1947



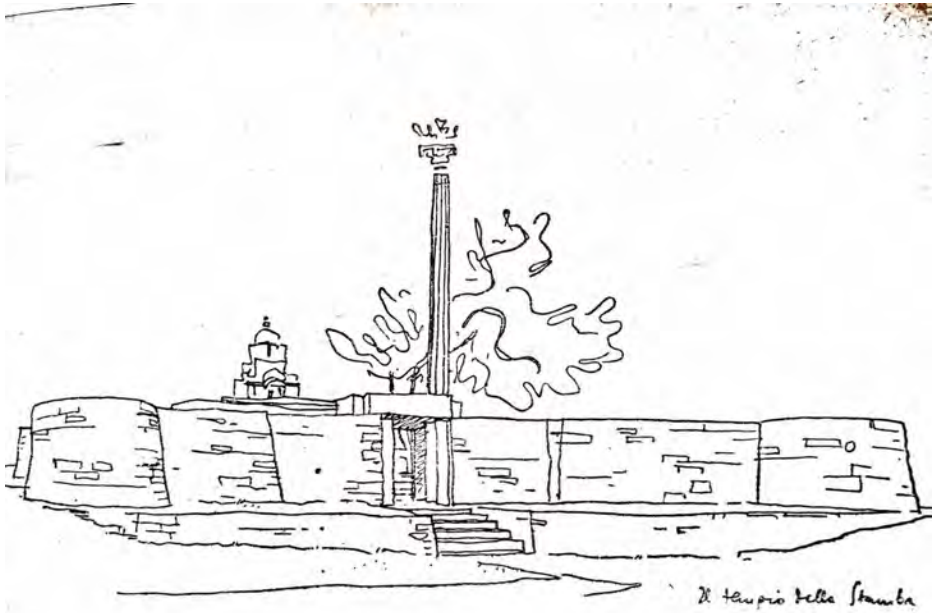
Interior view of the courtyard; the big bull overhangs the entrance, L. Quaroni in *Metron* n.16 - 1947



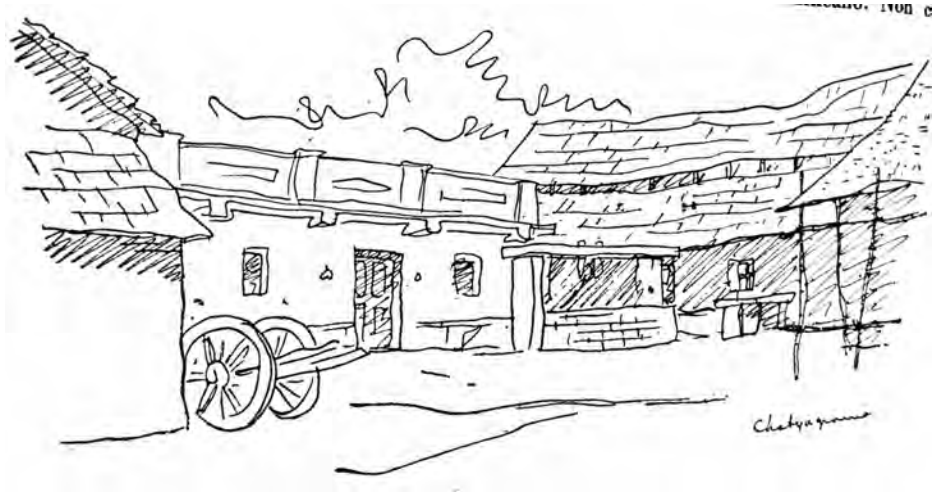
Perspective of the school of Jaliahalli, L. Quaroni in Metron n.16 - 1947



The stilobate for the worship of the tree and the snake in a Southern country, L. Quaroni in Metron n.16 - 1947



Design of a temple, L. Quaroni in Metron n.16 - 1947



Design of a village, L. Quaroni in Metron n.16 - 1947



Design of a village of an Indian community, L. Quaroni in Metron n.16 - 1947

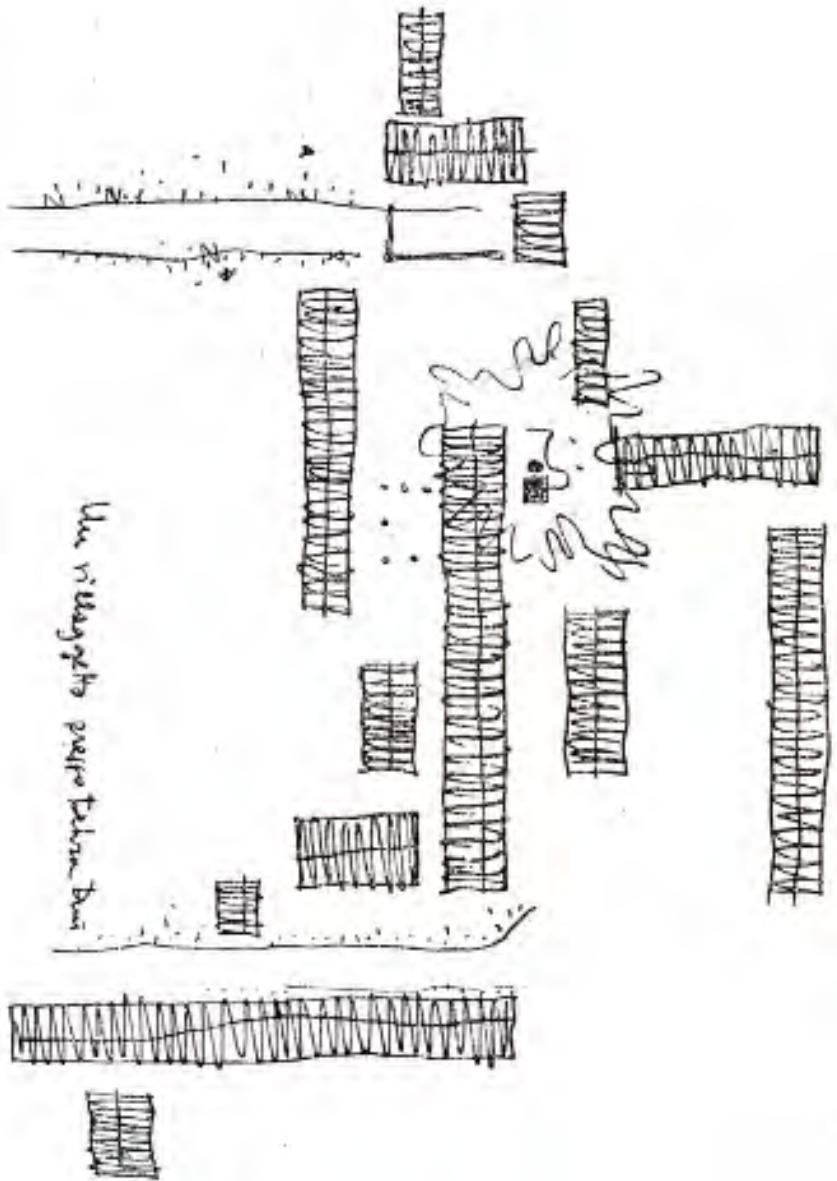
without air, space and light. He has narrowed the problem, and has only freed himself of the sense of the infinite, of the calm and the sadness that generates an environment of pure nature “.

Quaroni's designs synthesize a will that aims to join a hermeneutic continuity of metaphor and of the narrative aforementioned for both the metaphorical-descriptive language and the narrative language, count the close relationship between meaning and reference, between composition, or configuration, and an opening to the world of life; with a difference: while the metaphorical redescription counts more in the sector of sensorial, experiential, aesthetic values, which make the world a habitable world, the mimetic function of narratives is preferably exercised within the action and its temporal values.

The training about project of Ludovico Quaroni is based on these principles. From the 1947 travel he finds in India sources of a behavioral practice applicable in every context; the architect must find again in his work the sensorial and aesthetic values that find expression in the imaginative language. The universal values that in Quaroni's drawings and story seem predictive and current; they refer to restoring a concept of sustainability that, although very popular currently in intellectual instances, doesn't correspond to concrete forms of architectural and landscape solutions in line with the desired recommendation to base the planning of the whole safe space in which the men.

The Architecture, The Landscape must find a link between aesthetics and ethics that redefines the idea of sustainability with the measure and, therefore, with the capitalization of the tangible and intangible values of the territory to participate and give built form to a government of the territory that creates value for the inhabitants and for the habitat.

That means the return to the stratigraphic narration of the image of the territory and of the cities which, according with the words of Giulio Carlo Argan, follow a contemporaneity of what does not have the same date. The 1947 travel to India by Quaroni is more than a project, it is the design-manifest of its historical continuity in designing; a Grand Tour of the soul that obtains from other roots of place a method to homologate and universalize the making architecture even in devastated places like those of Gibellina.



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GEOMETRIC RULES FOR HBIM OF THE AMPHITHEATRE IN POMPEII

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This study is a part of a wider research being developed on the Amphitheatre of Pompeii about the complex problem of identifying the geometrical drawing underlying of the architectural form of the Amphitheatre from 3D laser scanner data. The survey, analysis and modeling activities performed for the amphitheatre are not limited to the study of its planimetric shape, but also to the three-dimensional configuration of the auditorium space. In fact, the test of the elliptical shape of the plan of the Amphitheatre in Pompeii has been performed through the application of the Blaise Pascal theorem on four horizontal sections of the continuous mesh model of the Amphitheatre in significant levels calculated with respect to the WGS 84 ellipsoid. This verification has been a prerequisite for geometrical considerations about the complex spatial configuration of elevation elements and underground spaces.

The geometric analysis conducted in the underground space has been developed only for the southern quadrant thanks to the good preservation status of the original corridor.

The underground aisle with its plan curvilinear configuration is divided into four branches that allow the passage from the corridors to the stairs connecting with the stands. The 'ima cavea' is connected through four flights of stairs for each individual ambulatory, with the exception of the ambulatory south-east that has only three connecting stairs; the 'media cavea' is accessed through sixteen double ramps, four on each ambulatory.

In relation to the underground spaces, the elliptical plan of the aisle has been verified through a similar process on the section of the outer wall obtained from the continuous mesh model.

The initial aim of the verification was to calculate the (elliptical or oval) curve that most closely fitted the actual layout. The most appropriate method for this evaluation was the application of Pascal's theorem. This theorem verifies conics through the relationship of six points along the curve through the alignment of three points inside or outside the curve. The theorem was verified for this study using the sides of the intersected hexagon with the six above-mentioned points as vertices. The verification and application of the theorem were carried out on the horizontal section plan at height of 17.0m, calculated with reference



Image 1_Pompeii Amphitheatre: panoramic view.

to the ellipsoid WGS 84 and obtained from the continuous mesh generated by the point clouds. The verification was obtained by applying the theorem to six points taken arbitrarily on the section. The six points were combined in pairs according to the segments 13-14-25-26-35-46 which intersect at three points aligned along a line. The theorem was verified and the curve was found to be a conic and, more specifically, an ellipse.

The center and the axes of the ellipse were consequently determined exclusively through a graphics procedure.

The centre of the ellipse was identified using the theory of polarities (used in projective geometry) through the homological transformation of the circumference into an ellipse. By proceeding in an inverse manner, it was first necessary to calculate the two tangents to the ellipse. This operation was made possible by applying Pascal's theorem although two consecutive coincident vertices were considered rather than six distinct vertices. The line of conjunction of these vertices is the tangent of the conic at the point where they coincide.

Once a circumference touching both of the previously determined lines and the ellipse itself had been established, the elements of the homology transforming the circumference into the ellipse were calculated. In particular, the centre will lie in the intersections of the aforementioned tangents since both join the pairs of corresponding points. The axis of the homology, the place where the points join, is calculated by pairs of corresponding lines. The homology ω is assigned. The boundary lines of the homology ω were identified by tracing an arbitrary line. The improper point of line will correspond to the proper point, aligned with respect with the centre and l^∞ . A similar procedure was used to find the other boundary line of homology ω , bearing in mind that the distance of each of the boundary lines from the axis is equal and in the opposite direction of the distance of the other one from the centre.

The search for the constituent elements of the homology of transformation of the circumference into an ellipse is the premise for applying the theory of polarities on the basis of which the pole of the improper line on the plane is defined as the centre of the conic. In order that the centre of the ellipse is the pole with respect to the conic of the improper line, it must correspond to the pole with respect to



Image 2_Pompeii Amphitheatre: underground ambulatory during 3D laser scanning activities and topographical survey by total station.

the circumference of the boundary line. Once two points and on boundary line have been selected the polars are calculated with respect to these points: it will be sufficient to trace the tangents from these points to the circumference which, at the points of contact, will define the chords, the polars of the aforementioned points. The correspondent of pole with respect to the homology ω will determine the centre of the ellipse and a pole with respect to the line.

The polarity also enables us to identify the axes of the ellipse, taking into account that each diameter of a conic is the polar of an improper point of its plane; the conjugate diameter of a conic is the polar of an improper conjugate point in the direction to which it is polar and the axes of a conic are the pair of conjugate diameters so that each diameter is orthogonal to its own conjugate diameter. Therefore, once the centre of the ellipse is known and its diameter is drawn, the conjugate can be determined by drawing the tangents for the points of intersection of the diameter with the ellipse. The ellipse is thus inscribed within a parallelogram. In this case too, another homology (an affinity in this specific case) is determined in an inverse manner which transforms the ellipse into circumference and the parallelogram into a square which circumscribe them.

In an affinity that transforms a circumference into an ellipse, the axes of the latter are homologous to a pair of diameters that are orthogonal to one another: in this way the pairs of axes will respect Thales' theorem of the angle at the semi-circumference. Lines a and b are, respectively, the directions of the major axis and the minor axis of the ellipse.

Once the horizontal section of the structure was defined by the mesh model it was possible to identify the lines passing through the midpoints of the stairs. These lines subdivide the ellipses into arches of equal length and these curves lie at an equal distance from one another.

To ensure that the concentric curves that define the inner and outer walls of the hypogeum are all elliptical and that the distance between contiguous curves is constant, the distance between them should be measured along lines that have specific directions. This method of construction is also simple to use on large building sites and draws on the method of tracing ellipses of the "elliptical" compass introduced by Guidubaldo Dal Monte.

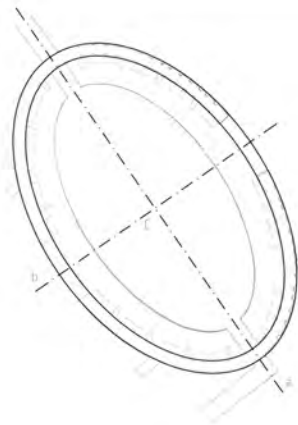
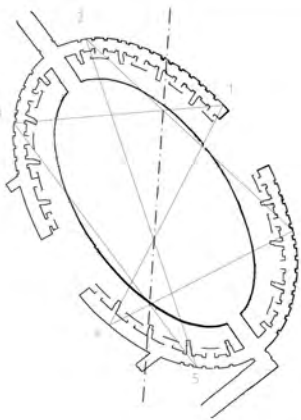
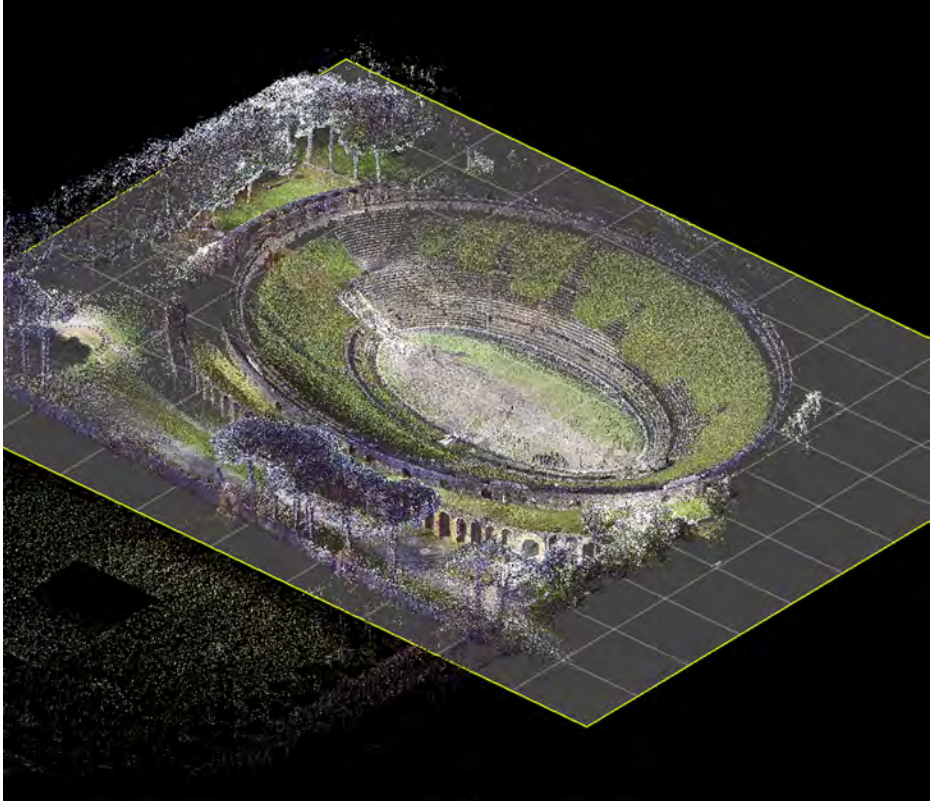


Image 3_Amphitheatre in Pompeii: (top image) 3D laser scanner model sectioned with horizontal plan (+ 17,0m height); (image below) verification the elliptical shape of the hypogean corridor, and determination of the centre and the axis on the section.

These critical evaluations on the amphitheater's geometry refers to the "shape modeling" step of the known procedures of scan to H-BIM (Heritage Building Information Modeling). Given the morphological complexity of the building and the repetitiveness of many geometric and typological constructive elements, the BIM in progress takes up the geometric rules derived from the point cloud model. Within the metric tolerance of the point cloud model, these rules are used for the inductive modeling process, from the building entirety to the various construction details, classified by type (arch, vault, stair, seat), construction materials (tuff, clay, limestone) position inside the building (arena, ima-cavea, media-cavea, summa-cavea, hypogeum), cardinal points. This categorisation is preparatory to 3D typological modeling of BIM families whose dimensions are parameterised according to the series of building elements. This methodological approach brings to mind the correspondence between the drawings published in architectural manuals stereotomy and the stones cutting in the ancient building site. The scan-to-HBIM ongoing on the amphitheater of Pompei wants to go back along the process, from the existing building to the geometric and constructive rules, in order to realise the constructive BIM according to the original sequence of the Roman construction site.

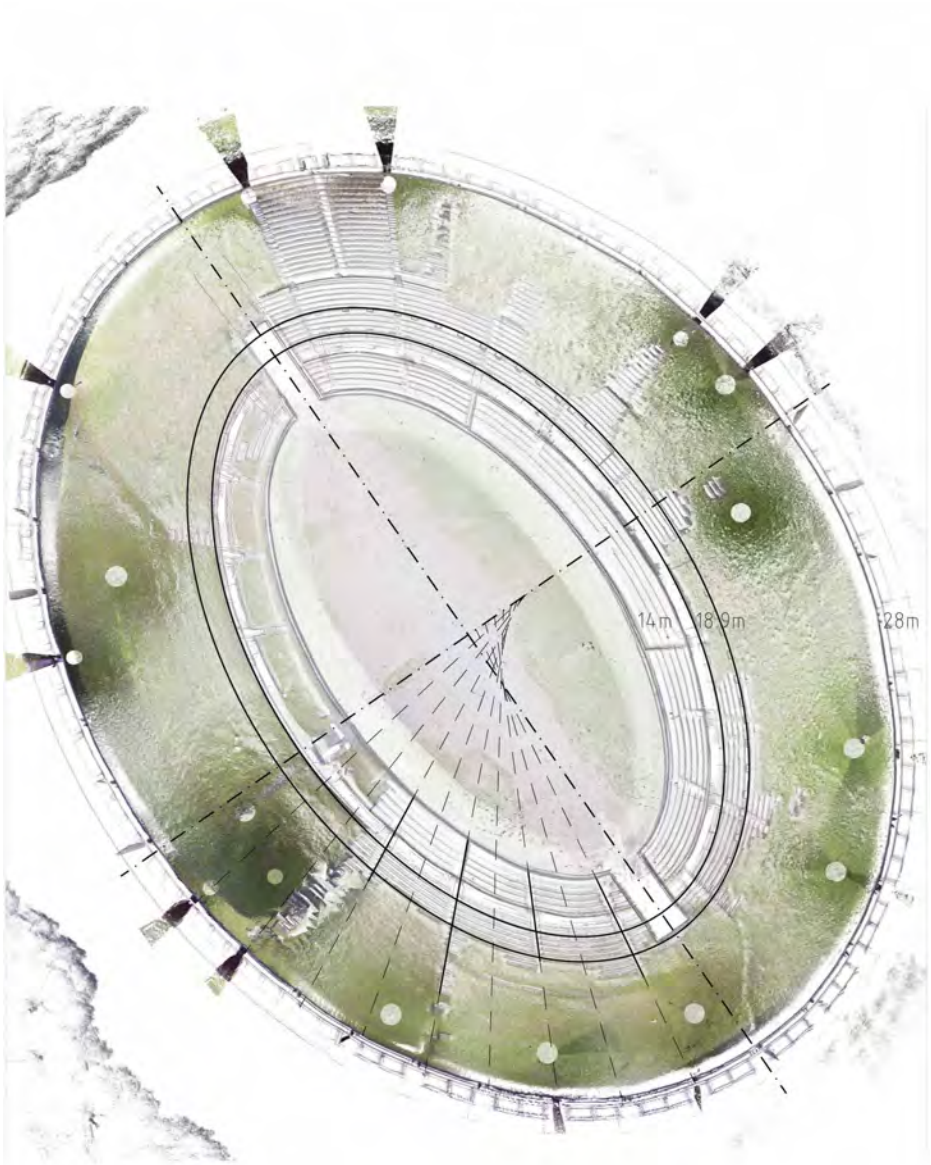


Image 4_Amphitheatre in Pompeii. The axes of the stairs' flights. Determination on the horizontal section, representation on ortho-image from model, and drawing of the geometric rule.

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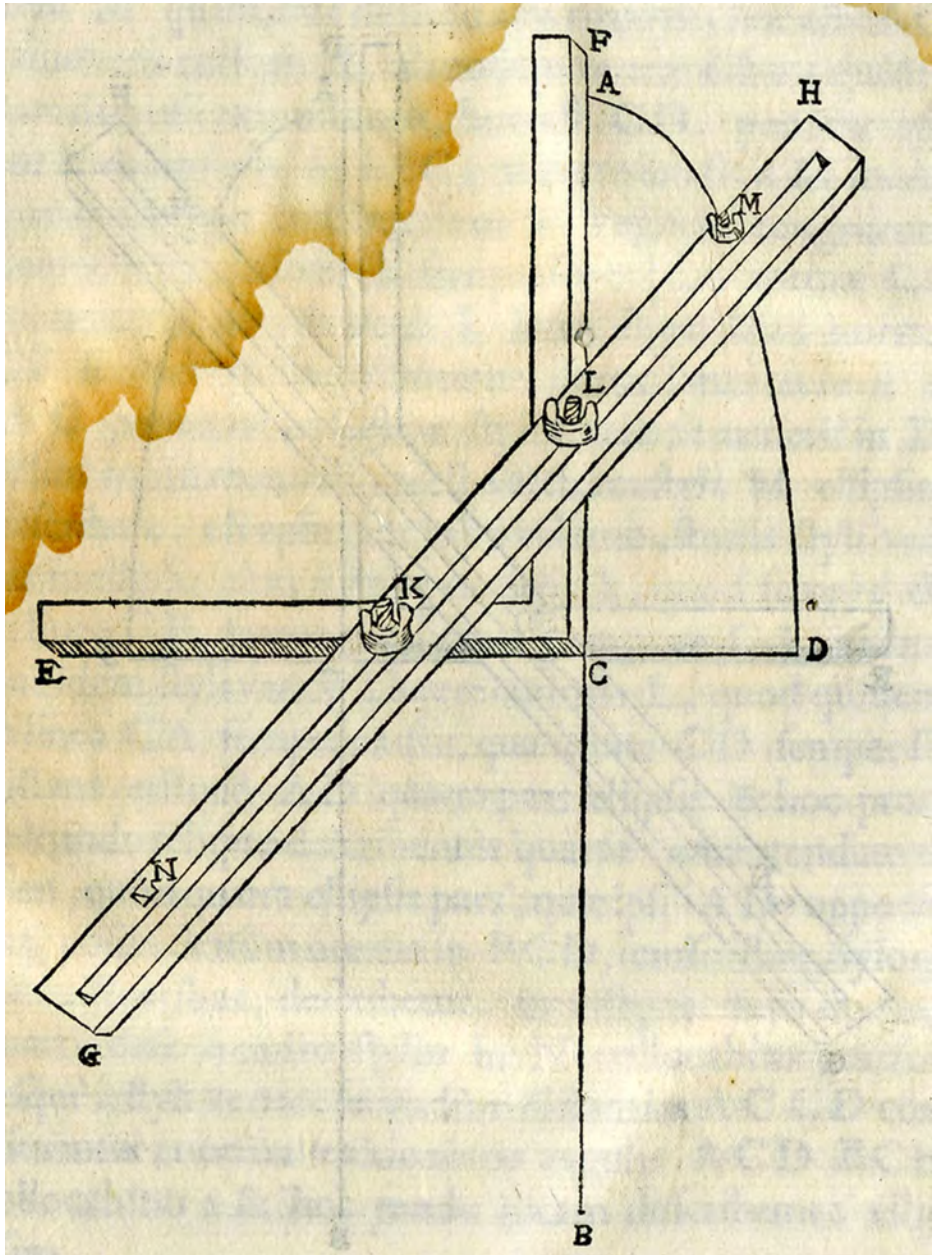


Image 5_The "elliptical compass" by Guidobaldo del Monte, in *Planisphaerium universalium theorica*, 1579.

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Castle of Inverigo

THE REGENERATION OF BROWNFIELD SITES AND THE REVIVAL OF CASTLES, FARMS AND SMALL VILLAGES

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One of the most interesting phenomena taking place in Italy, in addition to the revival of the historic centres of big cities, even in the south of Italy, where a high turnover of population has benefitted the classes with greater economic possibilities, is that of small villages, castles, old farmhouses, while the recovery of those already existing, regarding the dismissed big industrial complexes is partly underway. One of the most important tasks was the new use of the old Pirelli Bicocca factory, in the heart of an industrial area that was built in the early twentieth century between the town of Sesto San Giovanni and Greco. It has been a symbol of Lombard industrialization, a driving force of the economy of the entire country.

With the urban expansion of the city of Milan to the north, the countryside was integrated into the urban fabric to accommodate the industrial plants which characterised the Bicocca factory. The most well-known was the Pirelli factory, which was built in 1907. It gave work to thirteen thousand people in an area of over 700,000 square metres, which also included the group's research centre. The company founded in 1872 by Giovanni Battista Pirelli acquired the land area in 1906 by installing large part of its production of tyres, electric cables and other rubber goods. In its laboratories, innovations such as oil-filled cables, low profile tyres, optical fibres for telecommunications were created.

An independent municipality until 1841, Bicocca became a part of the municipalities of Niguarda and Greco Milanese. Annexed to the City of Milan in 1923, at a time of rapid expansion of the building, modern industrial plants were being built around the agricultural villages.

In the late 1970s, with the reorganization of large industrial groups at the international level, there was a progressive disengagement of industry in urban areas throughout Italy. In 1985, Pirelli autonomously promoted an international competition for the rehabilitation of an area of over 300,000 square metres. 20 of the most important architects of the time were invited to participate. The City Council, faced with a *fait accompli* was forced to approve, two years later, a variant of the General Plan on the different areas of intervention and the new use of the entire area of Bicocca. In July 1988. Leopoldo Pirelli choose the winning project, that of Gregotti Associati.



Castle of Inverigo

It seems to include the desire to unite the area with the surrounding tissue and make it a reference point for North Milan, which was going through wide social and territorial modification process. Vittorio Gregotti aimed at pursuing characteristics of overall simplicity compared to the shape of the place. The green areas of the sports centre, located south of Albania were conceded to the Council, and in December of 1991, the first degree course in Environmental Sciences of the University of Milan Bicocca was inaugurated. His first work experience was during a stay in Paris in 1947 in the study of the Perret brothers. He graduated in architecture at the Milan Polytechnic in 1952 and worked in BBPR with Ernesto Nathan Rogers. In 1951, he designed with Rogers the room at the Milan Triennale. Like Aldo Rossi, he began his career working with the Casabella which in turn would become director of in 1982. In the 1950s. he participated in an international seminar in Hoddesdon, where he met Le Corbusier, Ove Arup, Gropius, Henry van de Velde. From 1953 to 1968, he collaborated with Ludovico Meneghetti and Giotto Stoppino (Associated Architects). In 1974, he created his professional studio "Gregotti Associati International" and has since produced works in twenty countries initially linked to Neoliberty as well as the Modern Movement and Rationalism. The most significant example is the building for offices in Novara in 1960. Followed by architectural designs for the mega universities of Palermo (1969), Florence (1972) and Calabria (1974).

The project has undergone a profound transformation in the twenty years of its implementation. The areas given over to the technology centre, initially planned, were changed into spaces for the University and for tertiary use buildings, designed according to the functional requirements of individual patrons. In the area adjacent to the Pirelli Village, from the accumulation of waste materials resulting from the demolition of factories, Collina dei Ciliegi and the first residential complex were realised, differentiated in the use of coating materials other than those at the university and office use. In 1996, a new area was considered to replace the Scala Theatre restructuring the works of Mario Botta. The Teatro degli Arcimboldi was built five years later, the second city theatre after La Scala. The historic cooling tower was boxed into a giant iron and concrete roof, with a



Castle of Inverigo

glass-covered front, and became the headquarters of Pirelli. The entire neighbourhood was crossed by a metre of surface that reaches the railway.

In 2005, twenty years from the competition, the Bicocca Project was completed. After the decommissioning of the area, Ansaldo has the idea of expanding the project, extending it to adjacent areas that has recently be decommissioned. This lead to the Grande Bicocca, which included a shopping centre with a multi-screen cinema (Bicocca Village), an exhibition venue (HangarBicocca), new university halls and residences, some of which are subsidized housing.

The criticism is that the entire project has created a huge “dead” area, a ghost town outside of working hours and the opening days of the University and offices. The area suffers from the absence of commercial activities and services due to economic interests that concentrate all in one margin area, the Bicocca Village, in the process of expansion.

The Grande Bicocca includes the large university centre of the University of Milano-Bicocca, Teatro degli Arcimboldi, the research centres of the CNR and the Carlo Besta Neurological Institute and the company AEM, in addition to several corporate headquarters, such as that of Siemens, Deutsche Bank, Reuters, Fastweb, Johnson & Johnson, Hachette-Rusconi and the headquarters of Pirelli. The Bicocca Village, with a multi-screen cinema, with eighteen screens of the UCI Cinemas chain; the exhibition venue HangarBicocca; new homes and about 300,000 square metres with green spaces, services, and parking.

The rehabilitation of the former factory has produced a large profit for Pirelli but not for the entire city of Milan which has seen its own urban development compromised by the diligence of big capital.

Symbol of the decommissioning of the industrial areas of Turin and their redevelopment, the Lingotto closed in 1982. In 1915 Fiat produced its car-making factory on the site of the ancient nobles Robilant, which took the name of Fiat Lingotto, with it becoming its official establishment. The area was only completed in 1922 and the industry quickly turned the village from a rural place into a working-class neighbourhood. From 1922 to 1936, the presence of the Fiat Lingotto, before the building of the Mirafiori plant, brought rapid economic development throughout the area.



Castle of Inverigo

The following year, Renzo Piano was awarded the contract for the redevelopment of the plant, following an international consultation that ended without a winner, with a project that transformed the Lingotto into a multifunctional centre of urban relevance distributed over 246,000 square metres. In the Nuove Officine, the main plant building, five floors with double sleeve and enclosed courtyards, there was the Auditorium and Convention Centre (1993-1994), Le Meridien Hotel and the "Giardino delle meraviglie" (1993-1995), a multi-screen cinema (1999-2002). The north ramp restored in 2002 gives access to a shopping centre, the guest quarters of the City (1999-2005), the Dental Clinic of the University of Turin (1999-2002) and the Automotive Engineering training and research centre of the Politecnico di Torino (1999-2003). The Officina di Smitamento, the building south of the Nuove Officine, became an exhibition space. The famous test track on top of the Lingotto was preserved, while on one of the three central sleeves perpendicular to the front on Via Nizza, Piano designed and built the "Bolla" a meeting room suspended 40 metres above the roof, and the heliport (1994). In 2002, the "Scrigno" a metal box resting on the roof, was added, destined to preserve the works of the Pinacoteca "Giovanni and Marella Agnelli". The Fabbricato Uffici along Via Nizza, built in 1921-1922, returns to being the Fiat main administration offices in 1998, following the restoration by Roberto Gabetti and Aimaro Isola.

Opposite the Lingotto, a belvedere of green spaces connects the walkway built for the Winter Olympic Games, which leads to the former General Markets.

More controlled and interesting for its size is the work carried out on the Docks di Marsiglia by the architectural studio 5+1AA Alfonso Femia Gianluca Peluffo, where the restored historic building houses local shops that highlight the Marseillaise and regional crafts.

The 5+1 AA studio, won the competition in 2009 for the renovation of the spaces on the ground floor and basement levels of the Docks of Marseille, which have a total area of 21,650 square metres. Historically placed on the dividing line between the sea and the city, representing a sharp cut of the territory turned into a place of dialogue, for the integration of the two souls of the city, urban and maritime. A permeable and porous place, it creates a landscape between city



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and nature through both the North-South and East-West axes, the North for the contemporary city, the South for the historical city, the East the modern city and the West the re-acquired port. A place in continuity with the longitudinal system was recreated thanks to the buildings located at the ends of the Docks bordering the two squares: a historic one, the Place de la Joliette and the other, under construction: the Place de la Méditerranée.

The project represents a node of “urban” exchange and interaction between the two sides of Marseille that reinterprets the organization of the spaces that communicate with each other, with the city and the sea, creating a new place for socializing strongly marked by the theme of the Mediterranean territory. The four courts have also been redefined as shopping, art and cultural areas, which extend from the inside to the two outer squares and two adjacent streets, creating four pauses in a transverse path. The Port, the Village and the Market are the three themes that, thanks to surprising materials, unexpected scenes and adapted plants dotting the new spaces of this landmark of Marseille.

GRAPHIC COMMUNICATION FOR THE PROMOTION OF THERMAL TOURISM DURING THE BELLE EPOQUE

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Thermal tourism, originated in Britain in the late seventeenth century and developed during the eighteenth century, in the nineteenth century became the first tourism typology with the distinctive characteristics of what is now called modern tourism, although still reserved to the aristocracy and the emerging middle class. (Battilani, 2001). Many European thermal resorts in this period reached great fame and built complexes tailored to the needs of a growing number of visitors. Among the most popular destinations, there were Bath in England, Spa in Belgium, Baden-Baden in Germany, Karlsbad and Marienbad in the Czech Republic, Aix-les-Bains and Bagnères-de-Luchon in France. A second period of great development occurred in the Belle Epoque, as demonstrated by the construction of several complexes in art nouveau style in many European resorts. This is the period of maximum development of thermal tourism in Italy, whose main destinations were Montecatini, Salsomaggiore, San Pellegrino and Abano. In this period, defined by Federterme “Ludic Thermal tourism” people did not attribute to the spa stay only a therapeutic purpose, but also the pleasure of the holiday, rest, and fun, according to an aristocratic and elitist approach. (Federterme, 2012). From simple baths then developed entire spa towns, in which people spent long holiday periods, attending trade fairs, shows, exhibitions, events. Essential in fact was the entertainment that these centers were able to offer to vacationers, so next to the spa were reception halls, theaters, casinos. The process by which the thermal offer characterized and become a real tourist product able to attract a sophisticated and wealthy clientele throughout Europe, occurred at the urging of an early form of promotion, using an innovative graphic communication. The Liberty style, which characterizes both the architectural structures and the graphics promoting that places, become a sort of trademark, the paradigm of the holiday characteristics, with a strong credibility and able to turn on the desire in potential visitors. The recurrent themes in graphic communications were linked to the source, the water, the female figure, making use mainly of rounded shapes and flat colors. The typical symbolism of Art Nouveau, inspired by nature and woman, lent itself particularly well to promote the healing properties of water and at the same time the pleasure of the holiday. From a technical point of view, in this period lithography was mainly used



Figure 1 Promotional posters: Salsomaggiore Terme, about 1900; Bagni di Voghera, 1890; Marcello Dudovich, Porretta Terme, 1901; Porretta Terme, about 1900.

for printing. Its technological innovations allowed to reach large sizes, a good graphics and color yield, and to print large runs. They realized what we might call the first advertising campaigns, where the destination was first built as an opportunity of travel experience, and then promoted through communication strategies using three main tools: the posting of promotional posters, the realization of baggage labels, and the dispatch of postcards. Through these instruments, the image and even more the imaginary of the tourist resort had a rapid spread. Starting from 1890, following the development of transportation and the consequent growth of the tourism industry, the railway companies, the tourist resorts and several hotels began to print travel posters. Soon the habit of posting posters with an advertising function spread to all economic sectors, marking in fact a profound change in the relationship between production and use of an image. Posting up a manifest performed the new task to capture the attention and seduce people who, by chance, and perhaps casually, were looking its elements. The real goal was to immerse the viewer in such a pleasantness of images and actions to make it indispensable to live that experience. (Cirafici, Piscitelli, 2014). Throughout the period known as the Belle Epoque, and until the outbreak of World War I, a new style that blended image and text spread internationally. The text was not built with movable type, but it was the result of a 'design' integrated with the image. "It was a supranational style that, with more or less specific declinations, spoke a similar language in Milan, London, Paris, Berlin, New York, and so on. Whether it was called Art Nouveau, Liberty, Jugendstil, or in other words, it was the trait d'union of the graphic design and the modernist research for over twenty years." (Scudiero 2002). Beyond small variations due to the style of the local artists, posters and labels featured very similar allegorical themes and formal characteristics in several European countries. In Italy, a unified and coordinated promotion was entrusted to ENIT, the National Italian Tourist Board. It was founded in 1919 "for the tourism promotion and propaganda abroad and inside, the promotion of measures to facilitate the credit to the hotel industry, the study and the proposal for legislative measures in tourism, the gathering of news, data and information on the trend of tourism". The main idea transmitted by the posters was the holiday resort shown as an



Figure 2 Promotional posters: Giuseppe Riccobaldi, Terme di Sirmione, 1949; Erberto Carboni, Sant'Andrea Bagni, 1924; Emidio Adriani, Salsomaggiore Terme, 1948; Giuseppe Riccobaldi, Terme di Levico Vetriolo, 1948

exclusive and snob lounge, elegant and refined, accessible to a few privileged. As for the content, the multiplicity of elements present in the first posters was gradually replaced by the use of a single scene, which in the case of thermal establishments was very often a female image or a source. (Figures 1 and 2). The same allegories, themes and symbolic elements can also be found in advertising posters for mineral waters, which taken from sources, often in the same spa resorts, were bottled and sold even in distant locations. (Figure 3). Alongside the posters, and often characterized by the reproduction of the same graphical themes, among the first promotion systems we find the labels for suitcases. They spread from the end of the nineteenth century in parallel with the evolution of transport systems, and initially were provided in advance from the hotels to their customers to mark the voluminous luggage with which they moved. The huge success, due on one hand to the vanity of the travelers who could testify their stay in luxury hotels, on the other to the potential for hoteliers to advertise with a minimum cost, thanks to the travelers themselves moving with the label on baggage, created a great demand of this tool. At the same time, it became an opportunity for interesting graphic experiments. Initially labels reproduced the building where the hotel was located, but gradually they began to represent, like posters, features related to the imaginary of the vacation spot to promote. (Figure 4). The third instrument for promotion of resorts are the postcards, that accompanied the birth and transformation of tourism resorts, and constitute a precious witness of the evolution of buildings and landscapes, but also of tastes and customs of the public. The images of the past, especially in the photographs and postcards, have in fact also a function of social reflexivity, witness and memory of the society evolution. In the last decades of the nineteenth and early twentieth century, there was a boom in the production and dissemination of picture postcards with the most varied content. The low cost of shipping, as well as the evocative power of images, allowed a wide use of postcards, especially by the rising social classes of the middle and lower middle class, while initially they were disdained by the aristocracy, and were rarely used by the poorer classes, as they were illiterate. The diffusion of tourism, as well as the scarcity of other communication systems, decreed their success. (Giordana,



Figure 3 Mineral waters advertising posters. Early twentieth century.

2004). They are often a valuable evidence of buildings that no longer exist, as in the case of many spa complexes of Art Nouveau era, totally demolished or converted later. (Figure 5). Posters, labels and postcards, can therefore be considered as instruments that contributed to the definition of a primordial territorial marketing and product policy in what could be described as the golden age of Italian thermal tourism. After the war, the spa stay increasingly took a therapeutic connotation, while the beach resorts conquered the role of places for recreation and fun. The sector absorbed a diminishing share of the Italian tourism industry, and today stands at around 3% in spite of the enormous potential due to the presence of well 378 spas on the territory. The revival of these structures should pass back through the activity of promotion, actualizing the characteristics of the holiday during the Belle Epoque, creating a tourism offer that integrates the cultural and natural features with those related to health. According to surveys of the operators in the sector, in fact, the Italian spa industry is little known and should better respond to the needs of an audience accustomed to live the travel experience through a varied and personalized offering. Graphic communication, with the help of new dissemination tools, could take a central role in the creation of a new imagery about the spa resorts.

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ENERGY AND ENVIRONMENTAL IMPACTS OF URBAN CONSTRUCTION SITE IN THE OLD TOWN CENTERS

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ENERGY AND ENVIRONMENTAL IMPACTS OF URBAN CONSTRUCTION SITE IN THE OLD TOWN CENTERS

1. Approach&Method (by AV)

Energy and environmental sustainability in the construction industry is a strategic objective for the EU. The Action Plan for Sustainable Construction, implemented under the Lead Market Initiative (LMI), provides instructions in order to evaluate the energy and environmental impacts of buildings, analyzing the complete life cycle analysis (LCA), from production to disposal. This approach has also been adopted by some standards including ISO 15392: 2008 “Sustainability in building construction”, in which the operating phase of a building is only part of the life cycle, and in order to evaluate the actual and complete energy impacts and environmental, including mining, manufacturing, construction and disposal should be considered. Therefore, research is oriented to evaluate, at all stages of the life cycle, the quality as well as the amount of impact generated. In this paper, some results of a PRIN project are synthetically illustrated.

The research analyzed the impacts related to the phase of “construction”, which, in the context of LCA includes the transport of raw materials and the soil excavation as well as the assembly of components. It was necessary identify appropriate energy and environmental indicators for the assessment of impacts on the urban system by identifying the receptors in relation to the types of impact. In addition, research has evaluated the benefits of implementing some voluntary instruments such as Environmental Management System and Energy Management System (Fig. 4).

The research is divided into two alternating phases: theoretical and practical. The theoretical phase involved a search on a national and international scale, about both legal framework governing the sustainability of buildings, and core evaluation tools (rating system). The goal was to determine which assessment tool was the best to manage innovatively the large flow of incoming and outgoing information from the border of the construction site, to / from the historic urban space. In the operational phase, it has been applied the approach to the

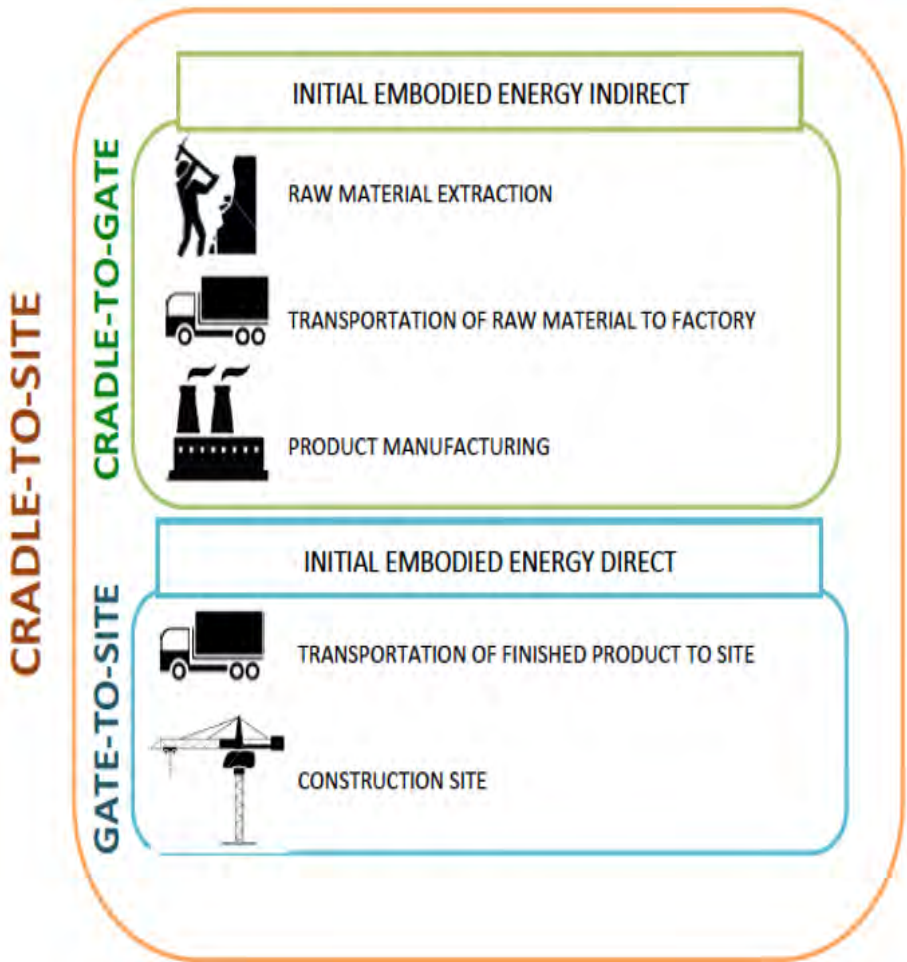


Fig. 1 Phases of the life cycle and energy impacts

sustainable management system processes.

Therefore, from a methodological point of view, the search starts from the analysis of the international regulatory framework and weaknesses of mandatory legal instruments, properly framing the construction phase in the life cycle (LCA approach). The research work focuses the needs, identifies different categories of impact related to non-renewable primary energy consumption and proposes the definition of specific indicators for the evaluation of energy impacts.

In fact, the research methodology has borrowed the structural and managerial aspects of voluntary management tools, in particular the Energy Management System, in order to propose a methodology for assessing and monitoring the energy impacts in the construction phase, according to the continuous improvement of construction process.

The process approach, in terms of energy-policy objectives-goals, can lead not only to a greater awareness of the construction companies towards energy and environmental issue, but also to transform it from constraint into opportunity, which is the prerequisite for investing in quality and constructive innovation.

Different categories of impact, related to the non-renewable primary energy consumption, have been identified and, for each, specific performance indicators are proposed. It was significantly found that the evaluation of Embodied Energy is required for sustainable management of the construction site.

2. Relevant energy aspects (by AV)

The process approach, implemented in order to evaluate the energy impact of the construction phase, is related to the different functions / operations. For each, it was necessary to identify: use of non-renewable primary energy (total, significant, insignificant, absent), specific energy use (lighting, heating, DHW production, machinery, etc..), devices / machines used (type and characteristics) for each energy use, energy source used by each equipment / machinery (Fig. 2).

From this analysis, evaluation indicators of energy impacts related to each factor

were defined; they quantify these impacts, checking the relevance in relation to a benchmark. This study was necessary because, actually, in the construction industry, the current legislative and regulatory framework contains specific indications on environmental/energy efficiency, safety, management of resources issues, but they are mainly related to the exercise/management and end of life phase, not by providing measures and requirements related to the sustainability of the construction processes and methods (implementation phase).

Assumed that the construction site is a complex production place, it produces significant and diversified impacts on locals and workers, especially when it is located in densely populated urban areas. In the Case of Study of Municipio Station in Naples, Urban Impact Analysis shows the effects produced on the social-economic context (Fig. 3).

The data collection cover pollutant emissions, waste generation, consumption of raw materials, production and energy consumption, water consumption, noise emissions, water discharges, natural resources consumption, electromagnetic emissions, etc. (Fig. 5) Once identified the aspects related to the performed work, the environmental impact can be determined, adequate mitigation measures can be identified, even during construction.

The research demonstrated that the fence of the construction site is a technological element, which has the main role to manage, control and filter the transit in and out of different kind of flows (matter, people, Resources, Information and languages), each having its specific impact.

3. Valuating the Embodied Energy (by MC)

For a really extended energy sustainability to life cycle involving all the actors involved in the construction process it is necessary. Particularly, in order to reduce energy impacts during the construction phase, it is necessary to design both a greater level of awareness concerning the choice of construction technologies and materials used, aimed at reducing not only operational but also embodied energy, and a higher awareness of construction companies, so that they should aim for an energy sustainable management of the construction site.

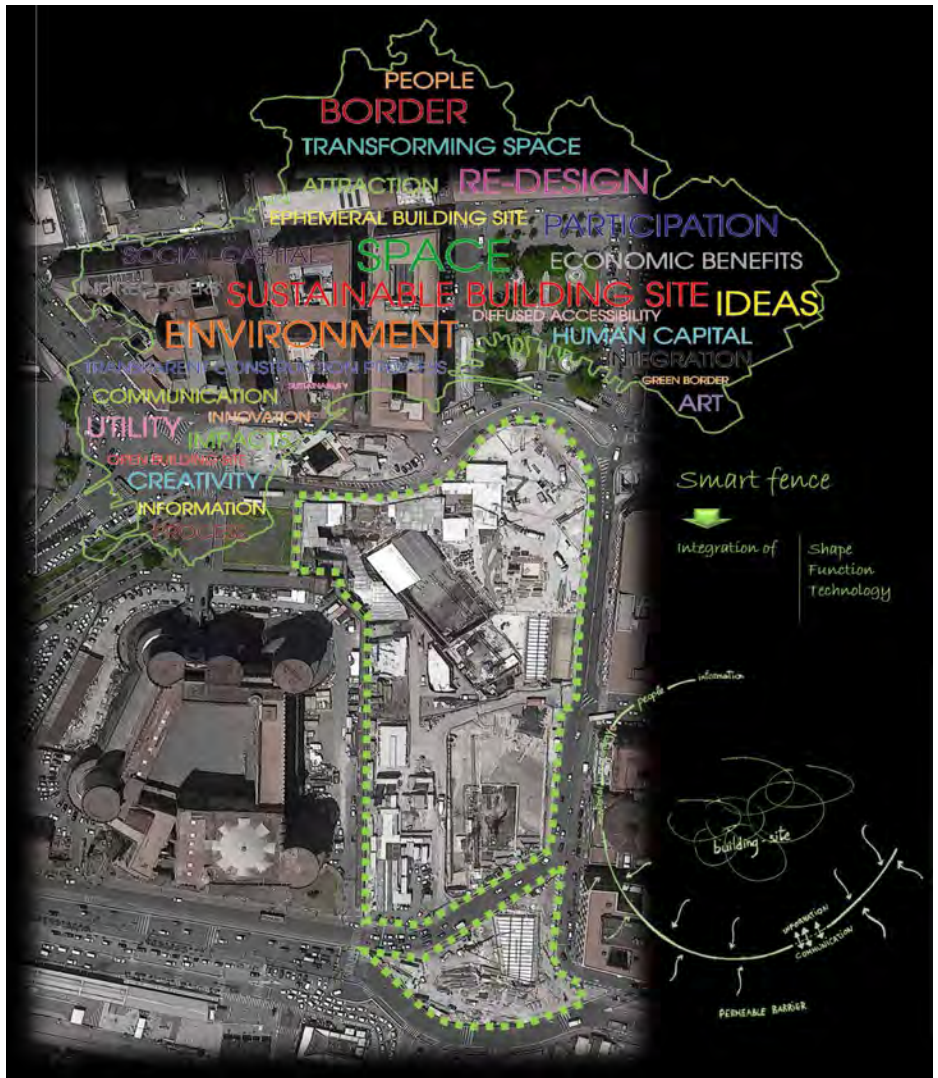


Fig. 3 Flows and urban surround

According to energy aspects, we can point out that so far the legislator's attention has been focused on operational phase

However, as specified in ISO 21931, the consumption of resources (especially non-renewable energy) must be assessed throughout the life cycle. This means that it is not enough to evaluate the energy impacts arising from the operation phase (Operating Energy), but the so-called Embodied Energy is also necessary to evaluate.

The Embodied Energy is the non-renewable energy required for production of the materials, construction, maintenance, and final disposal.

Particularly it is called "Initial Embodied Energy" the energy used for the extraction and processing of raw materials used to realize the building components and the one used for the transport of components from the production site to the building site and for the mass in work materials.

It is called "Recurring Embodied Energy" the energy consumed to maintain, repair, restore, renovate or replace the materials, components or systems during the building's life.

The built-in initial energy, is related to the so-called pre-use of the building, and has two components (Fig. 1):

- Indirect Energy used to acquire, process, and produce construction materials, including any means of transport associated with these activities.
- Direct Energy, used for the transport of construction products to the construction site, and then to construct the building.

The Embodied Energy is the amount of non-renewable primary energy per unit of construction material, component or system. It is usually measured in MJ / kg or MJ / m² and it is considered an indicator of the overall environmental impact of materials and construction systems.

If we decompose the pre-use phase, Indirect Initial Embodied Energy is non-renewable energy used from cradle to factory gate that produces the building component. It concerns the production process of construction materials, and it is one that should be obtainable by the Environmental Product Declarations.

The Direct Initial Energy instead regards more specifically the construction phase, from the gate to the construction site.

For assessing the energy sustainability on the construction phase and then to the yard, we must focus attention on energy direct initial embedded. It includes energy flows related to the following processes / steps:

1. transport of materials from the production / storage at the construction site
2. site preparation
3. site management
4. processes of construction on site
5. site dismantling

For each of these processes it is desirable to identify an impact category with specific performance indicators, needed to assess the energy sustainability of

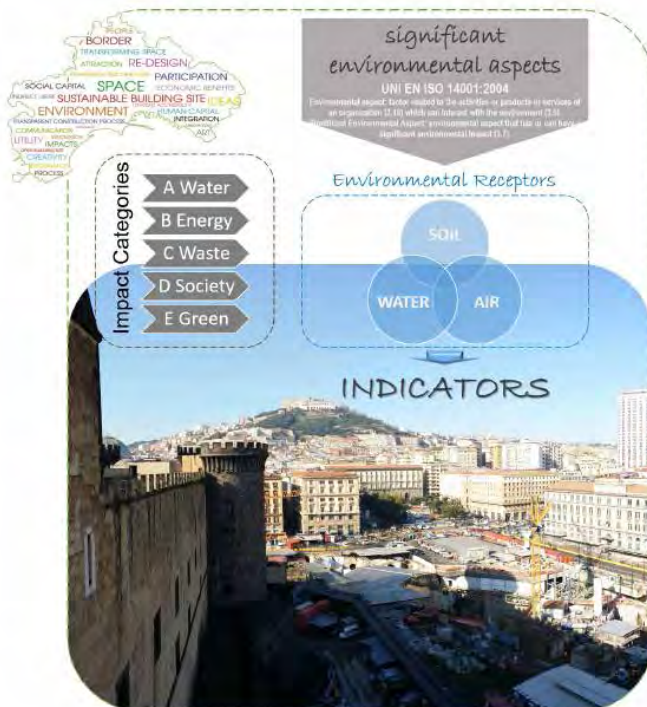


Fig. 4 Significant environmental aspects

the phase of construction.

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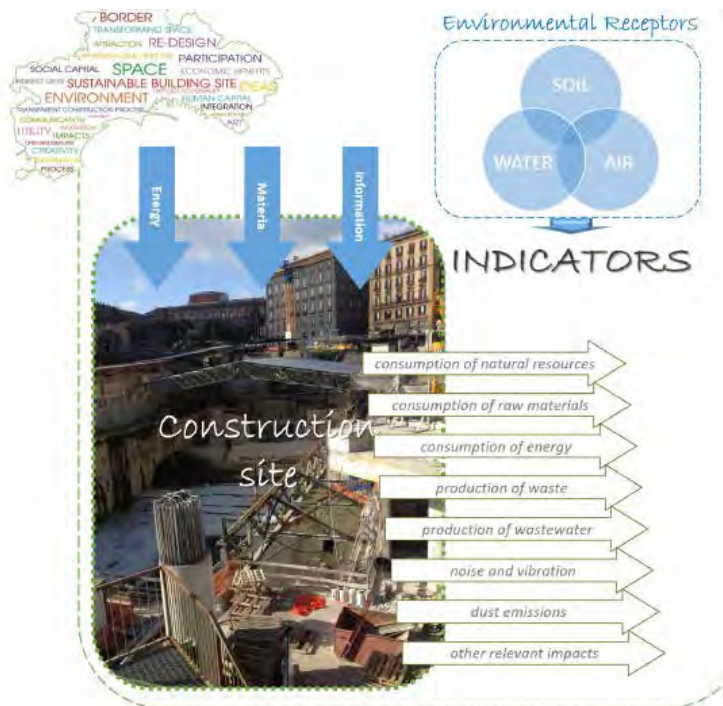


Fig. 5 Grid of Indicators

THINGS CHANGE. NEW URBAN CONTEXTS MULTIDIMENSIONAL SURVEY OF PERMANENCE AND CONTAMINATION

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This study aims at exploring, through architectural and environmental representation and survey, the n dimensions that define images and spaces in new urban contexts, whose (increasingly fast and dynamic) changes are often the result of chaotic accumulations generally due to processes of addition or superimposition of signs of contamination on those of permanence. The outcome is a high and widespread environmental disorder with consequent and generalized inconveniences on both functional and perceptual levels (Fig. 1).

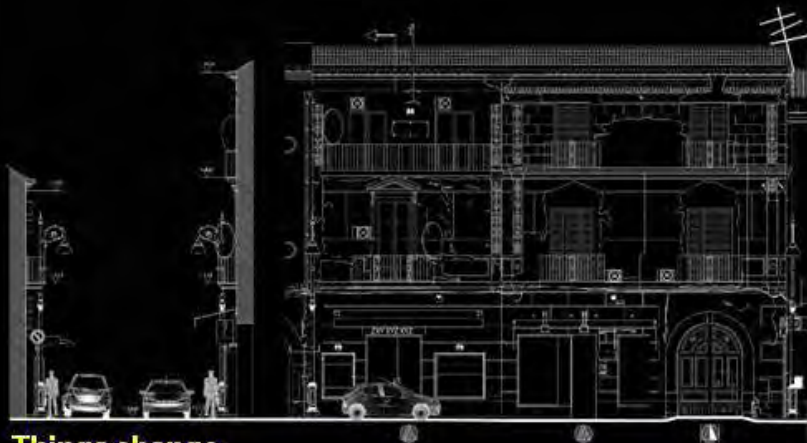
Our research, dealing with some areas of medium-sized towns typical of Campania, the so-called *ager campanus*, is focused on the analysis of material and immaterial dimensions configuring the urban environment as the product of an historical substructure projected towards future and featuring characteristics that undergo rapid changes.

Thanks to a method offering an open tool of inquiry intending to assess the degree of acceptability of contemporary changes, the research was developed by decomposing the space of the realities surveyed into different scales of representation through the selection of layers. Each layer is able to recognize categories and problems concerning form, use and function of urban contexts that are mainly designed for business and/or residential purposes.

The contribution given to the analysis of urban contexts material and immaterial qualities by the scientific field of architectural and environmental representation and survey has provided an implementable methodology that, through differential levels of inquiry and different scales of representation, discretizes and measures the environmental quality of urban contexts, exploring them in order to evaluate the n dimensions of a complex system in continuous evolution, and involving many practical and theoretical disciplinary fields on the multitude of aspects presented.

The study is based on a multidimensional architectural and environmental survey attempting to trace a critical map of the problems requiring intervention. The method starts with the collection of data showing the modifications of curtain walls and road layout, then classified in homogeneous blocks used to detect the current relation permanence/contamination (Fig. 2-5).

The first phase of analysis regarded data collection on architectural scale (1:50), arranged in thematic macro-categories (design, use, systems) applied to corre-



Things change.

New urban contexts multidimensional survey of permanence and contamination



Photo by Marco Marzocchella (2015-16, SUN, DAID)

sponding curtain walls and to single registered building units (altimetric inquiry), as well as to roads (planimetric inquiry). Altimetric and planimetric information is supported by the survey of significant roadway sections (indicated in the report) completing collected data.

The 'complexity' layer, corresponding to the image of current conditions, has been discretized in n (distinct, overlapping and implementable) layers that are able to measure the n dimensions representing the transformations of the building typology influenced by contemporary trends. Therefore, the basic level corresponds to the altimetric dimension of the building unit, while next levels correspond to the addition of elements aiming at simulating the process of signs accumulation.

As regards as the 'design' category, the first layer gives quantitative information about height and area of the façade, together with qualitative information on the type of shingle and the type of roadway.

The second layer gives information about the solids/voids relation. To the previous altimetric profile is added the information resulting from the metric survey on the current position of openings, with quantitative and qualitative information on the number and form of original openings compared to those later modified; quantitative data concerning the solid and void area are reported in alphanumeric form.

The third layer represents the building horizontal alignments of floors and indicates the number of upper floors (excluding subfloor) in alphanumeric form; altimetric measurements are reported in section.

The fourth layer detects vertical alignments between (partial or complete) openings and shows the progression of these lines.

In the fifth layer, focused on a building unit and roadway, the survey gives information about the figurative setting, with captions identifying formal signs of permanence and contamination. The sixth layer specifies the materials constituting different elements. The seventh indicates the chromatic setting, arranged according to colours and the relation background-detail with the rate of colours



2



Things change.

New urban contexts multidimensional survey of permanence and contamination



Photographic survey: Maria Maria, Marina Marzocella, Angela Maria, Mariateresa Ruggiero, Elisabetta Veretti (2015-16, SUN, DAID).



Laboratory of architectural and environmental Survey and Representation,
prof. Camillo Gambardella and Ornella Zerlinga.
Team: prof. Daria Jacuzzi, prof. Pasquale Argeiziano and Alessandra Awella;
arch. Vincenzo Cirillo; photographer Igor Todisco (2015-16, SUN, DAID).

used and their classification by code. In the eighth layer, the survey gathers information on decaying urban areas and, in alphanumeric form, on the extension of decayed and/or thriving areas.

The ninth, tenth and eleventh layers give information about the “Use” category. Through graphic signs and a differential painting of the background, the ninth layer informs about the proposed use of ground floor and upper floors (residential, business, industrial, disused) and about the dimension and the resulting visual impact of the devanture commercial system (façade, section, plan) including neon signs, private lighting, and so on.

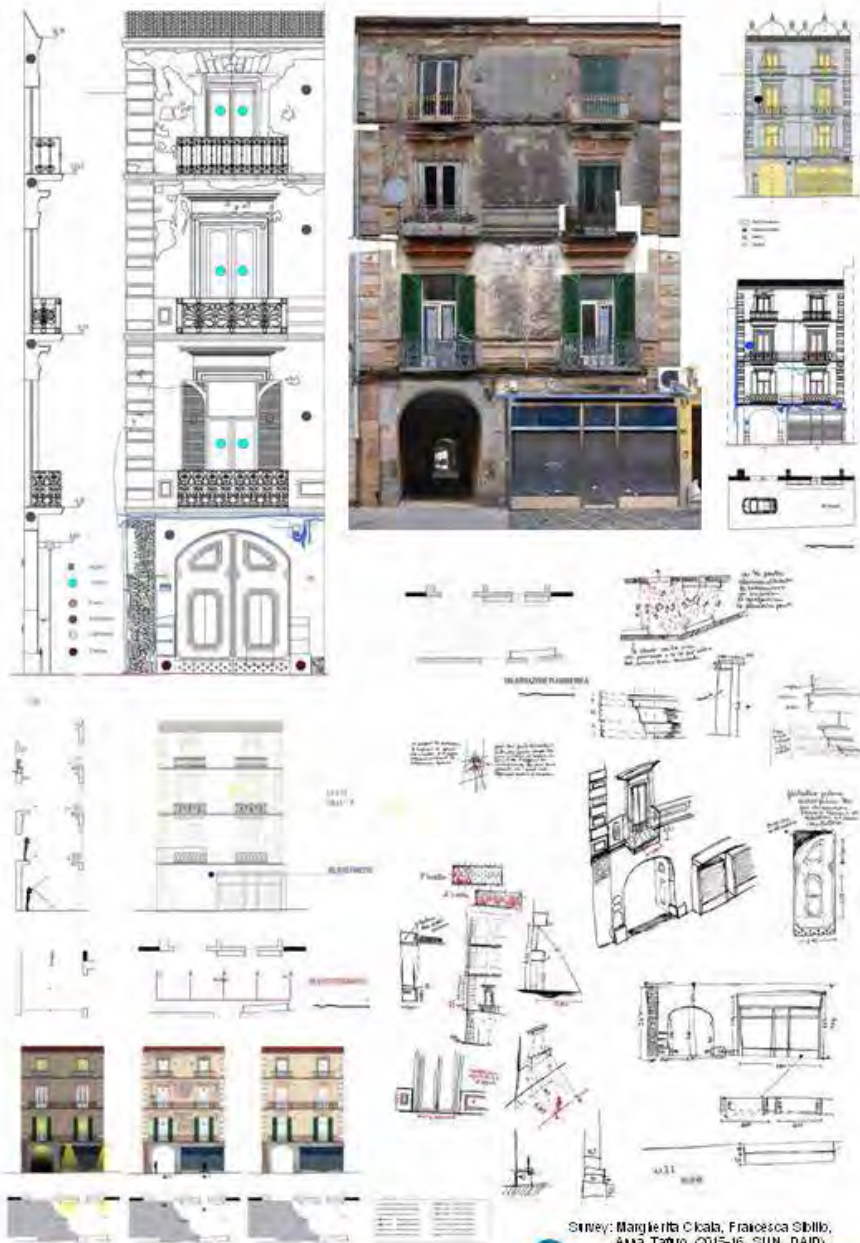
In the tenth layer, the data collection concerns parking areas (with fees, free, hourly rate, no parking), the size of parked motor vehicles, the location and type of road signs.

The eleventh layer surveys urban equipment elements.

The twelfth layer is focused on the “Systems” category, it surveys visible systems in each building unit and road (plumbing and piping, electric wires, air conditioners, aerials and satellite dishes, manholes, trap doors, and so on).

All the layers hitherto described represent a complexity in constant evolution, and as Carmine Gambardella claims, it gives a complete knowledge, namely “the current knowledge of multidimensional disciplines shared with academia and research, as well as with the production and business world”. This is an implementable knowledge because methodological survey considers all processes of formation and modification of evolving environmental realities, together with the trends in urban areas, “acutely engaging with ever-changing dynamics”.

Thus organized on an architectonic scale, the survey and representation of layers providing data about building units give a set of information that can be homogeneously classified on spatial, functional, structural, thematic levels, so as to start an initial critical synthesis of the modifications related by the “Design” category in terms of structure (building unit dimensions, type of shingle, horizontal and vertical alignments, solid-void relation, decay) and urban decor (figurative, material and chromatic setting); then it moves to the changes related by the “Systems” category (visible wiring systems, air conditioning, commu-



Survey: Margherita Cicala, Francesca Sibillo, Anna Tanno (2015-16, SUN, DAID).

nication); and by the “Use” category (proposed use: residential, commercial, industrial and/or services).

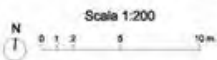
By realizing a graphic synthesis of collected data in a discretized form, the next layer “permanence/contamination” maps the critical points of each building unit, enabling us to judge, through an area indicator, the relation between the identitarian signs of the historical substructure (permanence) and the identifying signs of our contemporary time (contamination), that are further defined by linear and precise indicators representing the overhangs of devanture system as far as roads and visible systems (wireless and/or cable) are concerned.

Applying this methodology on an urban scale, rather than on an architectonic one, (scale 1:500), we can visualize some “critical maps” (all the layers for every single building unit), developing graphic models for each category (design-use-systems), or a single synthesis map achieved by superimposition (design-use-systems), in order to realize the equivalent graphic synthesis of the relation “permanence/contamination” and then obtain, on an urban scale, the quantitative value of this relation with a rate calculated on a single building unit (relation “contamination area” and “permanence area”) and on a whole curtain wall if we calculate the average value of those describing each building unit. A further graphic synthesis can be obtained by distinguishing the amount of contamination of devanture system from that of visible systems (as for any other dimension surveyed), thus achieving a more performing information that is also representative of the quantitative and qualitative dimension of modifications.

In relation to the urban context examined, this graphic synthesis enables us to observe, on an architectonic scale (building unit) and on an urban scale (curtain walls), what follows: the introduction of shops and commercial activities at the ground floors is generally not connected with pre-existing constructions; visible private systems (especially air conditioners and satellite dishes) are randomly placed on facades; there are parking areas even along narrow roads; urban design elements are often located on sidewalks with no account of the context; minor building interventions (for example, reducing openings in order to lodge modern and technological darkening systems) or the manipulation of environmental chromatic settings, which, on the whole, configure the reality examined



Street: Marco Fisco, Carlo Menotti,
Ornella Miele la Gallo (2015-16, SUN, DAID).



as hybrid.

Survey results confirm the cultural assumption according to which the city and the urban environment have always catalysed communicative codes and changing relations following the evolution of social and historical contexts. This leads us to state that the urban environment offers different ways to experience the city, sharing and disputing its resources: a physical (material, quantitative) way and a sensory (immaterial, qualitative) way.

Things change, so that the critical activity of survey might be useful to interpret and enhance realities that rapidly change.

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Survey: Brigida Di Costanzo, Tania Tiziana Ferone, Gessica Friele



Survey: Federica Bellucci, Giovanna Furiato, Ilenia Giola, Adriana Trematerra



Survey: Yorgos Sparidoulidis, Antonio del Giudice (2015-16, SUN, DAID).

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Amalfi, photo:Gino Spera

Brief biographies



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After studies at artistic high school, graduated in Architecture in May 2016 at the Department of Architecture and Industrial Design of the University of Campania with the thesis “Horizontal Social Urban Farm” in Architectural Technology. He takes part at MEHF AWR Competition as a student with his thesis and wins honorable mention. His relationship with the architectural project is focused to meet urban and social needs, with particular attention to the “wow factor” and sustainability.



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Anfiteatro Santa Maria Capia Vetere, photo: Gino Spera

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Each country has its own regulations for the construction and for the procurement of open data “public”. In a country it defined the cutting edge, it is fundamental to set up open-source platforms, where to find data and in turn put at the disposal of others, to ensure that is respected the right to the free and open access to knowledge and culture of all.

The present study has as its theme, retrieval and definition of open data and open-source platforms.

What is meant by open data and open source platforms?

The term “open” placed in the context of the “open-date”, “open-content” and “open-source” explicit compatibility between the different pools and different content, allowing anyone to access, use, download, edit and share data and software freely.

The open resources represent today a very strong reality. These mark the path for you to quickly and easily the material needed to start an appropriate study to the increase of knowledge. Today everyone has the possibility to access a network of Internet, from Italy to connect to view an American website, to travel the world through networks using a simple click, conveniently using a computer, a PDA or a simple smartphone. Therefore it is crucial that these databases are legitimized and regulated by licenses, in order to guarantee its origin and validity there is veracity of the material that is made available to the public. The most important aspects of this process, the data acquisition are: availability and accessibility of data, reuse and redistribution, universal participation (1).

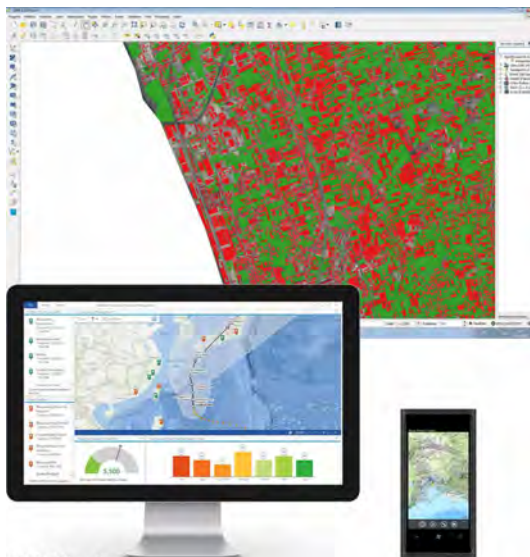
Availability and access: the data must be available as a whole, preferably available as a download from the Internet. Data must be available in a useful and editable format.

Reuse and redistribution: the data must be provided on terms which allow reuse and redistribution. This includes the ability to implement them and cross them with other data. Universal Participation: everyone must be able to use, reuse and redistribute the data. There should be no discrimination or scope of the initiative or against individuals or groups. (2)

The fundamental reason why it is important to place the term “open” within the retrieval process, it is because this adjective identifies the interoperability pro-



Open-Data-Open-Source



GIS Platform

cess.

The interoperability is the ability of two or more systems, networks, media, applications, or components, to exchange information between them and to be then able to use them.

In a globalized society that sees a growing diversity of systems and applications, interoperability makes it possible to develop markets and global systems, preventing the undesirable effects of fragmentation. In close synthesis interoperability is the key to a healthy development of globalization. It may be a technical and / or conceptual type. The technical is the best known: just think of the world of telecommunications, software, and to the continuous evolution of computing systems.

The domestic use of information technology puts us every day faced with the need for interoperability between the different systems we have. That conceptual refers instead to a rational manner with which complex systems, private and public, national and supranational, are able to cooperate synergistically: eg. great facilities and service agencies (government departments at all levels, banks, insurance, transport etc.). (3)

With open data is critical interoperability because it allows different components to work together on the same data and the same time.

The dell 'interoperability feature allows any data to be treated as components, to modify them together, realizing a sophisticated purchasing system.

Without interoperability becomes almost impossible because it lacks the fundamental concept of the open end, which locates in communication at the heart of its meaning, therefore the lack of place to the fading of open systems interoperability.

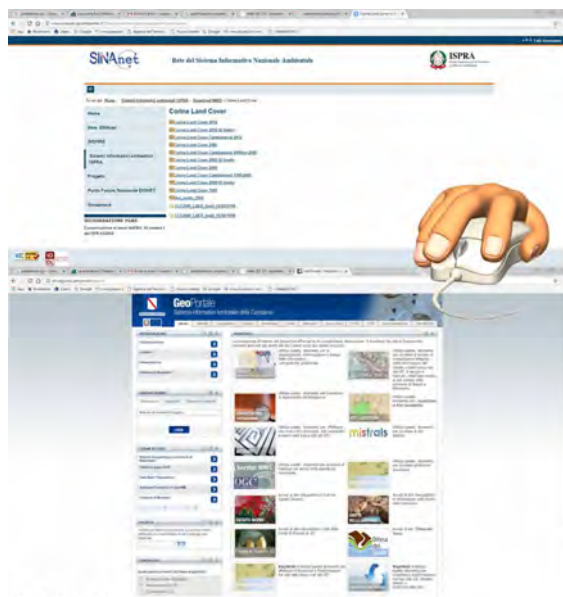
The mechanism of this pool of data is that of accessibility and usability in a shared manner, thus allowing to be freely worked and intertwined with other data from different sources also open.

Interoperability is the key to open the data, because it exponentially increases the possibility of combining different database, and then develop new and better products and services.

Identify a clear meaning of open, it ensures the possibility of combining open



Interoperability



Finding Open Data

datasets from different sources.

It has already been identified which are or which may become open data, but it is also important to identify which ones are not suitable for this type of disclosure. In this respect, the data does not fit this kind of disclosure and treatment are personal data, those that contain information on individuals, in the same way other categories of public data, in a few words can not be treated as open data, all the information classified as sensitive for reasons of national security or of the individual. The study of a part of the territory from the procurement of ancillary data, the set of data make up the identity of the object under investigation. In a complex area such as Italian, one of the Regulatory Mechanisms for the Preservation is the retrieval of ancillary data, necessary part of a relief both on a territory scale and / or architectural.

Most countries make available to professionals and citizens, databases online that can be accessed to retrieve useful data to the structuring of a GIS project "Geographic Information System" that encompasses the different Layers of knowledge.

Where to find this information? Approach to archival research it bibliometric or computer is not a simple action, you incur easily in error.

The most common mistake is in the choice of the database, it is very important to have a culture of how and where to look for data, the choice of keywords that can bring results and know which store to find that information given.

In recent years the disclosure of ancillary data has become a real form of technological development, so that CERN "European Organisation for Nuclear Research," has opened an online archive session dedicated to open-date.

In the specific case of the Italian territory, the Governing Bodies make available to all on-line data base managed by institutions, regions and institutions, such as the National Geoportal "Geoportale Nazionale", ArcGis, Revenue Agency "Agenzia delle Entrate", Military Geographical Institute "Istituto Geografico Militare", DIVA-GIS, Sinanet- IPRA, CERN.

Where to find in an easy and immediate way the ancillary data required for survey and knowledge. Some of the data that we can find are: CTR, ORTHO-PHOTO, DEM, PRG consists Layer SCI (Sites of Community Interest), Layer



Human and Technological Capital

SPAs (Special Protection Areas), Layer Networks and Infrastructure, Parks Layer, Layer Land use, Corine Land Cover.

The data from where the analysis is the orthophoto image obtained from an aircraft or satellite acquisition process, we can obtain from the database the Military Geographic Institute. The orthophoto gives us the vision of the area as if it were a continuous plot, a uniform fabric, different thematic layer we are going to give the opportunity to learn to identify the different strands of the plot, thus allowing a fair reading of the territory, so manage properly and appropriate Regulatory Mechanisms for the Preservation of a territory or architecture.

In conclusion it has been recognized as the online databases are a valuable tool for the retrieval of ancillary data, and how to correct structuring of the project on the platform, allowing to cross and extrapolate, physical, qualitative and quantitative contained within them, to be used as a specific object of study.

Therefore, by “ open-data ”, “ open-content ” e “ open-source ”, carried out with awareness and sensitivity, this study has set a real potential to support proactive ideas for sustainable tourism, based on the heritage of the territory.

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[7] Referring Web Pages Web: <http://support.esri.com/en/knowledgebase/GIS-Dictionary/search>

THE REUSE OF AN ANCIENT CAVE THE MOST BEAUTIFUL PARK IN EUROPE

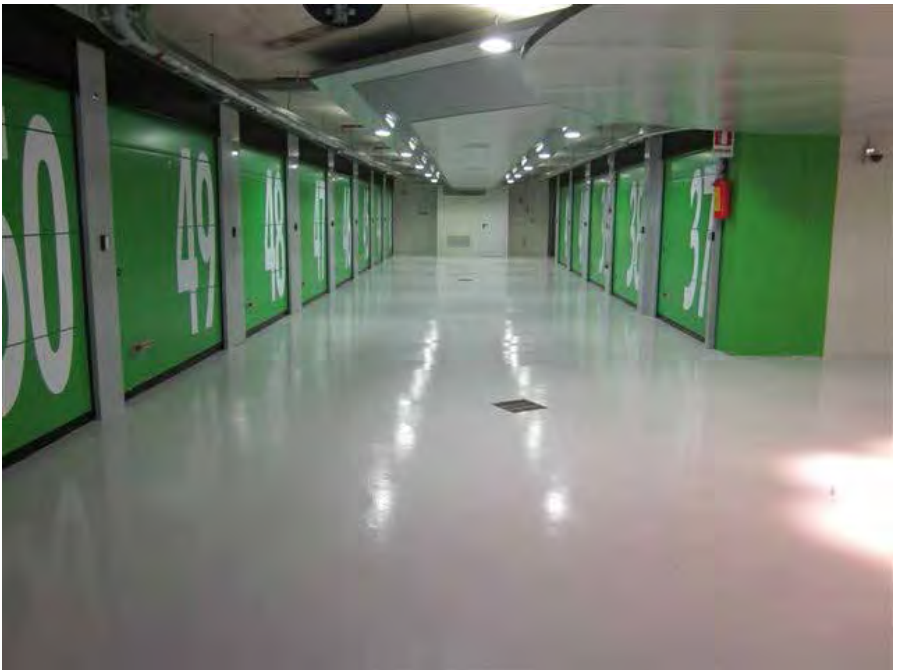
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Naples 'soil is characterized by a myriad of underground spaces [1], dug over the centuries, to obtain places of worship, tanks, or simply to extract building material [2]. The tuff indeed, is a soft but compact stone, used to build most of the ancient artifacts of the city, such as Castel dell'Ovo. The Parking lot in Via Morelli in Naples, realized in the Monte Echia [3], is a unique example of artificial caves recovery in the world. Its construction, which began in June 2004, took place through the recovery of an historical tufaceous cavity. Parcheggio Morelli was a private investment of a large company that previously dealt with structures designed to shelter cars. The idea was extraordinary: the creation of an invisible parking car in the heart of Naples, open day and night, seven days a week, in a section of the city always intended to trade and characterized by the lack of parking spaces. The modern concrete structure, begun in 2006, has seven levels destined to the garage, connected by a circular pattern ramp. In line with the legislation, the paths of pedestrian users are separated from driveways through a network of vertical and horizontal links, marked by a variety of access located both in the square and in via Morelli. One of the greatest difficulties in the execution of this work was due to the site, which, with its characteristics would be a disadvantage for anyone. The difficulty has now become a virtue thanks to the innovative contribution given by the dialogue between old and new. The use of an advanced technology is visible in each element, particularly in the installation of security and lighting, as well as the techniques execution are ultra-modern, in order to avoid the users suffer from claustrophobia, an indirect effects resulting from darkness of the underground floors. From a structural point of view, for the casing realization needed 16,000 cubic meters of concrete and 1800 tons of steel. To give an idea of the work magnificence, consider that the structure holds 250 boxes, 230 seats for the temporary stopping and 2,000 cars in rotation a day, 160 cameras continuously connected to a control room and 6 km of fire hoses. In addition to the parking, you can take advantage of the nursery, the car washing, the sockets for recharging electric cars, ATM,

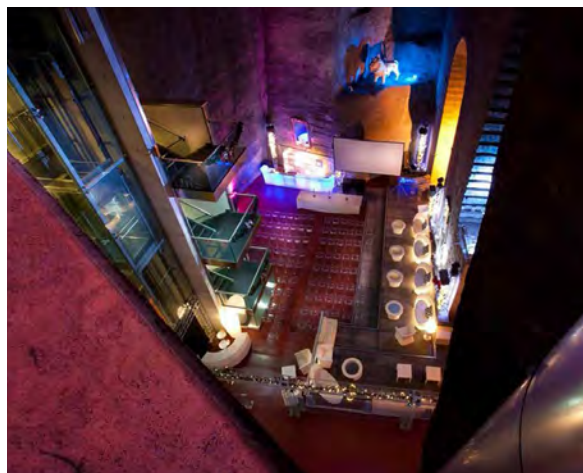


but above all an agora. Parcheggio Morelli that reserved 250 spaces is an exclusive place that can hold up to 180 sitting people on a surface of about 450 square meters. Many are the events organized here: meetings, conferences, exhibitions, fashion shows and photo shoots. The parking Morelli is not only an extraordinary work of engineering but also an history incubator. It incorporates the Bourbon Tunnel, built and designed by Enrico Alvino [4] of 1853 [5]. In that year, King Ferdinand II of Bourbon [6], for military reasons, commissioned to the architect the design of an underground road linking the current Via Morelli and Largo Carolina [7] adjacent to the Royal Palace. The architect designed an excavation with trapezoidal section and 12 meters of height, divided in two galleries for opposite directions. The large galleries of about 4 meters had to be equipped with wide lateral sidewalks of 2 meters and separated by a support wall for the gas street lamps. Before intercepted Carafa caves, where today we find the parking garage, the tunnel intercepted the culverts of the functioning Bolla aqueduct of the seventeenth century. For this reason, the architect Alvino, to avoid leaving the overlying homes without water, decided to change the course of the aqueduct through an ingenious hydraulic works that allowed the passage of the liquid below the gallery depth. Furthermore, there were technical problems during the construction because large tanks of water supply network of the seventeenth century were immediately intercepted. Also on this occasion, Alvino, with an 8 meters high bridge and the support of tufaceous walls, continued the construction. Nevertheless, due to a combination of factors, the work remained unfinished and discontinued in 1859. The tunnel over time was employed for various purposes, to be readapted in the years of World War II, as air-raided shelter for the citizens. After the war in the seventies, the Bourbon Gallery became a Hall Judicial Deposit where preserved all that derived from the evictions and seizures. Even today, thanks to a wise choice of storage, you can see objects that characterized the daily life of the Neapolitans, such as motorcycles, cars' carcasses and personal clothing⁷. This intervention is one of the most important in recent years. It is a demonstration of the potentiality of Naples where also a parking can be something extraordinary, a kind of underground museum in permanent exhibition.



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AMONG DISMEMBERMENT AND ADDITIONS, THE TROUBLED HISTORY OF PALAZZO CARAFA DI ROCCELLA (PAN) REBIRTH

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The city of Naples can be compared to a coffer full of treasures. Golden coins, diamonds, pearl necklaces; in this city are the sea, Vesuvius, the historical heritage, the warmth of its people.

An infinite wealth, but unfortunately not always appreciated or kept in the best way, and in fact there are many cases of beautiful architecture victims of negligence of those who are the lucky owner or of the municipal administration, often for lack of funds.

Fortunately Naples is also full of examples of well-managed conversion and reuse of particular buildings with historical and architectural value, also the result of massive investment and the fight against speculation by the citizens and the municipal administration. One of these is the PAN (Palace of Arts in Naples).

The word PAN identifies the set of activities, exhibitions, archives, interactive, playful and documentation of contemporary arts, which have been collected within the historic Palazzo Carafa di Roccella located in Via dei Mille. In greek the word PAN means "everything", and is an indication of totality and wholeness.

On a total area of about 6,000 sq.m. those that today have been transformed into functional areas to the recreational and museum activity, they were once the rooms of a magnificent country house, which was not born as a private residence but as "home for apartments with the farm in the hamlet of Chiaia", dating back to 1667, of the Prince of San Severo, Francesco di Sagro. A notarial act of 1668 testifies that the prince gave this property as dowry of his daughter Antonia de Sangro, to the Duke Giuseppe Carafa Bruzzano.

Ippolita, daughter of Don Giuseppe Carafa, who inherited the tenement with its gardens and grounds, sold it in 1717, to the sister Ippolita Cantelmos Stuart, from 1969 wife of Vincenzo Maria Carafa, Prince of Roccella.

HISTORY OF STRATIFICATION

The Carafa of Roccella family continued to consider the building as a villa or country house, since their official residence was at Palazzo Trinità Maggiore



Photo 1. The PAN today



Photo 2. G. A. Rizzi – Zannoni, Naples city map, G. Guerra engraver, 1790

(near San Domenico Maggiore).

Pasquale Guida in his 1968 book provides a first description of the state of the property at the time: “the building resulted of two floors, located to the north over the hill of the Capuchins, and it was accessed by a large open courtyard that served as element of connection between the lower garden, called “swamp” and the upper “1.

In 1769 the family decided to move to the main floor of the building that, from 1755 to 1765, had been the subject of a series of transformations entrusted to the engineer Luca Vecchione, a close collaborator of Luigi Vanvitelli, whose goal was to transform the building into a real urban residential dwelling. The intervention foresaw: the demolition of the entrance gate on the road of Cavallerizze; the elimination of the interior main road to be replaced by a public road, the future via Roccella, the widening of the front of about seven meters from the west side, which made it possible to place the new entrance to the center of the façade, the opening of another small street parallel to the main road, then called vico Roccella, for direct access to higher farm and construction in the first section to the east of this narrow street of two smaller buildings with two floors; the construction of other factories in the west of the lower garden called “swamp”.

The design inspiration is clearly affected by the influence of Vanvitelli.

Between 1765 and 1829 it was completed the construction of the second floor of the building and work began to realize some of the rooms of the third. At the same time, the adjoining farm was transformed into “gardens of delight” of which still remained some trees.

The era inventories give us an image of a building of 45 rooms furnished with sumptuous furniture and with an extraordinary painting collection consists of more than 130 paintings. In the early decades of the 800, the property of the Carafa family were divided among the various members: the building in question was owned by Prince Gennaro Carafa Cantelmos Stuart, who provided in 1842 to modernize the façade, in neoclassical style, opening a total of 28 windows and balconies distributed between the three floors.

The palace was always of the Carafa family, but the gardens and farms upstream of the building up to the hill of Vomero were sold in 1885. Today these

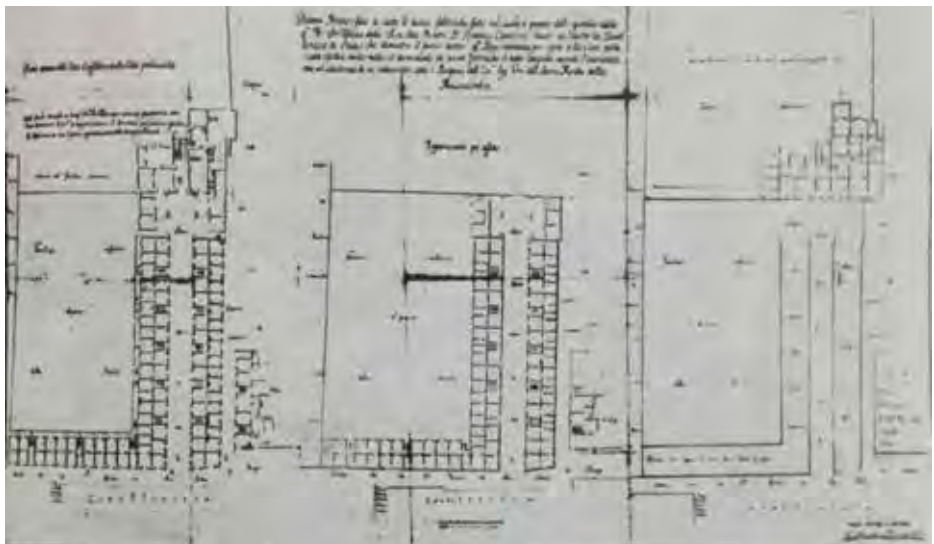


Photo 3. Ing. Luca Vecchione (1755), final plan comprising ground floor, first floor of the rental houses on via and vico Roccella and first and main floor of the Palazziata house.

correspond to the current Margherita Park.

The construction of the third floor coincided with the opening of Via dei Mille, in 1886, which caused the cut in two parts of the building by destroying the covered atrium and isolating the factories destined to rent, with their terraces of coverage they found themselves on the opposite side of the road.

The palace thus lost its architectural unity and began a series of problems including injuries to structures related to the extensive renovation and elevation works suffered from a building that was originally created on two levels.

In 1950, of the entire property, remained only the building as we know it today, immersed in new constructions.

THE RESTORATION

Palazzo Roccella is a building 24m high, made entirely of Neapolitan yellow tuff, with rectangular plan, scale body in a central position and structural mesh with different layouts between the two wings of the building.

In 1964 the building was the subject of a real aggression that stripped it of the stucco in the facade and destroyed the portal of piperno. The case was probably work of the entrepreneur and builder Ottieri, who, having bought the entire building, and wanted to demolish it. He found the opposition of Gaetano Macchiaroli that mobilized intellectuals and students to prevent the destruction and their battle led in 1976 to the purchase decision from the Municipality of Naples with the purpose to allocate it as the seat of cultural activities, entrusting the restoration project to Alberto Defez and Roberto Di Stefano. Only in 1984 the building was finally expropriated.

Between 1987 and 1990 began the consolidation works of the facade and part of the slabs of the upper floors. The 1989 report describes the state of the building complex, in severe static degradation due to age and especially due to prolonged exposure to the elements.

In 1994, during the G7 it was fixed the façade, behind which the building remained for most essentially in ruins. It was therefore necessary to prepare a new project, since the one of 1976 was outdated due to new regulations.

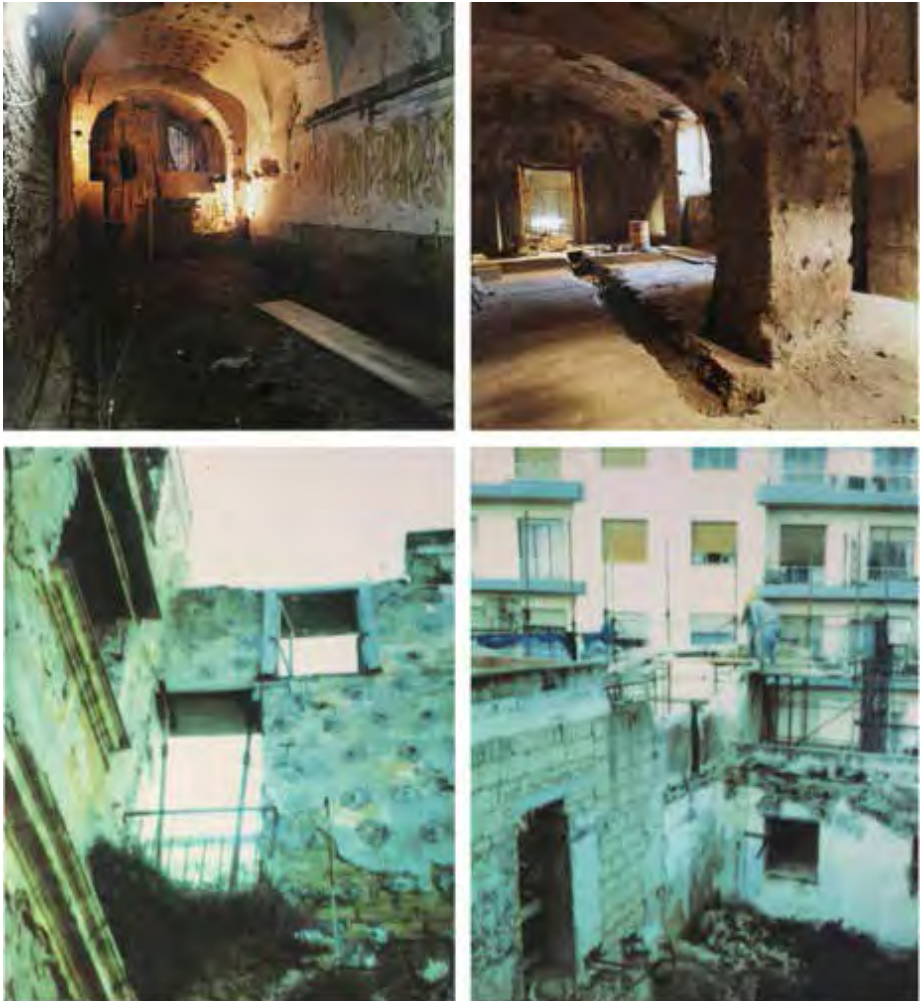


Photo 4. The Building conditions before the restoration

Since 2002, the work was entrusted, after a contest, to Guida Design Studio. The project, whose total value is 20.7 million euro, included the restoration operations, functional and structural adjustment in accordance with the new earthquake regulations of 7 November 2002 n.5447, launched after the earthquake that struck the Molise.

The philological reconstruction of the building has led to the reconstruction of most of the stucco and frames, as well as most of the arches and vaults that are therefore fake, especially in the upper floors, obtained with false ceilings that represent the ancient volumes.

Finally on March 26, 2005, after years of difficult and tortuous story, Palazzo Roccella Cantelmo Stuart opens its doors, given a new life, that of permanent civic space devoted to cultural activities of exhibition, laboratory and experimental imprint.

The slogan with which it was publicized the inauguration of PAN sounds so: "WHO IS HUNGRY OF ART HAS PAN".

Large exhibition spaces on the I ° and the II floor of Palazzo Roccella have hosted and host exhibitions of international importance. The halls of great architectural breath, with large balconies and terraces open onto the heart of the city, while at the back of the first floor is visible a part remaining of the ancient and famous "garden of delights", true botanical jewel, that extended up to the current Villa Maria. In particular, the Halls combine the modernity of the equipment with the tradition and the historical significance of the eighteenth-century building in a mixture of great charm that allows the PAN to enter among the most beautiful and prestigious Palaces of Italian Expositions.

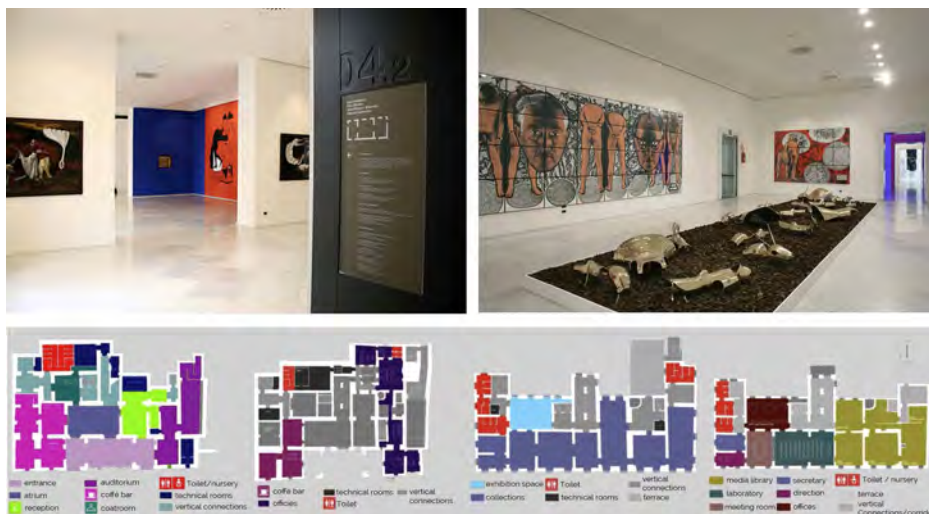


Photo 5. PAN current organization

(LILAC: entrance, INDIGO: atrium, VIOLET: auditorium, BLACK: technical rooms, GRAY: vertical connections, BLUE: offices, CORNFLOWER BLUE: exhibition space, LIGHT GREY: terrace, YELLOW: media library, GREEN: laboratory, BEIGE: meeting room, PURPLE: direction)

GROUND FLOOR: reception services, café-bookshop, facilities management, conference room / temporary exhibition hall and its foyer areas accessible as well as from the main lobby, even independently from the outside;

MEZZANINE FLOOR: management offices, headquarters for associations;

FIRST FLOOR: temporary exhibition rooms, terraces and garden "of the Capuchins"

SECOND FLOOR: permanent exhibition halls

THIRD FLOOR: management offices, the Centre's management, secretarial, meeting room; space for educational activities, media library

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THE CHURCH OF “MADONNA DELLA STELLA”

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Settlement of ancient origin, Riardo is a small country located in the northern portion of the province of Caserta, on the northern slope of “Trebulani” mountains.

At current state of the researches, the most ancient archaeological evidence are those referring to the necropolis founded in “Palazzone” locality; in these archaeological sites were found pottery that were part of grave goods. In the various “vicus” that existed in the neighborhood of Riardo, they have been found coins, clay objects, gravestones, granite columns, ducts and tanks to preserve water all dating from the Roman Republican and Imperial period. In Roman times, the area surrounding Riardo was mentioned by Vitruvius and by Pliny the Elder for the presence of mineral waters that, in this area, have their sources. The area was also crossed by road branches that crossed the territory to join the Latinan way that connected the Volturno valley with that of the Calore river. With the formation of the Lombard Duchy of Benevento, the area falling in the Volturno river basin became part of the beneventan administrative district; later, with the division (the so called “Divisio Ducatus” of 849 A.D.) of “Langobardia minor” in the Duchy of Benevento and the Duchy of Salerno, Riardo became the property of the Dukes of Salerno and finally became part of the Principality of Capua.

With the arrival of the Normans and the formation of the Norman kingdom between the second half of the eleventh century and the mid-twelfth century, the territory fell in the Principality of Capua.

Precisely in this period occurs the proliferation of fortified villages, the construction or re-fortification of castles (as in the case of the same Riardo and neighbors Pietramelara, Vairano Patenora, Pietravairano and Roccaromana castles) and the reorganization of the dioceses.

This reorganization led to the construction of numerous religious buildings not only in villages but also in the countryside and around small rural settlements. This period will also see the formation of small rural towns in the vicinity of urban centers: in the case of Riardo, the settlements of Pezza Santa Maria, Saiano, Scarpati and Anguillari formed and expanded over the centuries.

The structure of the kingdom changed appearance with the Swabians, who



Figure 1. The church of "Madonna della Stella"

modified the organization of the kingdom with the establishment of new administrative districts. The area of Volturno basin fell in "Giustizierato di Molise e Terra di Lavoro"; this division remained virtually unchanged during the Angevin and Aragonese period.

There are numerous archaeological and architectural remains that distinguish the territory of Riardo; the most impressive evidence, from the point of view of the visible architectural structures, it is certainly the castle whose origins should go back to the Lombard period.

Built on a hillock that dominates this area of the valley and the road system, the castle foundation is attributed to the second half of the ninth century: in this period the county, then the Principality of Capua strengthened its defenses with the construction of defensive bastions which consisted of fortresses and fortified villages.

The church of "Madonna della Stella" (fig. 1) is a building constructed on an ancient chapel built in the Middle Ages and is of particular interest for its historical and architectural history. This chapel looks like a small building with a rectangular shape with a vaulted roof which housed a cycle of frescoes dating from the eleventh and fifteenth centuries (figg. 2, 3, 4).

The most recent paintings were on the short side where is the ancient door and consist in the figures of St. Francis and St. Bernardine of Siena. On the other sides of the building was realized the most outstanding group of paintings dating from the eleventh century, which represented Christ in Glory surrounded by the saints Clemente, Nicholas of Bari and Pellegrino, while on the long wall there was the effigy of the Virgin Mary seated on a throne surrounded by St. Stephen, Michael, Peter and John the Evangelist.

On the right there are the figures of the apostles. Other frescoes depicting the "Presentation of Christ in the temple" are no longer visible because they were unfortunately destroyed in the fifties and sixties of the last century. In those years the north wall of the ancient chapel was unfortunately demolished to allow the expansion of the religious building capacity: it was added a new building which served as the nave of the modern religious building, while the ancient chapel became the chancel of the new church.



Figure 2. Cycle of frescoes, particular.

The chapel contains frescoes which are one of the oldest pictorial evidence of the entire historical region known as "Terra di Lavoro" and are coeval with those of the Basilica of "Sant'Angelo in Formis" (hamlet of Capua) and of those of "Santa Maria in Grotta" in Rongolise (hamlet of Sessa Aurunca).

These frescoes, related and attributable to artists trained in Campania, can be divided into three groups for dating, style and authors. The oldest frescoes, dating from the late eleventh century, are those which are on the short side of the chapel; between them stands the figure of Christ in glory. On the long wall, date back to the twelfth century all those who are to the left of the Virgin Mary on the throne and the first fresco to the right of the Virgin. The last three frescoes, works of extraordinary craftsmanship, were made between the late twelfth century and the beginning of the thirteenth century.

The "Madonna della Stella" church is not the only religious building on the territory of Riardo municipality which preserves the oldest phases related to the Middle Ages and Early Christianity.

Noteworthy is also the church of St. Leonardo is located in the center of the town at the foot of the hill where the castle stands. Founded probably between the Late Antiquity and the Early Middle Ages, the building was smaller than the current building which is the result of changes and transformation have occurred between the Late Middle Ages and the Modern Age. The building underwent major transformations in the thirteenth century when it became a convent of Augustinian friars. A small cloister and some fragments of frescoes that decorate the interior of the church date back to this historical phase. The church has a nave with two rows of pillars which are not placed against the outer walls; the apse is square shaped and covered by a vault. The magnificent portal built in piperno rock can be dated to a later phase.

In conclusion, the territory of Riardo is rich in archaeological and architectural remains that show the different historical stages and the importance of this territory that had over the centuries. The "Madonna della Stella" church is an exceptional case of a religious building with a very important set of frescoes. Unfortunately, the interventions that have been in recent decades have brutally distorted the original appearance of the building that has lost its original function



Figure 3. Cycle of frescoes, particular.

(Fig. 5).

The lack of measures aimed at the preservation, protection and enhancement have led to an ever-increasing state of oblivion and loss of identity of this historic site. Today the church and its frescoes appear completely unrelated to each other and placed in a new and irrelevant context, thus failing to fascinate the visitor who hardly recognizes the historical value that the site has always had.

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Figure 4. Cycle of frescoes, particular.



Figure 5. The church of "Madonna della Stella", interior.

NEW URBAN CONTEXTS. VIA SEGGIO IN AVERSA BETWEEN AUTHENTICITY AND REUSE. THE CHROMATIC SURVEY AND THE COLOUR PLAN

Vincenzo CIRILLO

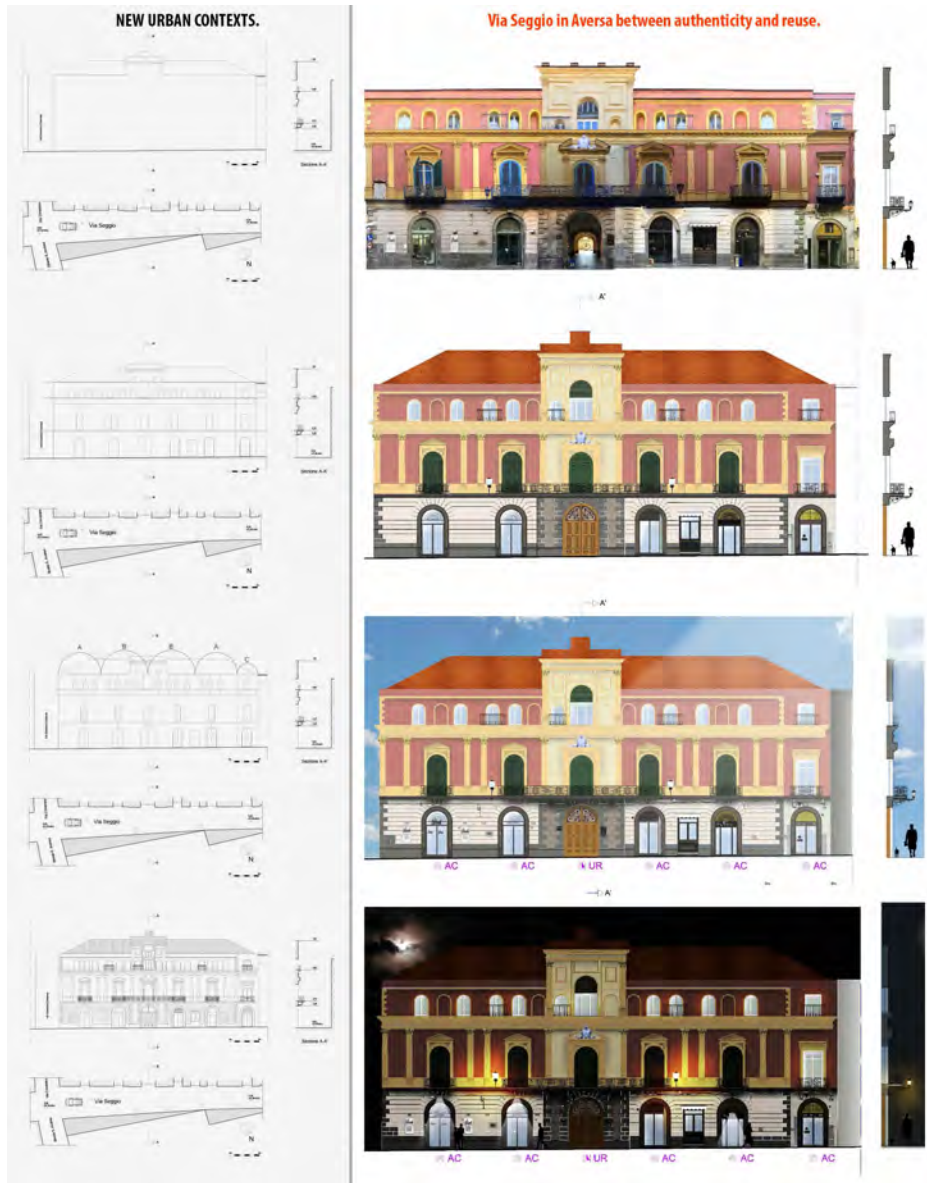
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The city where we live today, is a city where everything changes dynamically, often uncontrolled, and where the urban image appears increasingly characterized by a global in respect to a local dimension. The rapidity of the modifications involves an adaptation to the new requirements which often takes place without elements of reference and that, therefore, on many occasions involves a high relational disorder between the parties [1]. The study here proposed intends to offer a contribution for reading the material and immaterial qualities of urban contexts in the sense of complex evolving system. The object of investigation corresponds to the contamination of the buildings facades and often to emptying of these last. The aim is to investigate the modifications which contaminate the reality of these places. Based on the disciplinary integration of more theoretical and practical knowledge, through the methodology of multidimensional survey were here investigated on an architectural scale, urban and environmental the distinctive characteristics which connote historical street facade of via Seggio in Aversa, characterized by quantitative and quality identity that make it an actually critical example of the complex reality on the move. Specifically this study has as cultural investigation main field the measure of the effects of new trends of living providing an address line tending to equalize and then "to control" the colour of building facades to prevent the private discretionary power could generate a fragmented places visual path. The indications given on the color seek to protect in the first time the historical identity of the building, and in the second time the visual perception of the environment in its entirety [2]. The polychromy the historical centers architecture is a characteristic of distinction and specific urban attribution sign. The genesis of the transformation and renewal of the colour facades, however, has recently undergone a radical transformation in respect to the shape of the local tradition, in part causing the loss of the original color connotations. These episodes have triggered a loss of continuity process with the past that, without denying the right to change and renewal, has produced a degradation to the urban fabric of the historical centers, just think (only to introduce one example of many) to buildings fragmentation that characterizes our historical built. Fragmentation which automatically pours in the buildings facades color, with each building unit imposes its presence with



FIGURA_01 > Rilievo multidimensionale e apparati cromatici in via Seggio (rilievo architettonico: Brigida Di Costanzo; Tania Tiziana Ferrone; Gessica Friello). Sintesi grafica a cura di Vincenzo Cirillo. Coordinamento scientifico di Ornella Zerlenga.

a "different color". By virtue of what has just been described, the knowledge of a building, its origins, transformations and of its distinctive typological characters is underpins the design for appropriate interventions. For each buildings unit is necessary analysis and specific knowledge to enable appropriate action intervention procedure. The specific disciplinary of the survey intended as a work characterized by a wide range of knowledge and informed by deep critical responsibilities represent in this context constantly evolving the tool for the buildings analysis and knowledge and in this specific case, the chromatic apparatus which is the through for the documentation and is set up as the first operation of objective knowledge and essential [3]. It is the instrument and the means to investigate, understand, know shapes and historical events directly from the object detected which it becomes the main document of itself. The survey campaign carried out with the scientific coordination of Professor Ornella Zerlenga, it moved to the analysis of the curtain walls of the Aversa historical center where it was found that for the most part of them, the actual aspect derives from the various transformations undergone more or less in recent times, losing in some cases completely and for others partially the traces of the plaster and the building facades original color [4]. This data is then accompanied by serious degradation conditions for the few remaining buildings on which it is still possible to detect some traces of the original color, as well as those partially deprived of plaster remained with the stone face-view [5-6]. The careful survey activities was returned through the tabs, which have been included in all buildings dimensioning, figurative, typological, finishing systems, and indeed chromatic characteristics. The latter was carried out firstly proceeding with the creation of a photographic mosaic straightened (under the coordination of Igor Todisco professional photographer). The photo shoots useful for the return of this ortho-mosaic were executed in the middle of the day to avoid the cold light of morning and hot in the afternoon, as well as to avoid the gray areas which would constitute an obstacle to the return of the drawings. This first phase was served (beyond the figurative apparatus survey) to have from the perceptive point of view a global vision of building curtain wall and to catch immediately the predominant colors that characterizes the façade of the buildings. The detection



FIGURA_02 > Rilievo multidimensionale e apparati cromatici in via Seggio (rilievo architettonico: Fabio Antonucci; Franco Coppola; Enrico Mirra; Dario Salvatore). Sintesi grafica a cura di Vincenzo Cirillo. Coordinamento scientifico di Ornella Zerlenga.

method took place in a direct way with the color scale NCS (Natural Colour System) a logical color order system which is based on the way these are perceived and where every possible surface color can be described and identified with a special code. The chromatic survey, were pinned for each building, colors of painting, vestments, frames, wainscots, parapets and balconies, windows and doors and all components forming the building's facade [7]. The analysis in addition to the color characteristics also moved towards the acquisition of materials used in construction and consequently on degrade conditions that are poured on them. From this analysis, the danger posed by the use not rational of the wide range of varnishes on the market is now serious and is leading to coloring interventions without rules, with recovery of curtain walls as overall image often debatable for as regards the respect of the general characteristics of historical and local of the Aversa city. From this comes the need of the regulation for the chromatic aspects, through color control tools, developing a culture for design geared to face the management of the heritage built. After the survey phase particularly interesting was the perceptual reading of the entire curtain wall of Via via Seggio, took place not for individual buildings but for portions of territory, precisely in relation to the observer perception. From the context emerges a greater responsibility of individual interventions carried out by private: from the outcome of each construction depends the quality of the facade, where if it lost, create a loss to individual property damage also goes to the community because a portion of the old town could not participate to the overall formation image of the city. The theme of colors on facade represent therefore a central node in the whole thing of recovery and regeneration of our town centers. Our cities, in fact, are no longer projected toward expansion processes, but to functional redefinition and enhancement of the existing morphological and of settlement quality. Arises, in fact, a need to create regulations to rebuild the city's image, reducing the loss of signs and finishing techniques of historic facades [8]. The Colour Plan is proposed in this context as a local reading instrument of the experience through the analysis through the historic urban fabric and its stratification, the study of the construction techniques, the fascination of its facade elements and its colors. Simultaneously, is accompanied the need for



FIGURA_03 > Rilievo multidimensionale e apparati cromatici in via Seggio (rilievo architettonico: Vincenzo Vozza; Alessandro Biscardi; Vanessa Celentano; Roberta Manzione; Giuseppina Vigliotti). Sintesi grafica a cura di Vincenzo Cirillo. Coordinamento scientifico di Ornella Zerlenga.

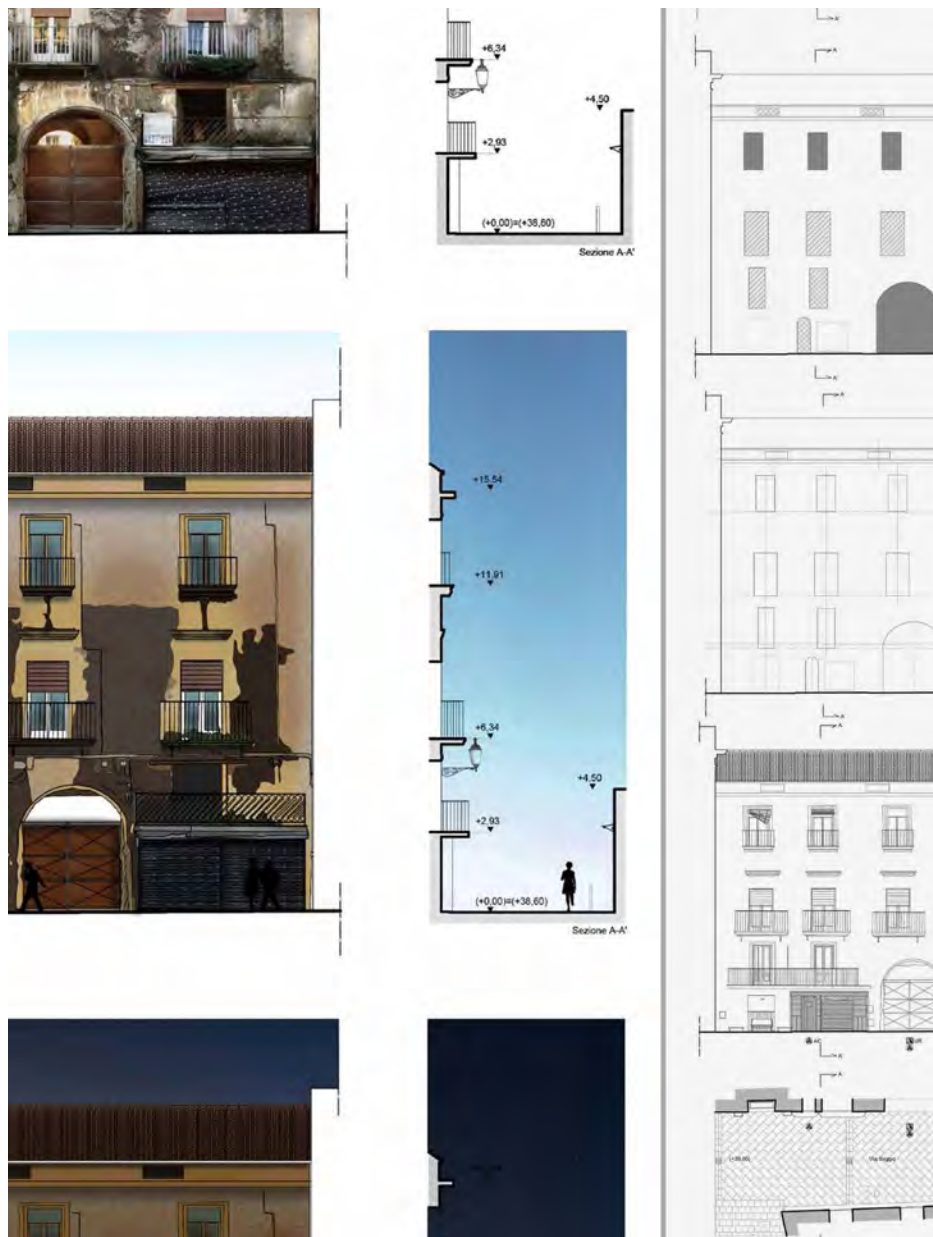
recovery of “image” of the historical built stopping the deleterious action of the bad taste of the trivialization, the picturesque and the aggression of the facades from the technological installations [9]. Considering that knowledge is the first fundamental step towards the action of protection, the Colour Plan in its articulation contributes significantly to deepen the city morphological and architectural knowledge structure, provided to its with a detailed reading and with the state of fact and possible chromatic variables, with the awareness that the colors visible today on the facades are the result of relatively recent interventions and certainly not of the construction original period.

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FIGURA_04 > Rilievo multidimensionale e apparati cromatici in via Seggio (rilievo architettonico: Maria Manna; Marica Marroccella; Angela Martone; Mariateresa Ruggiero; Emanuela Vernieri). Sintesi grafica a cura di Vincenzo Cirillo. Coordinamento scientifico di Ornella Zerlenga.



FIGURA_05 > Rilievo multidimensionale e apparati cromatici in via Seggio (rilievo architettonico: Luigi Arcopinto; Angelo Gloria; Davide Ianniello; Simone Lombardi). Sintesi grafica a cura di Vincenzo Cirillo. Coordinamento scientifico di Ornella Zerlenga.

THE PRESERVATION OF SACRED STRUCTURES IN THE UNITED STATES

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Within the United States, historic religious properties are facing deterioration from the lack of patrons and funding. At the federal level, there has been a tug-a-war like battle about the use of federal funds for the restoration of historic religious buildings. The reason for this tension lies with the First Amendment of the United States Constitution which has two arrangements regarding religion, the Establishment Clause and the Free Exercise Clause. The Establishment Clause forbids the government from ‘establishing’ a religion also known as the separation of church and state, while the Free Exercise Clause protects peoples’ right to practice their religion free from government interference. [1] The constitutional hardliners believe that the Establishment Clause prohibited the government from issuing federal funds to religious organizations. However, there has been a recent shift in the government’s thinking from the “separationism” group who believe in the strict separation of church and state. To the “neutrality” group who believe that the government can provide aid to a religious group if it doesn’t promote the religion. [2] The tension between these two groups can be seen through number of arguments played out over a fifty-year stretch in the United States courts. The beginning of the fifty-year tension was the passing of three federal historic preservation acts during the 1960s which provided federal protection and funding to historic buildings.

During the late 1980s, there was a pivotal case. *St. Bartholomew’s Church v. City of New York*, that questioned whether historic religious buildings should be exempt from preservation ordinances. *St. Bartholomew’s Church and Community House* (Figure 1) are located in an affluent area on Park avenue in New York City. In 1967, the ‘Byzantine style’ church and community house (built in 1930) were designated as a landmark by New York Landmark Commission.[3] A landmark designation provides the historic building certain protections which requires the owner to apply for permission, known as the Certificate of Appropriateness, if there were any wanted alternations to the exterior, interior, and demolish of the designated building.[4]

In 1983, *St. Bartholomew’s Church* first applied to the Landmark Commission for permission to demolish the Community House and construct a fifty-nine story office tower (Figure 2). The church was facing financial troubles and wanted



Figure 1. St Bartholomew's Church in New York City (source: https://upload.wikimedia.org/wikipedia/commons/6/63/St._Bartholomew's_Church_Summer_Streets.jpg)

to use the revenue to continue their religious outreach programs. However, this application was denied by the Landmark Commission and deemed as inappropriate. The church followed up with another proposal for a forty-seven story office tower. Again the commission denied the application. For the church's third application for demolition, the Landmark Commission held a public hearing on the matter, which included witnesses, church financials. In 1986, the commission voted against the demolition of the Community House. In that same year, the church filed a lawsuit against the city, citing that the city's preservation laws were violating the church's First Amendment which prevented the church from practicing its free exercise rights. Secondly, the church stated that their Fifth Amendment was being violated by the city who was taking their property through the landmark designation without properly compensating the church. In 1991, the court ruled in favor of the New York Landmark Commission citing that the church failed to prove that they couldn't continue to raise money with the existing facilities.[5] Although the Supreme Court was leaning towards "neutrality" there were still some tensions from new legislation. In 1996, the court case of *Keeler v. Mayor & City Council of Cumberland* dealt with St. Peter and Paul's church (Figure 3) not being able to afford restoration work on their landmarked historic monastery. The church and monastery were designated in 1978 as landmarks through the creation of the Washington Street Historic District issued by the city's Historic Preservation Commission in Cumberland, Maryland. In 1995, the church sought to demolish the "massive" historic monastery built in 1850. The church felt the dilapidated monastery, which had stood vacant since the 1980s, was a financial burden with an estimated \$1 million in restoration cost. However, there were attempts during the 1970s and onward for the adaptive reuse of the monastery into senior citizen home, apartments, and youth hostel. Yet, all of these options were rejected since the church had future plans for the site. When the church applied for the Certificate of Appropriateness in order to demolish the landmark building, the historic commission denied the church application.[6] In 1996, the church appealed to the district court citing a ten-count complaint against the city. The first count alleged that the city violated the Religious Freedom Restoration Act (RFRA) of 1993, which

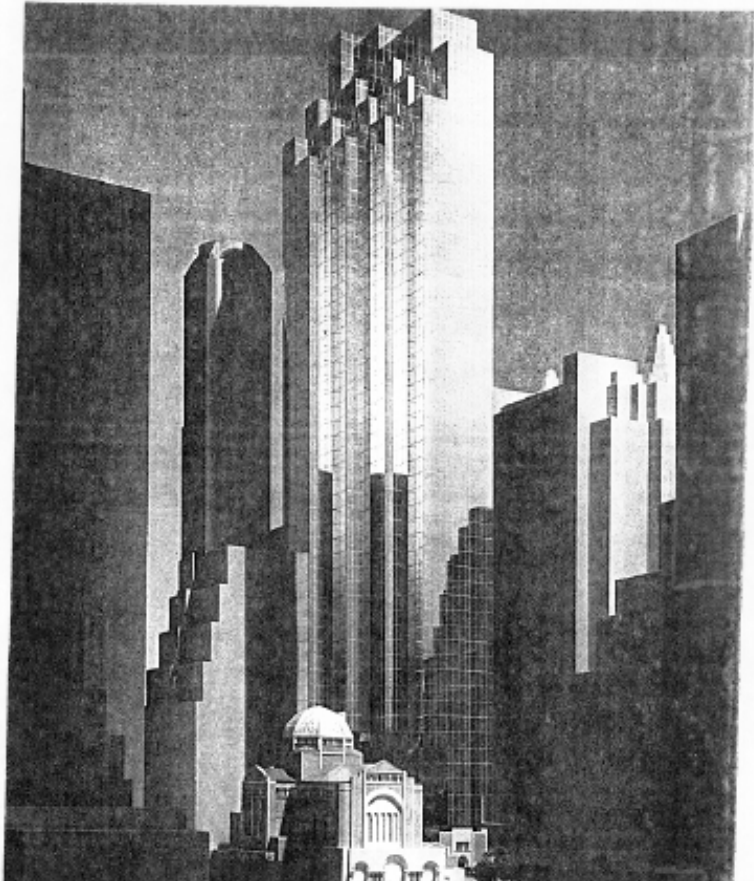


Figure 2. Proposed 59-story skyscraper next to St. Bartholomew's Church
(Source: David Listokin PowerPoint Slide titled Legal p. 63)

to use the revenue to continue their religious outreach programs. However, this application was denied by the Landmark Commission and deemed as inappropriate. The church followed up with another proposal for a forty-seven story office tower. Again the commission denied the application. For the church's third application for demolition, the Landmark Commission held a public hearing on the matter, which included witnesses, church financials. In 1986, the commission voted against the demolition of the Community House. In that same year, the church filed a lawsuit against the city, citing that the city's preservation laws were violating the church's First Amendment which prevented the church from practicing its free exercise rights. Secondly, the church stated that their Fifth Amendment was being violated by the city who was taking their property through the landmark designation without properly compensating the church. In 1991, the court ruled in favor of the New York Landmark Commission citing that the church failed to prove that they couldn't continue to raise money with the existing facilities.[5] Although the Supreme Court was leaning towards "neutralism" there were still some tensions from new legislation. In 1996, the court case of *Keeler v. Mayor & City Council of Cumberland* dealt with St. Peter and Paul's church (Figure 3) not being able to afford restoration work on their landmarked historic monastery. The church and monastery were designated in 1978 as landmarks through the creation of the Washington Street Historic District issued by the city's Historic Preservation Commission in Cumberland, Maryland. In 1995, the church sought to demolish the "massive" historic monastery built in 1850. The church felt the dilapidated monastery, which had stood vacant since the 1980s, was a financial burden with an estimated \$1 million in restoration cost. However, there were attempts during the 1970s and onward for the adaptive reuse of the monastery into senior citizen home, apartments, and youth hostel. Yet, all of these options were rejected since the church had future plans for the site. When the church applied for the Certificate of Appropriateness in order to demolish the landmark building, the historic commission denied the church application.[6]. In 1996, the church appealed to the district court citing a ten-count complaint against the city. The first count alleged that the city violated the Religious Freedom Restoration Act (RFRA) of 1993, which



Figure 3. St. Peter and Paul Church (source: https://lh3.googleusercontent.com/-kg0V8v2cMvM/VYKu5WuDiXI/AAAAAAAAAS-Q/Kc7TQC28P-E/s320/DSC_0474.JPG)

“prohibits government from substantially burdening a person’s exercise of religion without a compelling interest.” RFRA provides the courts standards in the way religious cases involving free exercise of religion thus dealing with the First Amendment. While the other counts included violating the Establishment Clause, infringing on the right to assemble, taking of church property citing the Fifth Amendment and others. However, all but the first count was granted by the court as violation of the church under the RFRA. The church was granted permission to demolish the monetary. [7] Save America’s Treasures is a grant program, created in 1999, through a joint effort from the National Park Service (NPS) and the National Trust of Historic Preservation in providing \$30 million in federal and private funds annually for the preservation of historic structures. [8] Save America’s Treasures nominated the 18th century Old North Church (Figure 4) from Boston, Massachusetts and Touro Synagogue (Figure 5) from Newport, Rhode Island, for restoration funding but was revoked by the federal government because of its religious status. The Old North Church built in 1732 and designated as a landmark in 1961 is historical significant with close ties to the American Revolution. The steeple of the Old North Church was used to signal Paul Revere that the British were coming by sea. As for the Touro Synagogue, it is the oldest standing synagogue which was famous for receiving a letter from George Washington. Within the letter, Washington affirmed America’s commitment to religious freedom and assured the Jewish community that their religious rights would be protected. These two historic religious buildings were chosen by the religious community and preservationist to challenge the federal funding policy. In 2003, the Justice Department changed its policy and the two religious structures were nominated into Save America’s Treasures program. The Old North Church received \$317,000 federal grant for its restoration of its windows. [9] While the Touro Synagogue received \$375,000 in grant money for its restoration. [10] Historic religious buildings have many challenges because of dwindling patrons, high cost of maintenance, and scarce funding resources. Even though, the US government has become more flexible on the stance for funding restoration of historic religious buildings, the tensions still exist among the “separationism” and “neutrality” groups within the US courts. However,



Figure 4. Old North Church in Boston (source: https://upload.wikimedia.org/wikipedia/commons/a/a3/Old_North_Church_Boston_1882.jpg)



Figure 5. Touro Synagogue (source: https://upload.wikimedia.org/wikipedia/commons/b/b1/Touro_Synagogue_Newport_Rhode_Island.jpg)

there has been a growing number of resources available for religious organizations to capitalize on. Through the assistance from national non-profit organization such as Partners for Sacred Places which helps to build the capacity of religious entities to sustain their historic buildings. This capacity building is accomplished by developing local resources which includes artist tenants, performing arts, and non profit organizations who are in search for an inexpensive space to rent.[11] The US government has a larger wallet for potentially funding the restoration of historic religious buildings, however nonprofits like Partners for Sacred Places have developed sustainable methods for the religious buildings that enriches the community.

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THE RAILWAY LINE BETWEEN CAMPANIA AND MOLISE. THE NINETEENTH CENTURY DRAWINGS

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The research drawing the characteristics of the historical, architectural and design of Alifana railway, built in the Middle Volturno valley with the purpose of connecting travelers of Matese with the city of Naples. In 1878 the Engineer Paolo Dovara proposed a connection project, of the territory in question, with the railway Naples - Rome, in 1880 the Engineer Pasquale Sasso conducted studies and surveys on the route Capua - Caiazzo - Piedimonte Matese collaborating in the design and construction, with the Engineer Giustino Fiocca, of the two crossings on the Volturno River, near Dragoni in 1867 and at Capua in 1869. In 1891 the Engineer Gennaro Pepe gave the project for the construction of the railway, which was inaugurated 30 June 1914 with only narrow gauge track. Through reading models, including the geometry of the shod route, the design of the structures and the morphological aspects, you can identify the methodologies and the detection and return policies railway institutions in the natural environment. During the nineteenth century the development of the Italian railways suffers a significant increase. In 1836 the French engineer Armando Bayard de le Vingtrie asks from the King of the Two Sicilies, Ferdinando II, for permission to build a railway in the capital of the kingdom, Naples. The work would be made at the expense of the Engineer Bayard in exchange for a concession for 99 years of receipts and then the route shod would become property of the kingdom of Naples. The proposal is accepted and the 19 June 1836, the Bayard has the right to build the railway, but with narrower limitations than those that the French Engineer would have wished: the usufruct of the concession is limited to 80 years, the achievements made in the six years and a security deposit, than 100.000 ducats, which will be forfeited if the work will not be completed within the stipulated time. The Bayard makes the infrastructure project in just three years, the locomotives come from England and the carriages are manufactured in Naples. On 3 October 1839, in the presence of the Neapolitan Royal Family, the railway is inaugurated. On the convoy, led to train the real car, go up, in addition to the king and his family, 48 guests, 60 Army officers, 30 soldiers of infantry, 30 artillery, 60 sailors and the band of the Royal Guard. The train travels a distance of eight kilometers in just eleven minutes, reaching a speed of 30 kilometers per hour. In the following years, also in the rest of the

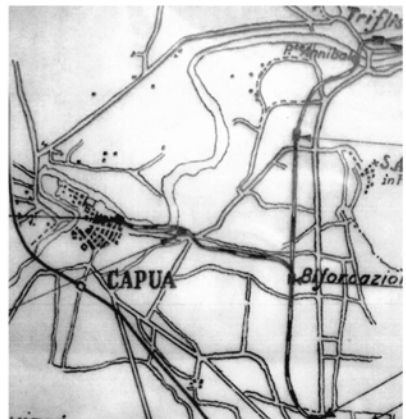
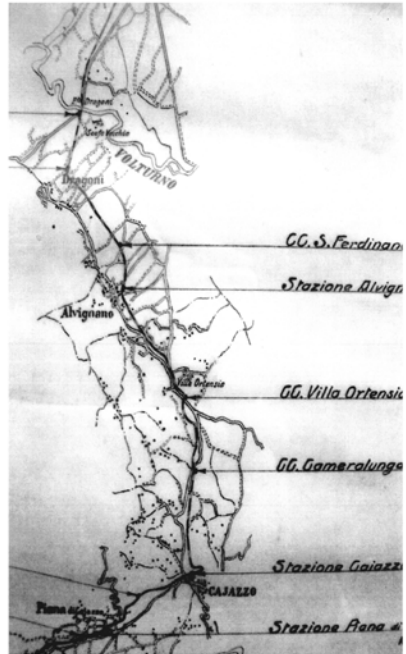
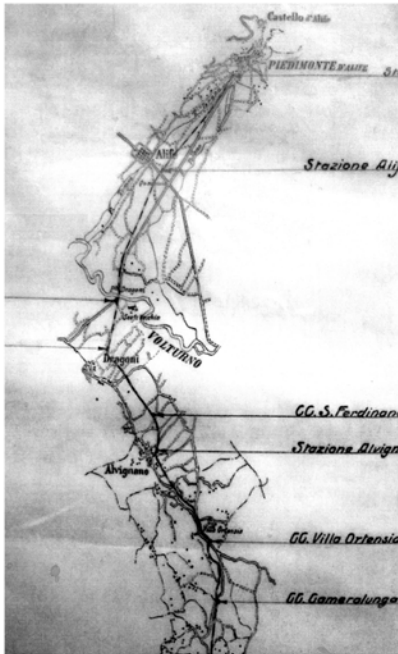


Figure 1

Italian peninsula they are made railway lines. In addition to Milan - Monza than thirteen kilometers, railway lines are being built in Tuscany, Veneto and the Kingdom of Sardinia. In 1840, by Engineer Carlo Scarabelli and the Captain Giacomo Antonio Ganzoni, propose to construct a railroad from Bologna skirt the Via Emilia until you reach the port of Ancona. Pope Gregory XVI, although the initial approval, forbids priests to climb the "infernal machines". In Tuscany, in 1850, it takes place the idea of linking Florence to the sea port of Livorno and build the railroads between Siena - Empoli and between Pisa - Lucca. With the papacy of Pio IX, is inaugurated Rome - Frascati, 14 July 1856, the Rome - Civitavecchia 16 April 1859 and Rome - Ancona in 1866. The Count Camillo Benso di Cavour, in fact, immediately understands the benefits that railroad could cause the local economy and the construction of a project of national unification. In a few years the Kingdom of Savoy thus gained an extensive network of rail tracks. In 1853 the Baron Panfilo De Riseis, President of the Provincial Council of Abruzzo - Citra, proposes a link between Naples, Aversa, Piedimonte Matese, Ailano, Isernia, Castel di Sangro, Lanciano, Ortona, Pescara, with branches to Popoli and Teramo. This path was called the Railway degli Abruzzi. The project, drawn up by the Engineer Giustino Fiocca, already engaged in the construction of the railway Naples - Foggia, and the Engineer Antonio Rossi, received a concession promised 17 January 1854 by the King of the Two Sicilies Ferdinando II. On 16 May 1855 the project is approved by the Commission on railway tracks and was signed the grant. The Engineer Giustino Fiocca had also thought to achieve however Piedimonte Matese, with a branch in the ordinary gauge of Amorosi station of the Naples - Foggia railway. In 1898, with the running aground of the proposal Engineer Fiocca, he took shape the idea of prolonging the provincial tramway of TPN (Tramvie Provinciali Napoletane) from Porta Capuana in Naples came to Aversa with terminus near the Church of the Annunciation in Porta Napoli. This suggestion contained significant orographic difficulties in the construction of the railway path that later would reach Piedimonte Matese. In 1878 the Engineer Paolo Dovara proposes a cross connection from the railway Naples - Rome with the route Naples - Foggia. This route would connect the stations of Caianello and Presenzano, touching Piedi-

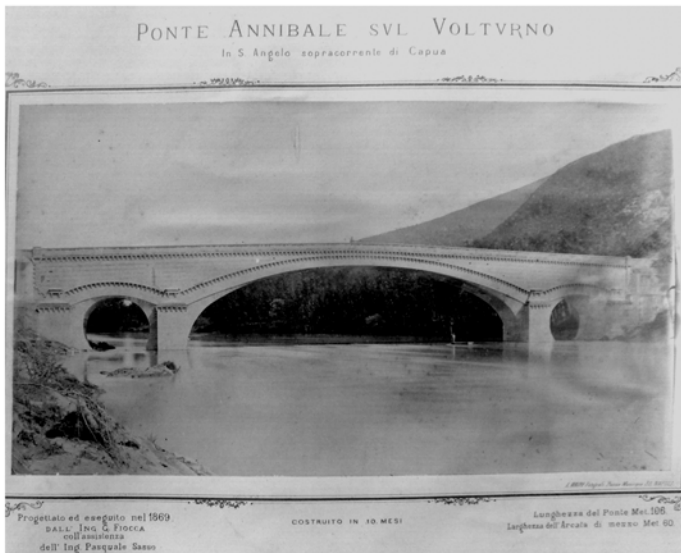
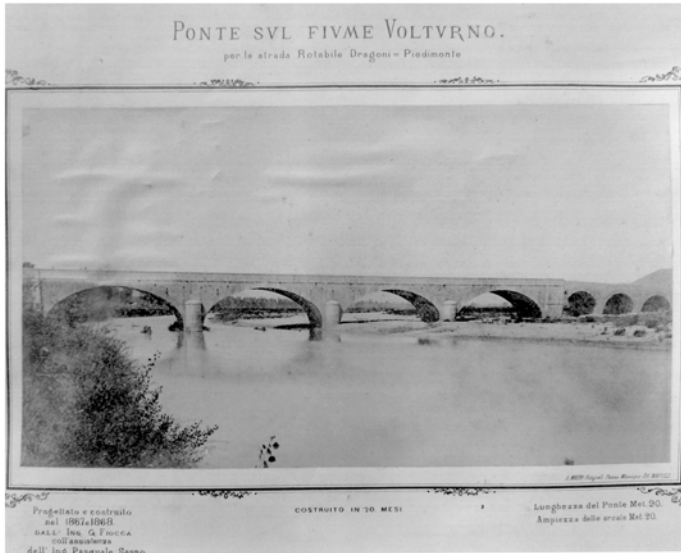


Figure 2

monte Matese, he continued toward Telesse, and entered on the Naples - Foggia. The advantages of this solution were to save about thirty kilometers in the route between Rome and Foggia avoiding heavy trains the 14 kilometers of gradient of 15 for a thousand between Dugenta and Caserta; possibility of sending goods at great speed by the number of Piedimonte industries thanks to standard gauge; good passenger traffic on the axis Piedimonte, Telesse, Caserta, Naples. In Piedimonte Matese had also been a fierce Railway Committee in support of this solution, formed by the Prince of Piedimonte and Senator of the Kingdom of Italy Onorato Gaetani di Aragona, by the Provincial Director Ventriglia and the Owner of the Cotton Mill Gian Giacomo Egg, son of the founder the famous industry, which in 1812, planted a majestic cotton mill. This structure, for over a century, was one of the largest in southern Italy and the first in the Kingdom of Naples. In 1891, the Marquis Gennaro Pepe presented a project to connect Naples, Giugliano, Santa Maria Capua Vetere, Caiazzo, Piedimonte Matese. The route included different transport solutions: from Giugliano branch for Pianura and Pozzuoli; from Piedimonte branch to Venafro with stops in Sant'Angelo d'Alife, Raviscanina, Ailano, Prata Sannita, Fontegreca, Capriati. The project presented in binary "meter gauge" with economic characteristics of railway fourth category. The rails were made of steel, of 9 meters long with a weight of 18 pounds per linear meter and 11 sleepers for every span. By Bellona, the line would cross with a gallery Mount Jerusalem, the length of 750 meters, to go out in Formicola and Pontelatone valley and three new bridges over the Volturno River. The plan called for thirty steam locomotives, 120 passenger coaches, 482 freight wagons. The total length of the line, including the branches, resulted in 135 railway kilometers. On 27 March 1900 it was signed the agreement with the "Société Anonyme des Tramways et des Chemins de Fer du Centre" for the construction the railway Naples - Piedimonte Matese with a trunk from Naples to Capua in electric drive 45 kilometers and branching from the called station bifurcation, situated in the territory of Capua, in Piedimonte Matese in length of 38 kilometers with steam traction and narrow gauge track of 950 mm, also called Italian gauge. With this solution, compared to the standard gauge of 1435 mm, it was obtained a reduction of the construction costs of over



Figure 3

30 percent. The author of this solution was a Neapolitan Engineer of French origin, Alfredo Cottrau, son of the owners of textile industries. Technically it has the realization of a circuit that manages to better follow the lay of the land with significant limitation of bridges and tunnels. The reduction of the strip width of the rail determines, also, more modest employment surfaces with lower land acquisition costs. The disadvantages were the high tortuosity, the steepness (between Piana di Monte Verna and Caiazzo there were gradients of 46 for a thousand, that is, in a kilometer the train had to pass a 46 meters) elevation, the frequent curves with related fittings made very low commercial speed and uncomfortable move the minds of passengers. Another significant problem was the need for transshipment of goods at major stations normal gauge. In 1912, steam trains already joined Napoli to Aversa and Frignano Maggiore, pending the completion of electrification. Two years later, 31 March 1913, he carried out the first electromotive Breda path between Napoli Piazza Carlo III and the Capua station, greeted by a cheering crowd. On December 31 1913 the steam train reached the station of Caiazzo. The 30 June 1914 the trial locomotives reached Piedimonte Matese and in December of the same year the railway went into operation.

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Figure 4



Figure 5

MUSEUM OF CONTEMPORARY ART DONNA REGINA

Enrico DE CENZO

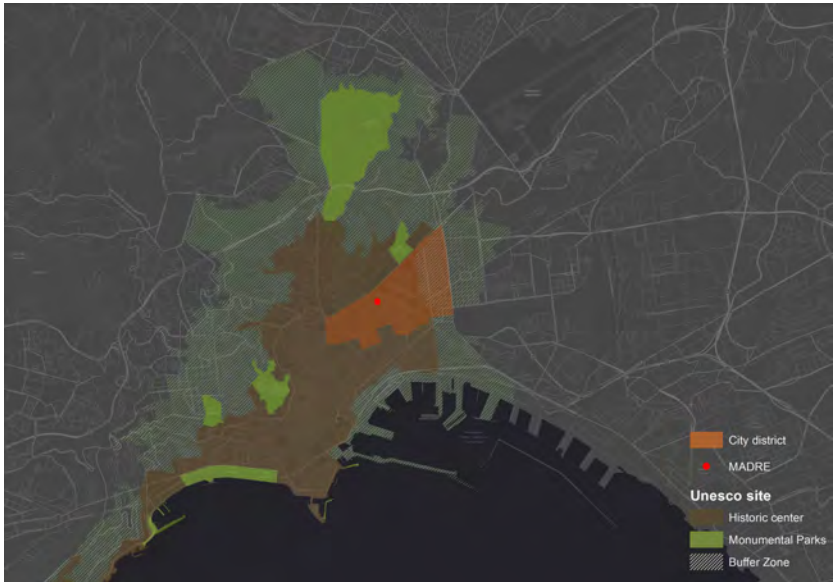
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The Museum of Contemporary Art MADRE was born by the Portuguese architect Alvaro Siza Vieira project, with the collaboration of the Studio DAZ-Dumontet Antonini Zinke associated architects of Naples, for the reuse of the monastic complex of Donnaregina site in the historic center of Naples where in the Greek era snaked the ancient walls of the city. Located in an old building in Via Settembrini 79, the Madre stands in the historic center of Naples, along what will be later called the "way of the Museums", in proximity of major cultural attractions in the city as the National Archaeological Museum, the Duomo in Gothic style, also known as the Cathedral of San Gennaro as it retains the famous "treasure" of the city patron, and the Academy of the Fine Arts, on the edge of the ancient San Lorenzo district that houses in his gallery one of the collections of works of modern art's most prestigious of Italy.

The architect Siza himself underlines how its strategic location in the heart of the city, a place of artistic and architectural experimentation that has seen throughout history the succession of different civilizations from the time of foundation of the first fulcrum of the ancient Neapolis, is the basis of the success of its redevelopment project. In fact, it has been one of the first museum for contemporary art in the world to be located in the historic core of a city. MADRE, an acronym of Museum of Contemporary Art Donnaregina, takes its name from the building that houses it, the Palace Donnaregina, which like all the area in which it stands owes the name to the Monastery of St. Mary Donnaregina, founded by the Swabians (XIII century) and then rebuilt and enlarged in 1325 by Queen Mary of Hungary, wife of Charles II of Anjou.

The historical presence of important monasteries often gave the name to entire territory of insulae, which resulted by the intersection of *cardi* and *decumani*, the ancient roads of the historic center. Of the ancient monastery remain today only the Gothic church built in the fourteenth century, called "old" Donnaregina, which hosted exhibitions and special events organized by the museum and houses one of the most important cycles of medieval frescoes in Italy, and the one XVII century Donnaregina "new" that overlooks the homonymous square, built in the Baroque period and now occupied by the Diocesan Museum of Naples.

Behind the famous monastery was built in the nineteenth century, the palace



1_Appreciating the context



2_Current situation of the city district

Donnaregina, housing the MADRE today. The building is therefore, in its current configuration, the result of the different architectural styles that have affected the whole area of the current Via Duomo between the late sixteenth and the nineteenth century in which are carried several changes of the monastic insula, from the current Largo Donnaregina to Via Settembrini.

It was later expanded with the addition of two wings of the building, along Vico Donnaregina on one side and Via Loffredi on the other, and the arrangement of the front on Via Settembrini, where was placed the main entrance with the creation of the hallway and the two stairwells. The building became in the second half of the nineteenth century property of the Bank of Naples who had used the building to house the pawnbroker. Although not emphasized in a monumental architectural character or special historic or artistic interest, the building has an elegant formal composition and Neapolitan building characteristic of the late nineteenth century. At the beginning of '900 and especially in the years after World War II, however, it has undergone several architectural changes that altered the original appearance improperly, such as adding a building volume of reinforced concrete that covered the ancient XVII century facade of building, the construction of an elevated atrium which occupied part of the superior court, the creation of new partitions that altered the original floorplan and structural reinforcement interventions following the earthquake of 1980. In the eighties the building was leased the Superintendency of Naples and then return later to the Bank of Napoli, who used it as a warehouse. The building was finally abandoned in 2001 after serious structural damage and disruptions caused by the flood.

Only in 2005 the building was purchased by the Campania Region and granted on loan for free use and service to the Foundation Donnaregina born the previous year with the intent to promote the art and culture of Campania. Following the renovation of the property designed by the architect Siza, was officially born the Museum of Contemporary Art Donna REGINA (MADRE) with the opening of the exhibition wing devoted to the permanent collection of works made specifically for the environments from the most famous contemporary international artists. After the opening of the stands "site-specific" in the halls of the first floor,



3_Mimmo Paladino, Untitled, sculpture at the roof garden of the museum. Madre, Napoli 2006

between 2005 and 2006 the whole building was completed, with the opening to the public of the rooms on the second floor, which houses part of the collection, and those of the third floor designed for temporary exhibitions. The architectural project mainly involved the demolition of all the additions made over the years in respect of the original environment and materials. The Portuguese architect has initiated a precise work of "subtraction" eliminating modern additions that had distorted the historical identity of the building, restoring and enhancing the beauty of the environment and of the original building materials. The main intervention involved the demolition of the building volume of reinforced concrete, built in the early '900 in the yard on the side of Donnaregina Church, freeing the old facade of the building and the large central courtyard onto which overlooks the exhibition halls and allowing again eye contact with the church in front. Basically, then, the renovation and expansion of the Palace Donnaregina rooms were based on the elegance and the cleanliness of contemporary compositional current, without denying the existence of the surrounding historical buildings that instead are "embedded" in the project being part of it at all respects. The exhibition rooms, as said, are arranged around the inner courtyard on three sides of the building overlooking on Via Loffredi, pawnbroker's courtyard and Vico Donnaregina. In the block that overlooks Via Settembrini they are located the services: the ticket office on the ground floor, the Library on the first floor, the Bookshop on the second floor and the administration at the third. The visit to the museum ends on the fourth floor where a panoramic terrace offers to the visitor, among a work of art and another who are present here, an incredible view of the old city center with Vesuvius and the sea in the background. The museum is conceived as a multi-purpose equipment that meets the criteria of use of a city space to also be lived out of the museum functions. In addition to the purely exhibition in fact there is an auditorium/multipurpose room, a bookshop, a library, educational workshops, an educational area for children and a cafe with adjoining restaurant, for a total of 7200 square meters of coverage. What in fact makes the Madre a powerful attractor, are the ongoing initiatives, the evening events, the many permanent and temporary exhibitions and finally the collaboration with organizations and educational and cultural institutions.



4_Daniel Buren, Axer/Désaxer. Madre, Napoli 2015

The Madre Museum has undoubtedly played a major role also for the urban redevelopment of the city. Surely the will to redevelop Donnaregina Palace is part of a wider program of redefinition of the tourism in such a central neighborhood as overshadowed by the logic of local politics. His presence has therefore been an opportunity to redesign the tourist vocation of a district rich of social values to be recovered and of cultural heritage to be rediscovered. The foundation of the museum worked as a driver for a process of recovery of the whole area and represents the culmination of the recent path of general upgrading of the city, which has seen a succession over time various projects, including the installations of Piazza del Plebiscito, the great exhibitions at the Archaeological Museum and at Sant'Elmo Castle and the birth of Pan, a documentation center for the visual arts. The Madre still remains mainly an important functional and modern space to house contemporary art events. Inside it finds place a rich permanent collection of twentieth century works and has a great yard for the exposure of large installations. Many of the stored works have been exclusively created for the neapolitan museum, just think of the environments of the collections by Domenico Bianchi, Luciano Fabro, Francesco Clemente, Jeff Koons, Mimmo Paladino, Anish Kapoor, Jannis Kounellis, Giulio Paolini, Rebecca Horn, Sol Lewitt, Richard Serra and Richard Long, that as part of the permanent collection of the museum are the real fulcrum of the system itself.

Are about a hundred the works of great historical interest, granted on loan at indefinite time from Italian and foreign collectors (Sonnabend in New York, Esposito of Naples, Stein Milan, Burri and Enea Righi among them), representing the most significant moments of artistic language of the twentieth century, from the fifties until the end of the nineties. With the MADRE, Naples enhances the fundamental role of contemporary languages, as artistic experiments inseparable from social models and pure expression of time in which we live. Right in the heart of the Neapolitan folk life are worth highlighting the most innovative installations and the masterpieces of the most distinguished protagonists of our century.



5_Installation art by Perino & Vele

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THE SANCTUARY OF “MARIA SANTISSIMA AD ROTAM MONTIUM” IN LEPORANO (CASERTA): ITS HISTORY AND ARCHAEOLOGY

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1. History.

“Today, Leporano is a widely-known place of worship. Our sweet Lady of the Mountains is a bright guiding star and a means of constant attraction. Its ancient building has dominated the rocky hilltop for centuries situated among the timeless, fragrant, surrounding green mountains, which are always beautiful and inviting whether under the sun or under the rain” (translation taken from: LA MADONNA DEI MONTI IN LEPORANO 1980).

In 1980, by means of these very evocative words, the Sanctuary dedicated to “Maria Santissima ad Rotam Montium” was celebrated; this was a real and proper symbol representing Leporano, a small hamlet of the municipality of Camigliano, renowned throughout the province of Caserta above all for the presence of this sacred location.

The Sanctuary of “Maria Santissima ad Rotam Montium”, rises on the slopes of a hill (160 m above sea level) to which one can arrive, from the hamlet of Leporano, by following a steep road, characterised by hairpin turns studded with modern structures. The religious building, almost entirely surrounded by mountains, which must have inspired the name of the place itself, with its tuff stone architecture overlooks the entire territory of Camigliano, establishing a point of reference for those who arrive from the plain below (fig. 1).

Studies on the Sanctuary have been carried out thanks to authors mainly from the local area, in particular, the canon Pietro Carosone (CAROSONE 1813-1855), which recall the most ancient information transmitted from sources, mostly dating back to the late-medieval era, a period which a Marian shrine dates back to and around which the Sanctuary was built, incorporating part of it (BONACCI 1964; CENNAME 1987; DI BERNARDO 1997).

According to sources, the primitive construction of the Sanctuary should date back to the second half of the 14th century: in fact, a church called “S. Maria ad Rotam in Lourano” was already mentioned in documents dated 1370, while a reconstruction of the façade and therefore an extension of the structure was definitely carried out in 1577, as is confirmed by an inscription engraved on the portal of the religious building.



Fig. 1. The Sanctuary of "Maria Santissima ad Rotam Montium" in Leporano: The Sanctuary as seen from the plain below (© M. DI NIOLA).



Fig. 2. The Sanctuary of "Maria Santissima ad Rotam Montium" in Leporano: The Sanctuary as seen from the plain below (© M. DI NIOLA).

However, the attendance of the Sanctuary was destined to change three centuries later: in fact, the requests put forward by the inhabitants of Leporano to have a place of worship in the centre of the village resulted in the new Church of Leporano being built in the hamlet square and this was consecrated in 1877 and was given the same name as the Sanctuary; at a later date it was abandoned and subsequently re-consecrated in 1944.

The history of the original structure has never been forgotten: in fact, today, both the Sanctuary and the Church are closely linked; religious festivals and ceremonies, especially the main event which is celebrated every year after the Feast of the Assumption, are celebrated alternately between the two buildings which perpetuate the historical memory of the ancient, original sacred place, therefore establishing one, single environment.

2. The Sanctuary.

The Sanctuary, which has been restored several times, faces east, and its external walls have foundations made from stone and other salvaged materials with tuff stone elevations covered in plaster (fig. 2).

The building interior, covered with barrel vaults, has a rectangular plan (measuring approximately 22x8 metres), with a single nave and an apse at the bottom. It is characterised by two large windows on the south side and by a skylight on the main façade, which guarantee natural lighting.

The interior walls of the Sanctuary, covered with white plaster, are interrupted on the long sides by five niches on each side hosting several frescoes and paintings.

At the bottom of the building there is a small apse, believed to be the most ancient environment, which hosts the fresco portraying the Madonna and Child, dating back to approximately the 14th century and it is considered the emblem which represents the Sanctuary.

Its very dark piperno stone entrance portal is of considerable importance; it is characterised by embossed, decorated cornices and by finely carved jambs and doorframes as well as the presence of coats-of-arms on the eastern side (fig. 3). Columns with Corinthian capitals rise from these jambs which support



Fig. 3. The Sanctuary of "Maria Santissima ad Rotam Montium" in Leporano: The piperno stone portal (© M. DI NIOLA).

an architrave featuring an inscription celebrating the restoration and extension of the Sanctuary which took place in 577 and was commissioned by Don Orsini Riccio. Finally, there is the gable crowning the portal framing the coat-of-arms of the Archbishop of Capua Cesare Costa (fig. 3).

The exterior of the Sanctuary is currently bordered by a modern masonry wall with iron railings which encloses both the structure itself as well as a vast open space in front of it, characterised by benches to allow the worshippers to sit down during celebrations held outdoors during summer.

There is a quadrangular structure on the south side of the Sanctuary, adjoining the main building, bordered on the south side by a buttress and, immediately behind this, there is an adjacent bell tower built in tuff stone blocks (fig. 4).

The bell tower, which has a square plan and is approximately 25 m tall, is characterised by three floors with arch windows, on the walls of which there are three coats-of-arms and a marble inscription celebrating the works relating to the completion of the Sanctuary carried out at the expense of Don Vincenzo Marra (fig. 4). As regards the coats-of-arms, the central emblem is dedicated to Archbishop Gaetano Giordano D’Aragona (1447-1469), while the one situated on the western side represents the coat-of-arms of the princes of Leporano, Don Sergio and Francesco Muscettola (1633-1648).

Finally, from these coats-of-arms, the emblem which distinguishes itself from the others due to its considerable symbolic value, is the one which is believed to represent the community of Leporano, or rather, the coat-of-arms situated on the eastern side portraying two hares lying down yet facing each other, from which the origins of the etymology of Leporano derive, bearing the evocative and warning inscription “DORMIENTES VIGILANT” (fig. 4).

3. Archaeology.

The scarce information available regarding the Sanctuary of “Maria Santissima ad Rotam Montium, probably dates back to the first stages of the construction of the religious building in the late- medieval era; however, the presence of several salvaged materials in its external walls as well as the identification of a structure in the foundations of the current perimeter wall, make it possible to trace the first



Fig. 4. The Sanctuary of "Maria Santissima ad Rotam Montium" in Leporano. The southern side of the building: the bell tower (n. 1), details of the coat-of-arms-symbol of the community of Leporano (n. 2) and masonry walls (n. 3) portraying incorporated coats-of-arms and inscriptions (© M. DI NIOLA).

occupation of this area back to a more remote period of history, in particular to Roman times (DI NIOLA 2016).

In fact, in front of the entrance to the Sanctuary, there is a vast open concrete space bordered by a masonry walls with iron railings, the foundations of which rest on the remains of a structure dating back to Roman times (fig. 5). This is buried underground until it reaches the base of the vault and is made from Roman concrete (*opus incertum*) with limestone waste and walls which have been preserved for approximately 10 m of their total length and 2 m of their total height; the grade plane of a wall rises above this, built using the same construction technique and has been preserved up to a maximum height of approximately 1.50 m, with a recess of about 1 m when compared to the rest of the environment.

Moreover, the occupation of the area during Roman times can also be deduced thanks to other elements. In fact, along the road side, opposite the entrance to the Sanctuary, it is still possible to observe material dating back to this era emerging at ground level: tile fragments, black-glazed pottery as well as fragments of large terracotta-tiled concrete floorings; other similar fragments, flat and curved roof tiles have been re-used in the lower portions of the Sanctuary walls, clearly visible especially on the southern side of the same (fig. 5).

Therefore, studies of an archaeological nature make it possible to suppose that the Sanctuary of Leporano was presumably built upon a structure dating back to Roman times, which could have possibly been a villa or a religious building, the substructions of which consisted of the vaulted environment, the nature of which, appears however, to be difficult to identify due to the fact that they are buried deep underground.

Today, only a small part of this structure can be seen, as mentioned by local scholar Emanuele Romeo in an article published in the 1980s (ROMEO 1989) as well as by many oral sources; this was clearly visible up to a few decades ago when, a large amount of soil was obliterated while work was being carried out on the exterior of the Sanctuary, which, in fact, wiped out the memory of such an archaeological treasure.



Fig. 5. The Sanctuary of “Maria Santissima ad Rotam Montium” in Leporano: The underground environment buried under Roman concrete (opus incertum) (n. 1), concrete flooring and structural materials (n° 2-3) incorporated into the lower walls of the Sanctuary (© M. DI NIOLA).

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THE BASILICAL COMPLEX OF CIMITILE BETWEEN KNOWLEDGE AND ENHANCEMENT

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1. The basilical complex of Cimitile, in the northeast of Naples, is constituted by various buildings of cult, devoted to the saints Felice, Stephen, Thomas, Calionio, John, Martyrs and Madonna of Angels. It rose between II and III century A.D. as sepulchral site of Nola, consular and imperial town [1]. Among the mausoleums of the pagan necropolis, was buried St. Felice. Shepherd and spiritual guide of the Christian community of Nola, when he died, the people of Nola buried him in the necropolis of the city [2]. The complex reached its maximum shine toward the end of the century IV thanks to the work and the culture of Paolinus (354-431), which gave a great incentive to the cult of St. Felice. A few times later, the revered tomb, along with two adjacent graves, was enclosed in a mausoleum. The burial of St. Felice immediately attracted numerous believers, so much that, after the 313 A.D. religious peace, around the mausoleum it was built a church, from which begot the famous sanctuary [3]. Protected by a plate of marble in which they opened two holes destined to the introduction of fragrant essences, the grave was delimited by marmoreal gates (fig. 1). Between 401 and 403 Paolinus of Nola built north of St. Felice's church a new basilica [4] gifted, besides, of a rich flooring in opus sectile [5]. Damaged by a disastrous flood to the beginnings of VI century, the sanctuary returned well soon to the normalcy [6].

2. A big project of restauration and excavation has interested the archaeological area at the end of last century, allowing the acquisition of new important data on the articulated stratification [7]. Only in 1890 the Ministry of Education restored the basilica of St. Felice, while a new intervention, that affected the bell tower, was urged and personally followed in 1903 by Gaetano Peluso [8], inspector of monuments of Cimitile and Mayor of the city. In 1931 the superintendent Gino Chierici began excavation and restoration works; the archaeological investigations were halted until 1954, when Chierici again shooting to take care of Cimitile, without stopping until his death in 1961 [9] (fig. 2). His death left unfinished the publication of the results of investigations, since, for over twenty years, we lost the traces of excavation and documentation. This circumstance has caused serious damages to the knowledge of Cimitile's complex, so only in recent years, the publication of a part of the documentation allowed a re-



Fig. 1 - Aedicula with mosaics built around the tombs of saints Felice and Paolinus (ph. Iolanda Donnarumma).



Fig. 2 - Gino Chierici (third from left) with his collaborators in the Fifties the last century (EBANISTA 2015, fig. 21).

sumption of study [10]. The same thing happened to the excavations conducted by the Superintendent of Monuments, between 1963 and 1967, in St. Thomas and St. Stephen basilicas; in this case the recovery of archaeological data was possible by the help of Vincenzo Mercogliano, who worked many years with Chierici [11]. In 1988-1989 and 1999 under the direction of Letizia Pani Ermini, Valeria Sampaolo and Giuseppe Vecchio of the Archaeological Superintendency of Naples and Caserta were conducted excavations [12] which represented a reversal of the excavations of the '30 and '50 of XX century, since they have allowed to draw useful data to the knowledge of the history of the complex and its transformations. As part of a urban renewal project, between July and October 2015 the City of Cimitile, in agreement with the Archaeological Superintendency of Campania, began new excavations supervised by Carlo Ebanista, full professor at UNIMOL, in including space between the right aisle of the basilica nova and the presbytery of the church of St. Felix, built near in the late eighteenth century [13].

3. Long remained closed to the public, in the Jubilee of 2000, the creation of the archaeological park and the necessary service infrastructure covers the construction of the Antiquarium in Basilica of St. Felice, where they were exposed, after careful restoration, artifacts documenting all building phases from the age of the Roman complex at the beginning Nineteenth [14]. These actions constitute a significant reversal since the long period of closure to the public that have determined, in addition to the devaluation of the religious character of the monumental complex, the abandonment of the factories and serious difficulties in accessing places. Since 2000, thanks to Cimitile City Administration, that provided the custodial staff, has published a guide of the archaeological site [15] and finally has opened it to the public; despite the Antiquarian is yet only occasionally visited, the complex attracts a large audience constituted not only by researchers, so it seems to have been triggered a propitious circuit that always leads more foreigners to learn about the past of Campania and the southern population to regain possession of their own history. The framework of knowledge will further improve, if it will complete the publication of materials found in recent excavations and will proceed to the systematic study of finds,



Fig. 3 - Cimitile. A debate on issues raised during the sixth Conference Territory and settlements between Late Antiquity and Middle Ages (ph. Iolanda Donnarumma).

so that given the possibility that the complex offers researchers to analyze the transition from Late Antiquity and Middle Ages. For this purpose, since 2008 the Foundation Prize Cimitile, in agreement with the City of Cimitile and the Arts and Cultural Heritage Department of the Second University of Naples and Humanities and Social and Education department of the University of Molise, has organized conferences on Late Antiquity and the Middle Ages with the dual objective of bringing Cimitile attention of the world of scholars and to create a forum to debate the issues in post-classical archeology in order to better understand the context in the complex of Cimitile which arose and developed [16] (fig. 3). The Conventions have seen during the various editions attended by nearly a hundred researchers from Universities, Museum, Academies and Italian, European and American Cultural Institutions. Their interventions have made it possible to re-read in the light of new researches and innovative methodologies topics and known archaeological sites, but also to present unpublished data. The vastness of the investigated territories, echoes the variety of topics, ranging from archeology, linguistics, history, numismatics, epigraphy and history of art, as well as a valid means for the revival of basilical complex of Cimitile in the national and international scientific scene.

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VIRTUAL ARCHITECTURE: 3D REPRESENTATION IN ARCHEOLOGY - A NEW APPROACH TO THE PRESENTATION OF ANCIENT ARCHITECTURE

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Reconstruction based on studies, drawings, plans and literature credited along with a reworking scientific suitable to increase the three-dimensional realism. Especially the lighting simulation of light will be assisted by the latest technologies that embrace the techniques of photon mapping, Importons and Irradiance Particles from the latest discoveries in the field of simulation of materials using the calculation algorithm called BRDF (bidirectional reflectance distribution function) with regard to the reflections of the surfaces.

Lighting simulation is processed by one of the houses of hardware and software world's most famous: NVIDIA

As the world leader in visual computing, NVIDIA constantly advances visualization by developing rendering technologies that leverage the most advanced GPU architectures and compute languages.

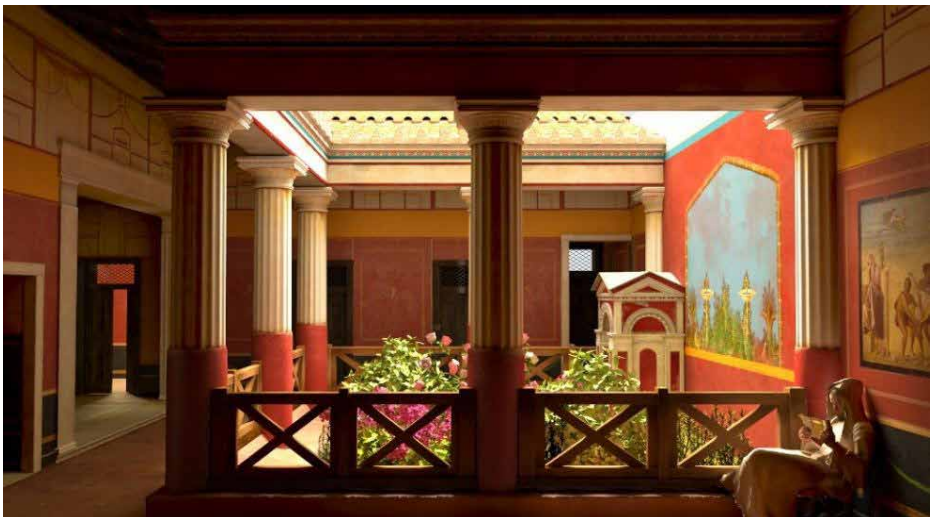
NVIDIA solutions range from the underlying technologies for building or accelerating custom rendering applications, to complete rendering solutions shipping within leading 3D design and entertainment applications.

NVIDIA Iray is a highly interactive and intuitive physically based rendering technology that generates photorealistic imagery by simulating the physical behavior of light and materials. Unlike traditional production renderers, Iray delivers results reflecting real-world behaviors. Designers don't need expert knowledge of computer graphics techniques to quickly achieve photorealistic results.

Iray progressively refines its image until completion, providing consistent results from interactive editing to final frame. It's a highly predictive approach that marries with the scalable, world-class performance across NVIDIA GPUs to give constant feedback and rapid results. This slashes the time needed to perfect scenes and deliver images rivaling photographs.

Iray is a high-performance, global illumination rendering technology that generates imagery by simulating the physical behavior of light interaction with surfaces and volumes. Images are progressively refined to provide full global illumination including caustics, sun studies, and luminance distributions.

Global Illumination works from light sources that emit photons into the scene, bouncing them around to deposit indirect illumination on the surfaces they strike. This illumination is typically cleaned up using Final Gather and then combined with direct illumination and surface finishes to produce a final render. I



find that Global Illumination is essential for most interior scenes and is not generally as useful for exterior scenes. Exterior scenes that use Final Gather with a daylight system often produce great results without adding Global Illumination. That said, Global Illumination can be effective for specific outdoor scenes and can greatly boost illumination, as I cover later in this chapter. Final Gather was first used as a cleanup mode for Global Illumination, eliminating the need for exceptionally high settings for photons and removing noise from the Global Illumination solution. Although Final Gather has improved greatly over the years, the combination of Global Illumination with Final Gather often produces the best results with the least amount of render time.

The photons for Global Illumination and Caustics are two-dimensional points in 3D space and are bundles of red, green, and blue (RGB) light energy emitted from a light source. Each photon carries only a portion of the energy from a light source; the total RGB color energy of each light is divided by the number of photons emitted by that light. Brighter lights in a scene emit more photons than dimmer lights to help even out the Global Illumination solution. This way each photon has a more similar weight and a more even distribution. Photons are reflected off diffuse surfaces in your scene, transporting color energy from surface to surface. The photon method of producing indirect illumination is closer to what occurs in nature, and photons can trace through reflections, can bend through refractions, and are absorbed and reflected by surfaces in a scene. A diffuse surface, however, is required for a photon to have an effect on that surface, because mirrored and transparent surfaces will reflect or refract a photon and not store the photon's energy.

There are two diagnostics modes for Global Illumination: Photon Density and Irradiance. They each produce color images with blue, cyan, green, yellow, and red, and each color represents a different quantity of photons or value for irradiance. On the blue end of the spectrum, the value is always zero photons or irradiance. The value of each color is determined by mental ray and is shown in the Render Message window. Prior to rendering a scene, you must first enable messages by selecting Customize Preferences, going to the Rendering tab, and selecting the Show/Log options. Then open the Render Message window.



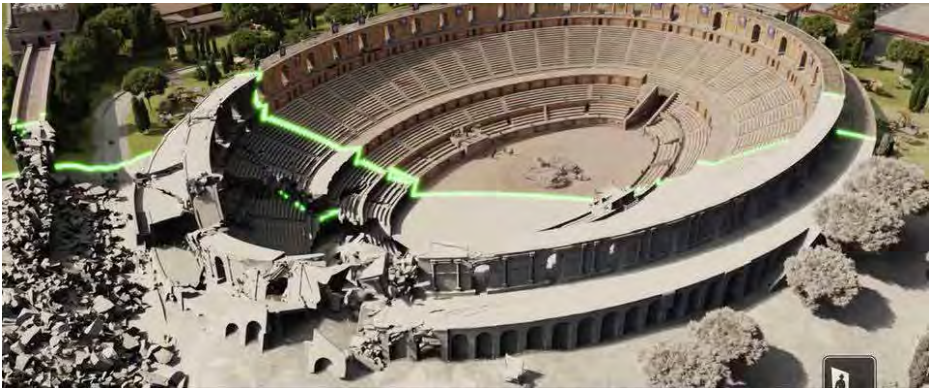
Photon Density Photon Density is a representation of your scene with colors ranging from dark blue at the lowest photon density to cyan, green, yellow, and red, with each progressively “hotter” color representing a relatively higher density. The Photon Density diagnostics mode is useful for identifying the overall coverage of photons in your scene and helps determine whether adjustments need to be made to photon quantity to ensure all surfaces have an even coverage in photons. The left side of Figure shows Photon Density, and in this case Blue is 0 photons, Cyan is 591 photons, Green is 1183 photons, Yellow is 1775 photons, and Red represents 2367 photons, which is the maximum density in this rendering of half the Sponza image.

Irradiance Irradiance is defined as the “area density of flux” and is measured in watts per meter squared (W/m^2). This diagnostics mode shows the relative brightness of the stored photons in the same color scheme as Photon Density. On the right side of Figure, Blue is 0 irradiance, Cyan is 4949 W/m^2 , Green is 9918 W/m^2 , Yellow is 14878 W/m^2 , and Red is 19837 W/m^2 , as read from the Render Message dialog box. It only displays the irradiance of the photons and not direct illumination or Final Gather.

The color chart values display within the Render Message dialog box. Rendering a smaller area of the same view or a different view generates a different color scale for the values, because a different region might have a different maximum range.

Importons and Irradiance Particles are two relatively new indirect illumination technologies in mental ray. The term Importons is short for “importance photons” and is a technology that minimizes Global Illumination data based on how important a rendered area is to the illumination of the final image. Importons allow you to emit more photons into your scene; they keep just the photons you need for your image to reduce the memory requirements that high photon numbers might require.

Importons also work with the next technology, Irradiance Particles. Unlike the other indirect illumination technologies, irradiance particles calculate direct and indirect illumination for every particle. Importons determine the placement of irradiance particles on surfaces in your scene, ensuring that irradiance particles



are placed along the most important regions of your image. Irradiance particles can replace Final Gather and Global Illumination for use in scenes, and they produce faster and higher-quality renders in many cases. Irradiance particles have a set of parameters similar to Final Gather, and they can produce image-based lighting effects that include shadows.

Both importons and irradiance particles are evolving technologies and continue to improve with each release of 3ds Max and mental ray.

Importons are “importance-driven” photons used to clean up and optimize Global Illumination in your scene and to define where mental ray stores irradiance particles. Like Global Illumination photons, importons are distributed throughout your scene by bouncing from surface to surface; however, unlike Global Illumination and Caustic photons, importons do not distribute light energy and are emitted from cameras instead of light sources. Rather than transferring light energy, importons measure how visible a surface is in the final image and how the illumination at a point contributes to the final image. Objects shown in a reflection, for instance, would receive less importance — and less attention at render time — based on its visibility within the reflection.

Less important areas have their photons merged in varying amounts depending on their contribution to the image. Merging photons transfers the illumination from the merged photons into the remaining photon, and energy is never lost. This intelligent merging helps improve the quality and smoothness of the Global Illumination solution and greatly reduces the memory requirements because fewer photons are stored. The PMAP file size will be a small percentage of the size it would be without importons, and although the new PMAP size depends a lot on the content of your visible scene, file reductions of 90 percent or more are common.

Rendering with importons adds another preprocessing phase to the rendering of your image which happens before Global Illumination photons are emitted from light sources or before irradiance particles are generated. There are no visual diagnostics modes for importons because they are discarded right after they are used by Global Illumination or irradiance particles; however, you can see the end result they have on Global Illumination with the Global Illumination



visual diagnostics modes. As with Global Illumination calculation, with importons creation, there is no visual feedback to the user beyond what is visible in the Render Message dialog box. 3ds Max/ Design displays the “Current Task: xx.x% Rendering” status in the Rendering status dialog box as importons are emitted and importance calculated.

Other software capable of achieving highly realistic representations is Maxwell by Next Limit Team.

Maxwell Render is a standalone render engine for making perfect images, films and animations from 3D models. It is the complete solution for anyone who demands immaculate results on a deadline.

Offers maximum quality, speed, and compatibility for architects, designers and visual effects artists.

Maxwell Render is impeccably accurate, because its engine is based on the physics of real light - so this means predictable and beautiful results with a lot less tweaking.

The Maxwell Render camera is designed to work like a real camera so it is important to understand some photographic concepts. One is exposure, the other depth of field. Understanding these two concepts is a crucial first step towards your virtual photography with Maxwell and we recommend reading carefully through this page if you are not already familiar with them. If you're already an amateur or pro photographer then you will feel right at home with the Maxwell camera.

In Maxwell V3 we introduced the concept of material Types, which use a reduced set of intuitive parameters that greatly simplify and speed up the material creation process. These are the current simplified Types available:

- Metal (all kinds of metals)
- Opaque (any kind of opaque diffuse or shiny materials such as solid plastics, shiny wooden floors, concrete etc.)
- Transparent (all transparent glass and plastic materials which are not translucent - ie, they do not have sub surface scattering)
- Translucent (all transparent and semi-transparent materials which are translucent - plastics, marble, milk)

- Car paint (for creating multilayered paints such as metallic car paint)
- Cloth (useful for velvet, satin, and any other types of cloth)
- AGS (special transparent material useful for speeding up interior renders).
- Emitter (for creating light emitting materials and light projectors)
- Custom (this simply switches the material editor to the advanced version)

At the heart of the Maxwell material system is the BSDF (which stands for Bi-directional Scattering Distribution Function, - a set of algorithms that describe how light interacts with various material types). The BSDF contains all the parameters needed to create many different types of materials, ranging from clear glass to sandblasted glass, plastics, metals and translucent materials such as skin, porcelain, and wax. The most simple materials are created with one single BSDF, while others are a mix of several BSDFs, or even several Layers containing several BSDFs.

The next step to the description of the project is the implementation of the work in an archaeological context plausible with extremely realistic by adding plants typical of the place and the climate of the place. A generic software for modeling realistic vegetation, for example SpeedTrees or , is ideal for creating realistic foliage in architectural visualization projects, delivering fast procedural modeling and rendering of a vast range of highly detailed animated trees and plants. SpeedTree is a powerful toolkit used to create 3D animated plants and trees for games, animations, visual effects and more.

Easily export cached SpeedTree models into the open Alembic framework (.abc) for exchanging animated scene data with popular platforms like Maya, Houdini and 3dsmax.

Of high importance is the presence of objects, tools and all the tools accredited by written evidence that framed the environment giving a sense of lived and permeated the scenes of daily life.

The software suggested for this type of analysis and creation are:

a) Generic software of polygon modeling that supports the subdivision mesh (OpenSubdiv) uses advanced software technology from Pixar for modeling and animating subdivision surfaces on massively parallel CPU and GPU architectures.

b) Generic software that is specialized in the simulation of the tissues, for example Marvelous Designer

The software of choice for the kind of modeling in high detail is 3dsmax for this proposal.

The complete three-dimensional model will be developed on two types of multimedia platforms, the first, light usable mainly on portable devices such as phones and tablets equipped with GPS, accelerometer and gyroscope. The second usable on professional platforms equipped with adequate hardware sector to ensure a more effective experience exploratory virtual archeology. Platforms suggested for this purpose are respectively Unity 3D and Unreal Engine.

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SAN PIETRO AD MONTES' ABBEY: AN ITALIAN PARTICULAR CASE OF SACRED STRUCTURE

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In Caserta territory, not far from the heart of the ancient and modern city, stands the medieval abbey of San Pietro ad Montes, today closed to the public and opened only in rare occasions. The last opening for liturgical celebration happened on 20th March 2016, in occasion of the Palm Sunday, and for guided visits from 22nd to 25th April during the event "San Rufo rinasce. San Rufo porte aperte". San Pietro ad Montes can be considered an Italian particular case of sacred structure for several reasons linked to its troubled history and its unclear management. This paper, referred to 2016, wants to remember the historical and artistic significance of this abbey and take stock of the conservative situation.

History, art and conservation

In the 11th century the Benedictine action was very strong under the abbot Desiderio of Montecassino (then pope Vittore III) [1]. The Benedictine abbey of San Pietro ad Montes, in fact, presents architectural and artistic features very similar to the basilica of Sant'Angelo in Formis (1072-1087 approx.) [2] near Capua, rebuilt by Desiderio's will. Therefore, the original abbey of San Pietro ad Montes is dated between the last thirty years of the 11th century and the first decades of the 12th century. It lived a great splendour during the initial period of its existence, but after it was gradually obfuscated by many events have occurred over time: e.g. the institution of "Commenda" (1435), the declaration of "Regio Patronato" (1793) with the assignment of its income to San Leucio Tax Office and the suppression of the religious institutions (1866). During the last century the situation didn't improve because its places were used by Cassino's displaced people (II World War), who damaged the complex causing a great state of degradation [3, 4].

San Pietro ad Montes is located on the eastern slopes of Mount Virgo, in Piedimonte di Casolla, on the way which leads to Casertavecchia [5]. The first document in which the abbey seems to be mentioned is the Bull of Senne (1113), a very important act for the Diocese of Caserta [6]. The historical reconstruction of the complex isn't simple because the loss of the archive doesn't allow a clear description. One of the principal problem concerned its edification on an ancient



Fig. 1: S. Pietro ad Montes-inside the church.
Zoom on the different reused capitals and columns.

temple dedicated to Jupiter Tifatino [7, 8, 9], but the studies demonstrated that the ruins of the Jupiter temple are located on the southern slopes of Mount Tifata, precisely in San Prisco [10, 11].

The abbey is composed by a church with a monastery. The church is a basilica with three naves which finish in three apses without transept like in Sant'Angelo in Formis. This architectural model had great luck in Campania in that period, evoking some of the most important features of the early Christian architecture. In San Pietro ad Montes, the central nave is higher, larger and has seven single-curve windows on the sides, while the aisles have six single-curve windows. The separation among naves is highlighted by twelve columns on which the seven spans weight discharges through round arches. One of the peculiarity of the abbey is the presence of reused material coming from an ancient building/temple: in fact the different columns and capitals were put symmetrically to give a concept of greater order (Fig. 1). Another peculiarity is the inclined plane of the church which fits to the slope of mountain [9, 12, 13].

In front of the church there is a porch dated to the 13th century, covered by five cross vaults, to which we can access thanks to marble steps. The façade of the porch is characterized by a succession of three round arches putting on Greek cross pillars in edged masonry of terracotta and tuff (until the nineteenth century, there were two granite columns with Corinthian capitals) [9, 13]. On the left of the porch there is a little bell tower without bell and at the top there is a thin cross on a little tympanum. From the courtyard is visible the original façade of the church, characterized by a great fronton put on the central nave with three single-curve windows and sloping roof on the aisles (Fig. 2).

San Pietro ad Montes has a square bell tower detached by the church (like in Sant'Angelo in Formis), that is located near the right apse. The historiography supposed the defence purpose of this tower, which controlled the way to the ancient city and where only in a second moment the bells were added [9]. The bell tower, according to the academics, could be dated in the first half of the 12th century for the presence of a small arches decoration that divided the floors, very similar to the outside decoration of Casertavecchia's cathedral [14]. Currently it's in a deep state of degradation: from the air view we can see the



Fig. 2: Façade of S. Pietro ad Montes from courtyard.
Zoom on the frescoes and portal.

lack of the roof and the loss of the last floor, but is visible the overhead position than the church (Fig. 3).

The monastery of San Pietro ad Montes was initially located at a lower level than the church (as shown in the Pacichelli's view [15]) and delimited by a wall. Today, the monastery closes the façade of the church in a courtyard: these three buildings have probably had a bigger luck than the church because the complex is recently used as a semi-residential therapeutic centre for the fight against drug addiction "Associazione Centro Le Ali Onlus".

The access to the complex is located between the abbey and monastery and presents a frescoed lunette in bad state of conservation (Fig. 4). There are other frescoes in the same state of degradation inside the church, on the façade under the porch and on the lunette of the portal. The frescoes, inside the basilica, represent sacred scenes: a lost Last Judgment, Saints' figures, a Crucifixion and three scenes of Madonna in Throne with Child and Saints (Fig. 5). They are considered to be made by Campanian-Byzantine workers and are very close to the frescoes in Sant'Angelo in Formis [9, 12, 16], but the dating could go as far as the fifteenth century for some of them.

The last restoration activities solidified the current wood roof of the church, substituted the ancient floor, tried to remove all of additions not original, reinforced the structure and restored the frescoes [3, 9]. Thanks to an investigation of the "Società Italiana Biotecnologie", we can know the state of microclimate in the church through a hourly hygrosopic mensuration. Furthermore, non-destructive samples have been done in six degraded frescoes sections to determinate the presence of microbial patina and sections vulnerable to microbial contamination. The results of these investigations have demonstrate that now the most important damages are caused by microbial contamination, above all in the southwest section, in an area affected by greater degradation from moisture [16].

In the end, the inspection of San Pietro ad Montes has highlighted an improvement of general conditions of the monastery thanks to its semi-residential use and a certain attention to keep the conservative status quo of the church, both the frescoes and the structure. However, there is a marked crack at the top of in-



Fig. 3: Bell tower of S. Pietro ad Montes from the bottom.
Particular of the complex's view from the top.

ternal façade of the church and a general state of degradation of the porch, the outside access and the bell tower. In conclusion, we can affirm that the strange management of San Pietro ad Montes is at the same time a positive and negative aspect for its conservation, because it allows the general maintenance of the complex but there isn't a new restoration activity. Furthermore, because it isn't always opened to people, its fruition is increasingly difficult.

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Fig. 4: Lateral access to S. Pietro ad Montes, which leads into porch.
Zoom on the frescoed lunette.



Fig. 5: Frescoed wall on the right aisle.
Crucifixion at the top. Madonna with Child and Saints at the bottom.

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PRESERVATION AND ADAPTIVE REUSE IN BOSTON

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Adaptive reuse can take on many forms, ranging from preservation to restoration to renovation. Looking at Jamaica Plain in Boston, Massachusetts, this is apparent as a triple-decker, three-family residence was renovated into a single-family residence. Boston is one of America's historic cities, established in 1630 and situated on the Atlantic seaboard. It not only played a central role in American history, but went on to become a political, commercial, financial, religious and educational center of New England. Regarding its preservation history, Boston has two major success stories of preservation and adaptive reuse. The Old South Meeting House, located in the historic center of the city was preserved in the late 1800s, following local efforts. (Tomlan, Michael A. with contributions by David Listokin, 9) Faneuil Hall, another historic structure in Boston, is considered to be one of the earliest examples of adaptive reuse. Jamaica Plain's House Renovation project, completed by Intadesign, is an example of a renovation project, in which the object is made to look like new. (http://www.conservation-design.com/newsletter1_BA.html) This definition is essentially limitless in the scope of the project, as it does not place restrictions on the extent to which changes can be made.

As a suburb of Boston, Jamaica Plain is at a distance from the city's nine historic districts, which are primarily clustered together by the historic city center settlement. Though Boston has these historic districts as well as individual landmarked buildings, Jamaica Plain is neither a historic district and neither are a majority of the historic homes in the suburb landmarked.

Jamaica Plain, or "JP" as it is known locally, is a classic "streetcar suburb" that evolved into one a diverse and dynamic neighborhood. (<http://www.city-of-boston.gov/neighborhoods/jamaicaplain.asp>) The suburb was established as early as 1639 and was not initially a part of Boston because of the lack of connectivity between the city and the suburb. (http://www.thisoldhouse.com/toh/photos/0,,20569038_21121341,00.html) With the development of the streetcar during the 1800s, connectivity between Jamaica Plain and Boston was made available. The streetcar led to the booming of Jamaica Plain, both in terms of population and residences. The growing population would need to be housed, leading to the development of the three-decker / triple-decker typology. (<http://>



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www.cyburbia.org/forums/showthread.php?t=12050)

The three-decker was intended to house three families, one on each level, with one family owning the property renting out the other two residences. This system was intended to offset the cost of ownership, but it also encouraged a higher density. As these residences were built out of wood, and families were cramming into each story, the residences were considered to be fire hazards. (<http://www.cyburbia.org/forums/showthread.php?t=12050>) The square-footage of a single floor varied, depending on the issue of affordability for the owner. However, the homes in Jamaica Plain retained their three-story structure as it ensured that the house could be constructed in wood, as structures above four stories had a different construction method.

The exterior façade of these residences did not maintain a singular style for inspiration; however, some of the prominent styles seen are Greek Revival, Queen Anne, and Italianate. (<http://www.cyburbia.org/forums/showthread.php?t=12050>) The most prominent signifier for the residences are the stacked porches. The stacked porches ensured that each family, living on each floor had access to a private exterior space, though the placement of the porches is not consistent in the streetscape of the suburb. In some locations, a series of residences display the porch at the front façade of the house, in others the rear façade and in others at a corner of the residence. Just as the three-decker is an iconic typology so too are its porches, regardless of the positioning of porches on the façade,

One such house, from 1880, was brought to the attention of Intadesign, an Italian design firm with offices in Boston and Italy, for a renovation project. (<http://www.archdaily.com/582854/house-renovation-in-boston-intadesign>) The major purpose of the renovation was to convert the three-family residence into a single-family residence. This was a no holds barred project since the house was not landmarked and did not hold historic value in the form of any designation, even though it was more than 130 years old. This lack of landmarking or designation for the Jamaica Plain residence holds true for many other houses in this suburb.

The following quote by Intadesign showcases their design sensibilities. “By ex-



posing both old and new processes, the renovation reveals early building elements as it adds a contemporary layer through the application of new materials and new ways of using domestic space.” (<http://www.intadesign.it/>) In converting the three-family residence to a single-family residence, the programmatic elements had to be converted in order to develop spaces that would be suited to the needs of the family.

The space that shows the major element of change is the attic, with its dormer. In the rear elevation, the dormer which forms the attic space has been redesigned with the addition of the singular slant that expands the interior space. The form not only impacts the original interior space, but it also manipulates the visual of the form, from the exterior. Additionally, the porches have been removed, leaving behind a singular porch at the rear on the first floor. However, spaces have been added to the side of the house, in order to expand the square footage of the floors and increase the useable space.

This transformation of the interior and exterior spaces of the house benefits this project as there is an intention to make the house green. It also showcases the ability of the house to be converted outside of the high-density scenario it was intended for. Additionally, the material construction of the house was beneficial in the renovation process as it was reused in the redesign. In speaking about the materials that were found, the architects state “Layers of history were discovered throughout the process of gutting this late 19th-century New England home, including the imprints of wallpaper on the original plaster; various sizes and patterns of wooden flooring planks, and details of hand-hewn post and beam construction.” (<http://www.intadesign.it/>) Accordingly, much of these existing materials from the house and site were reused, with the old cobblestones found in the backyard reapplied to the landscaping. (<http://www.archdaily.com/582854/house-renovation-in-boston-intadesign>) The puddingstone that was reclaimed from the foundation and the larger site were reapplied in the gabion terraces. (<http://www.archdaily.com/582854/house-renovation-in-boston-intadesign>) Many of the materials interior materials were also reused for entirely new purposes. The wood that was found, used originally as floorboards and sheathing boards, would be reused as shelving and trim. This interplay of



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old materials enhances the new materials found in the house, supporting the design ideology of “exposing old and new processes”.

In speaking to their larger design ideology for all their projects, Intadesign’s architects Manuela Mariani and Sirietta Simoncini state “We treat every project as a potential benefactor to a sustainable environment.” (<http://www.intadesign.it/>) This is done through not only the material reuse but the way in which the spaces have changed to not only ventilate through front and rear apertures. The removal of the stacked porches opens up the rear façade, promoting the importance of operable windows, ventilating the interior of the space and promoting natural light. The added exterior space, and the interaction with the tree-line, is an attempt to limit the usage of the air conditioner in the summer.

Changes like these are key for historic homes as sometimes the homes are not eco-friendly but hold a high degree of livability. If this type of residence was in a historic district or was held in higher regard for its historic value, an adaptive reuse intervention of this extent would not have been possible. In a broader sense of adaptive reuse, you get an appealing structure that is livable. Nevertheless, this leaves behind a tension of which lenses do we select in considering adaptive reuse, is it only the holistic framework or a regulatory framework. This is a future battle to ensure that the benefits of adaptive reuse can be reaped, as done in this House Renovation by Intadesign.

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THE CITY AND ITS VOLCANO: REMOTE SENSING OF THE JULY 2016 LARGE FIRE IN VESUVIUS NATIONAL PARK

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Introduction

On 20 July 2016 a large fire stroke out in the Vesuvius National Park, nearby the city of Naples, Italy. The affected area covers a vast sector of the eastern side of the park. The event lasted three days, and received relevant coverage by the media.

Remote sensing is a viable tool for monitoring the environment and supporting local administrators and forest managers during and after a fire event. To show its potential, publicly available data acquired by scientific satellites were used to identify active fires and map burn area.

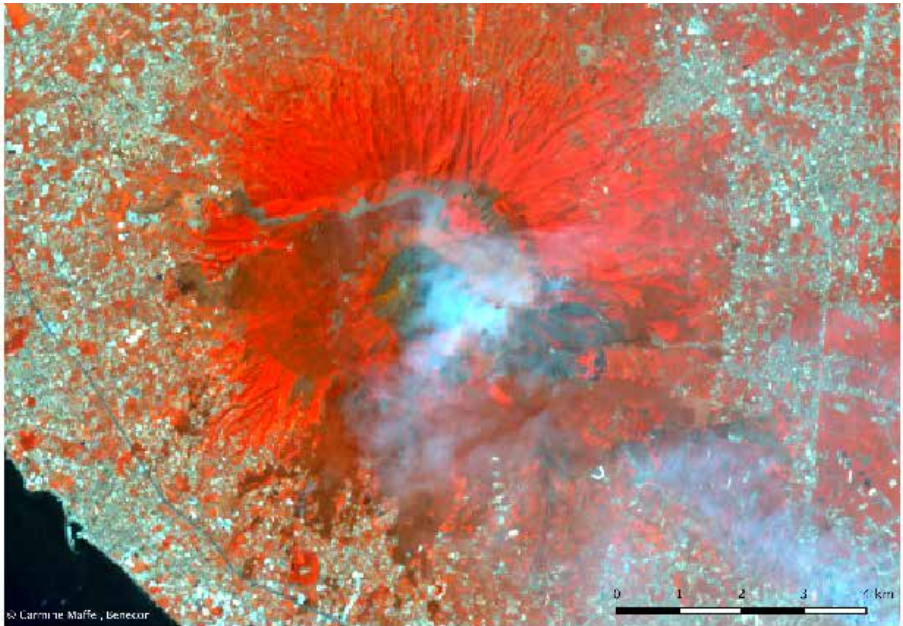
Land surface observation of forest fires with optical and thermal sensors

Remote Sensing is a scientific discipline where sensors and algorithms are used to measure the electromagnetic radiation reflected or emitted by the surface in specific wavelength ranges to infer at a distance physic and chemical properties of the observed objects.

Data produced by earth observation sensors can be conceptually described against corresponding characteristics of digital photographic cameras. The latter records radiation in the three primary colours blue, green and red, whereas a remote sensing instrument records radiation in a significantly higher number of channels and at wavelengths beyond the visible.

Daytime measurements in the 0.4-2.5 μm wavelengths range record the solar radiation reflected by the surface. This is usually referred to as the reflective or optical spectral range, and it is further subdivided into the intervals 0.4-0.7 μm (visible), 0.7-1.1 μm (near infrared) and 1.1-2.5 μm (shortwave infrared). Measurements in the near infrared are highly sensitive to the presence and health of vegetation, eventually allowing the detection of a burn scar. The smoke of an active fire is transparent in these wavelengths, whereas clouds are highly reflective, hindering the view of the underlying land.

At wavelengths between 5 and 15 μm reflected solar radiation is negligible as compared to the energy emitted by objects due to their own temperature. This range is referred to as the thermal infrared. Ambient temperature objects have their peak energy emission around 10 μm . Smoke is transparent in the thermal infrared, while clouds are not and are darker (colder) than the underlying surface.



NirGB false colour representation of Landsat 8 data acquired on 21/7/2016.

An active forest fire has a peak emission around 5 μm . Nevertheless, this emission is not negligible in the shortwave infrared, and can actually be quite strong, as compared to the reflection of solar radiation. This allows the detection of active fires using imaging sensors that do not acquire in the thermal infrared.

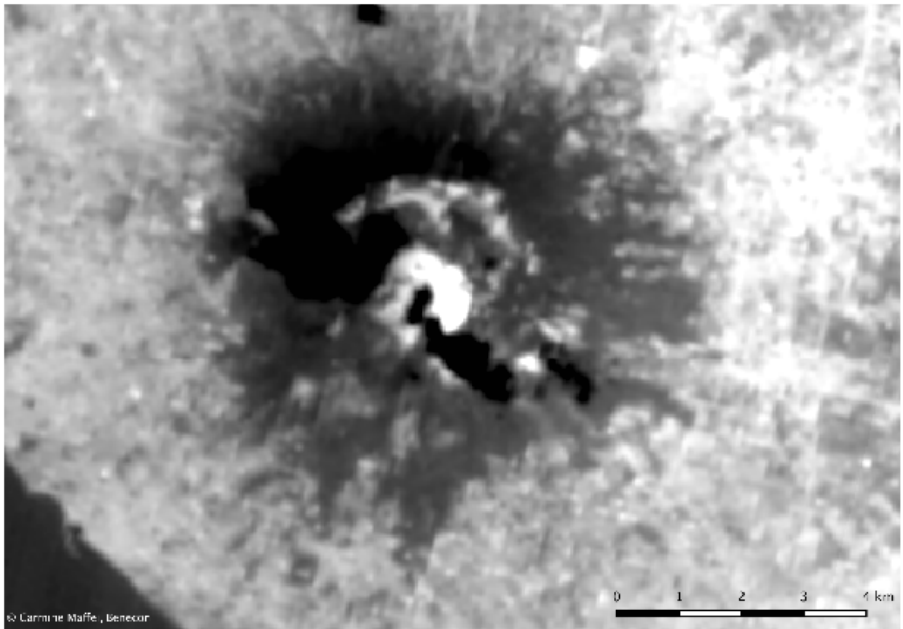
Back to the analogy with a digital camera, its resolution is the number of pixels of the optical sensor (e.g. 18 Mpix). The resolution of a remote sensing instrument is provided in metres, and is actually the ground sampling distance of the measurements. A resolution of 30 m means that the sensor records radiation from the surface every 30 m in both across and along directions. In a 30x30 m² pixel the sensor records the mean radiation of all the objects within that pixel.

The concept of resolution is relevant to understand the level of detail that can be achieved by a remote sensing instrument. As a rule of the thumb, the scale is 1 : 2 pixels in mm, i.e. a resolution of 30 m allows cartography at a scale of around 1:50000.

The resolution also affects the ability to detect active fires. If flames only cover a part of a pixel, it might be difficult to distinguish the presence of an active fire. This is particularly relevant when the sensor doesn't have any channel recording radiance at 5 μm , where pixel sensitivity to temperature variations due to fires is the highest. Indeed, the typical lower resolution of thermal bands has negative effects on fire detection. Nevertheless, the availability of shortwave infrared channels at higher resolution offers additional opportunities of identification.

Materials and methods

Remote sensing data used to monitor Vesuvius National Park large fire were recorded from the sensors/platforms in Table 1. All data were publicly available a few hours after satellite pass, i.e. during the event. Sentinel-2A is a satellite managed by the European Space Agency (ESA) under the European Union programme Copernicus (formerly Global Monitoring for Environment and Security, GMES). Landsat satellites are continuing a mission started in 1972 for the monitoring of the Earth resources. Due to a mechanical failure, images



from Landsat 7 show some missing lines.

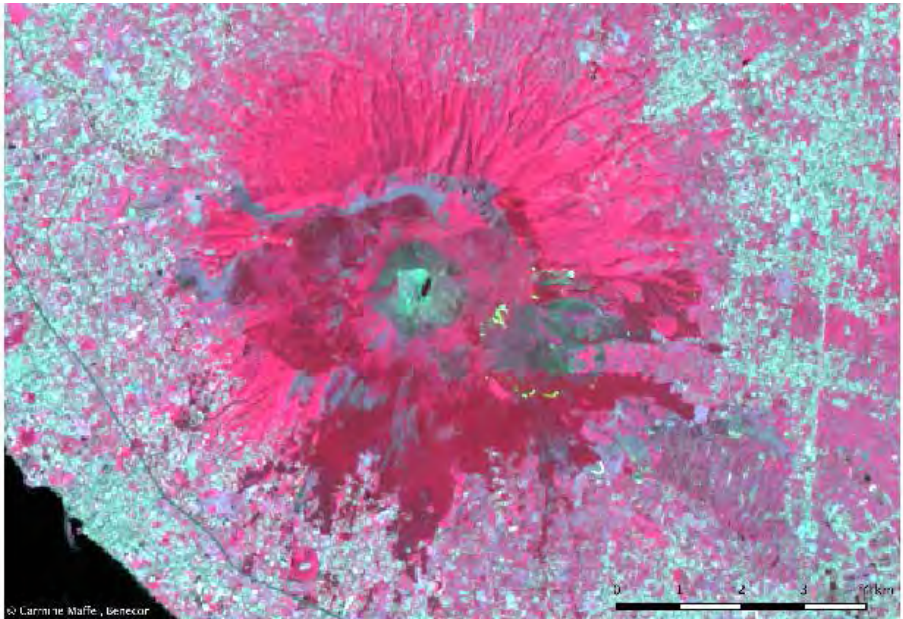
Table 1 _ Satellites and instruments used to map active fires and burn area.

Agency	Satellite	Sensor	No. of channels	Resolution
ESA (UE)	Sentinel-2A	MSI	13	10 m, 20 m, 60 m
NASA (USGS)	Landsat 7	ETM+	7	15 m, 30 m, 60 m
NASA (USGS)	Landsat 8	OLI, TIRS	11	15 m, 30 m, 100 m

The granules used in this project are listed in Table 2. A few other granules were available, but were not reported here due to clouds completely covering the area of interest. Analysed were based on false colour representations and digitisation in a geographic information system (GIS) environment. All processing was performed using open source software and open data formats; produced data respect the Open Geospatial Consortium (OGC) standards.

Table 2 _ Details of the granules used to map active fires and burn area.

Date	Time UTC	Local time	Satellite	Notes
5/7/16	9:41	11:41	Landsat 8	Clouds partially cover the area of interest.
5/7/16	20:46	22:46	Landsat 8	Clouds are present outside the area of interest.
12/7/16	9:47	11:47	Landsat-8	-
12/7/16	9:53	11:53	Sentinel-2A	-
13/7/16	9:43	11:43	Landsat-7	Some lines of missing data.
20/7/16	9:50	11:50	Landsat-7	Some lines of missing data; smoke is present.
21/7/16	9:41	11:41	Landsat-8	Smoke is present.
21/7/16	20:46	22:46	Landsat-8	-
22/7/16	9:53	11:53	Sentinel-2A	-
1/8/16	9:55	11:55	Sentinel-2A	Clouds partially cover the area of interest.



Shortwave infrared false colour representation of Landsat 8 data acquired on 21/7/2016.

Daytime observations in the near infrared

A false colour representation allows the visualisation of measurements performed at wavelengths other than the visible by using the red, green and blue primary colours. NirGB (near infrared, green, blue) representation couples measures in the near infrared, green and blue respectively with the red, green and blue dots of the display device, in such a way that vegetation appears in varying shades of red. Table 3 details the adopted correspondence between satellite channel and primary colour.

Figure 1 shows the NirGB representation of data acquired by Landsat 8 on 21 July. Smoke is clearly visible and can be distinguished from clouds since it is transparent in the infrared.

Table 3 _ Bands used for the NirGB false colour representation.

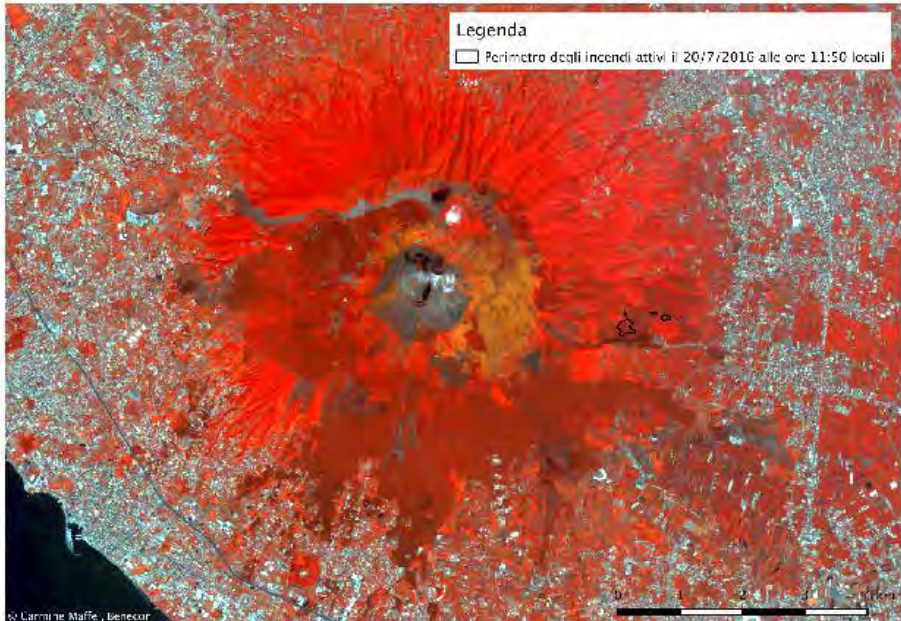
Satellite	Red	Green	Blue
Landsat 7	4	2	1
Landsat 8	5	3	2
Sentinel-2A	8	3	2

Daytime observations in the thermal infrared

Channel 6 of Landsat 7 and channel 11 of Landsat 8 (channel 2 of sensor TIRS) acquire radiation emitted by the surface around 11 μm . Figure 2 represents in a scale of greys thermal infrared measurements acquired by Landsat 8 on 5 July. Shades from the darkest to the brightest correspond to the brightness temperature. Clouds are usually dark, since they are colder than the land surface. Urban areas, naked soils and rocks are clearly warm while vegetation, thanks to transpiration, appears cooler.

Used individually, measurements at 11 μm do not allow a clear and unambiguous identification of active fires, since these have a peak emission around 5 μm . Indeed, only the thermal image acquired by Landsat 7 on 20 July clearly shows a possible fire near a smoke source, in an area where on 13 July no heat source could be detected.

Night-time observations in the thermal infrared



Perimeter of active fires recorded on 20/7/2016 at 11:50 local time. This data may be incomplete due to Landsat 7 striping. Base map: Sentinel-2A scene acquired on 12/7/2016.

Night-time thermal data show less contrast as compared to diurnal measurements, due to the lower temperatures of rocks and naked soils. On Landsat 8 data acquired on 21 July (Figure 3) the largest active fires are evident.

Daytime observation in the shortwave infrared

A different false colour representation of optical data can be used to highlight active fires by means of the measurements at 2.2 μm . By representing near infrared measurements in red, 2.2 μm measurements in green and 1.6 μm measurements in blue (Table 4), vegetation appears in shades of red, while active fires appear as shades of bright green.

Figure 4 shows the false colour representation of the Landsat 8 data acquired on 21/7/2016. Possible active fires are evident, as well as in Landsat 7 scene acquired on 20 July and in Sentinel-2A scene acquired on 22 July.

Table 4 _ Bands used for the shortwave infrared false colour representation.

Satellite	Red	Green	Blue
Landsat 7	4	7	5
Landsat 8	5	7	6
Sentinel-2A	8	12	11

Night-time observation in the shortwave infrared

Figure 5 shows, on a Bing Maps base and in shades from white to red, the areas in the 2.2 μm data acquired on the night of 21 July where recorded radiance was significantly higher than the background sensor noise. Optical sensors are designed for daytime measurements, so their sensitivity at night is inadequate. Nevertheless, a forest fire may emit enough radiant energy at night to be detected in the shortwave infrared.

It is interesting to observe the correspondence between the areas highlighted in Figure 5 and those significantly warm in Figure 3. It must be noted that, in the area of interest, no significant heat source was recorded in night-time Landsat 8 data on 5 July (not shown).

Perimeter of active fires and burn area

Basing on the considerations discussed herein, active fires could clearly be

identified in the datasets reported in Table 5, allowing the reconstruction of the temporal evolution of the event. The perimeters of the first three are reported in Figures 6, 7 and 8.

Table 5 _ Satellite imagery used for the identification of active fires.

Date	Time UTC	Local time	Satellite	Resolution at 2.2 μm
20/7/16	9:50	11:50	Landsat-7	30 m
21/7/16	9:41	11:41	Landsat-8	30 m
21/7/16	20:46	22:46	Landsat-8	30 m
22/7/16	9:53	11:53	Sentinel-2A	20 m

Burn area is usually identified by comparison of two images, before and after the event. The duration of the Mount Vesuvius fire allowed the evaluation of scenes acquired on 21 and 22 July against those of the same satellites acquired on 12 July (Table 6). Results are reported in Figures 9 and 10.

Table 6 _ Satellite imagery used for the identification of the burn area.

Date	Time UTC	Local time	Satellite	Resolution
12/7/16	9:47	11:47	Landsat-8	30 m
12/7/16	9:53	11:53	Sentinel-2A	10 m
21/7/16	9:41	11:41	Landsat-8	30 m
22/7/16	9:53	11:53	Sentinel-2A	10 m

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ECCLESIA SANCTAE CRUCIS HISTORY OF A GREEK-ORTHODOX CULT CHURCH IN MOLISE, ITALY

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Abstract

Santa Croce di Magliano is a little town of 5000 people in the Campobasso's province, placed 12-13 degrees east longitude and 41-42 degrees north latitude. It is located on a 600 m.s.m.l hill; on the oriental and highest side of the town, passes "l'Antico Tratturo", which from Celano led the shepherds to Foggia and which offers an excellent view of the entire Molise coast. "Detta montagna, Colonna affirms , è un contrafforte diretto da ponente a levante verso la costiera dell'adriatico, che va in tale direzione man mano digradando in un terreno alquanto ondulato, per poi segnare l'estremo lembo orientale della provincia di Campobasso, e cedere il posto alla vasta pianura della Capitanata."

The town structure, in antiquity, had four towers and an enclosure wall; today these structures are almost all gone, it remains visible only two towers, one on the northeast corner and one on the southeast corner in the old town.

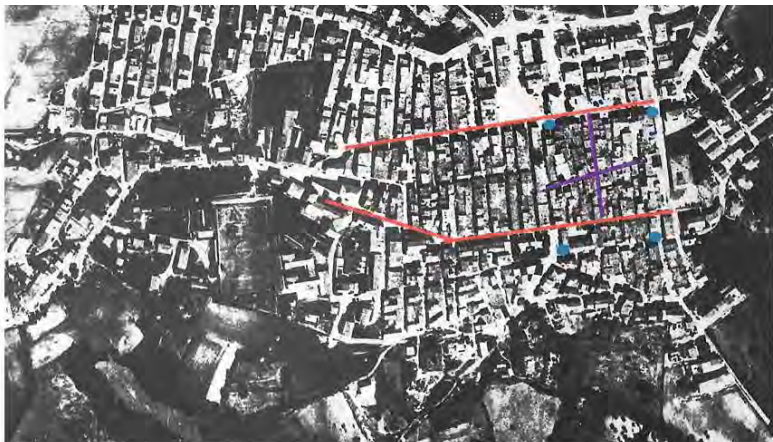
In the center of the ancient hamlet was placed the central square, called Piazza Maggiore, where stood the Greek church, It was the first worship building in Santa Croce. This church, today, appears like a building of small dimensions; inside it is a single nave with an altar placed at the end of it, separated from the nave by a barrier. The town is named after the first church: Santa Croce. The building has been abandoned since last century and has been put in safety after the 2002 earthquake which destroyed a relevant part of southern Molise.

History

To better understand the conditions which led to the introduction of an Orthodox-Greek cult in this territory, it is necessary, first of all, to focus our attention on the development process of "Casale di Santa Croce".

According to the tradition the settlement has its origins after the earthquake of 1456 and after Giorgio Castriota Scanderberg's death which marked the beginning of the Greek-Epirote migration towards Italy and the Molise coast to escape from the Turkish oppression in their lands.

However the existence of "Casale Sancte Crucis" is already attested in several documents dating to the second half of XIIIth century; in 1266 Adenulfo de Stip-



ite, his wife Thomasia, his daughter Floresia and her brother Rogerius gave the hamlet to the monastery of Sancti Eustasii de Pantasia .

In 1320 Casale Sancte Crucis prope Turrim Maiorem was imposed a tax of 3 ounces 25 taris and 8 granas . Another document is the concession of Charles V; he gave <<La tierra de Malliano, con el Casal de Sancta Croce>> to Ludovico Acciapaccia , in the same year <<20 fuegos de Griegos>> are attested .

The Greek rite continuity can be deduced from the pastoral visit of Mons. Apicella in 1684 and of Mons. Catalani in 1689, as long as in 1727 Mons. Tria, bishop of Larino, during a pastoral visit in Santa Croce definitively abolished it .

In 1732 the village was still called Santacroce dei Greci although the toponym Santa Croce di Magliano had already appeared .

Settlement morphology

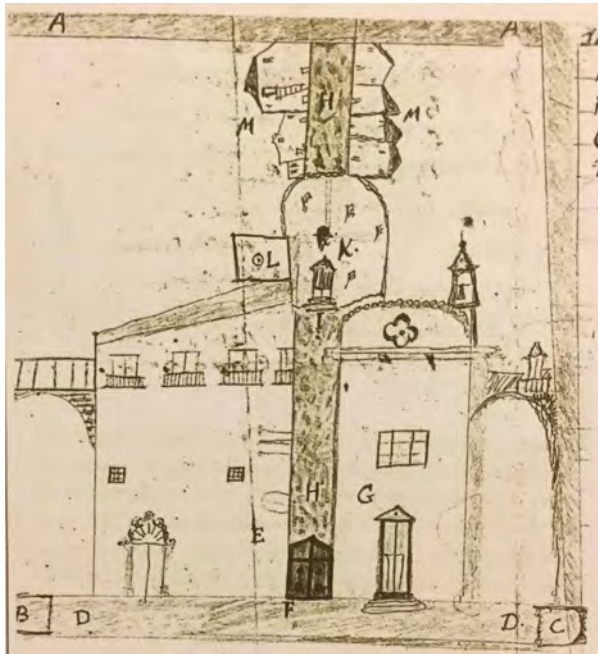
The previous centre of Santacroce di Magliano had a four sided plan surrounded by four circular towers . At present just two of these ancient towers are what is left; the first one, still visible, on the South-East side with a scarp base (fig. 1), the other one, on the South-East corner side, with an underground basement (fig. 2).

The ancient plan was characterised by two main roads, the first one leading N/S and the second one, with a different direction, N/E – S/W; they divided the centre into four sections (fig. 3).

The enclosure had two doors: “Porta dei Greci” (Greeks Door) and “Porta dei Latini” (Latins Door) attested in Tria’s documents and Colonna’s and on a map of the XVIIIth century (fig. 4).

However, this urbanistic regular plan is more linked to a feudal plan than to a roman castrum .

It is in this urbanistic context that the so called “Greek Church” (fig. 5) developed; it lies on a main road crossing the center from the East to the West leading to Puglia, dividing the northern side of the area from Piazza Grande, the previous main square, still mentioned on a map of the second half of the XVIIIth century.



Indicazioni delle abitazioni e strade

- A. strada che sale Chiesa matrice verso dell'orologio
- B. Porta Italiana
- C. Porta Greca
- D. strada della Piazza Grande
- E. abitazioni di Caputino
- F. Portone di legno fissato al muro della Grande, ove si vede l'ingresso del S. C.
- G. Chiesa Greca
- H. strada detta di Paggi, occupata, e
- I. Porta del Giardinetto di Caputino
- K. Giardinetto.
- L. Nuova fabbrica eretta da Caputino sul f.
- M. Capote laterali alla strada del f.

Architecture

The central plan church has a single nave, at present it seems without apses. During the following centuries, after the abolition of the Greek cult and the institution of the catholic rite , it underwent several structural changes. Analyzing a map dating to 1761, the old façade had a rose window under the roof and a frame separated it from the rest of the surface, in the centre was a huge window, the gate ended with a small tympanum. A tower bell is supposed to be in the north/west corner (fig. 4).

At present the building is characterised by rough stones organized into horizontal row on concrete mortar layers. Before the earthquake of October 2002 the façade was completely covered by red plaster (fig. 6). The abovementioned rose window disappeared and the great window has been reduced. Perhaps the bell tower was demolished, currently it stands on the N/W side.

Seven embrasures on both side walls (pic. 7-8). The façade stands on a scarp and ends with a polylobed cornice (romanella). The gate is very simple and completely built in stone, piers are composed by several trapezoid blocks (five on the left, four on the right) ending with pseudo-capitals, on the top is a simple architrave and above a small cornice base; upon it stands a polylobed Latin cross. The building is covered by groin vaults.

In the church is a trapezoid epigraph organized in five modules: in the center is a star of David surrounded by two concentric circles, on both sides are two crosses also enclosed by concentric circles; on the left is the Greek letter A whereas on the left an overturned omega.

The central section includes the inscription on five verses characterized by both Latin and Greek words.



Conclusions

The analysis of the building has led to the knowledge of the morphologic changes and of the structure adjustment to the city development during the centuries. The church was erected to satisfy the religious need of a small community which occupied a hill in the nearby of the territory of the castle of Magliano .

During the centuries this castle lost its defence function and the inhabitants of Magliano moved towards the more suitable hamlet of Santa Croce; it was a slow but inexorable migration. The new settlement developed on a gentle hillslope, much more suitable to an urbanistic development and to a constantly increasing population. Besides with the institution of the Latin rite and the settlement of the new community, the hamlet lived a new urbanistic planning when the new mother church was erected and dedicated to Saint Anthony from Padua.

The exodus ended approximately in 1609 when the painting representing the "Assumption of the Holy Virgin" was moved from Santa Maria di Magliano Church to the mother church in the near hamlet of Santa Croce .

In this period the new town was characterised by a bilateral shape; it was divided into two districts: "Quarto dei Greci" and "Quarto dei Latini", linked to the religious rites practiced in the town. During the following years the Latin rite emerged and the Greek one was gradually abandoned until its complete abolition in 1727. The "Greek Church" lost most of its religious function in favour of the church of Saint Anthony but it had been still preserving the worship to the Saint Rosary for two centuries.



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COMMUNICATION AND CONSERVATION OF CULTURAL AND INTANGIBLE HERITAGE

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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 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.

Cities and whole regions in Europe and North America as well as emerging countries are developing strategies to promote tourism for its economic development. The impact of culture on local communities is not limited only to tourism but extends to other activities. In an increasingly globalized society, the protection and enhancement of cultural heritage can become a powerful tool for social, religious, ethnic and economic integration within communities, and contribute to a more equitable and sustainable development.

The World Trade Organization, the United Nations World Tourism Organization and UNESCO, as confirmed by statistical data, identified tourism as one of the fastest growing business sectors, with very marked attention to cultural one. The latter is particularly interested in the rediscovery of local traditions and authenticity of places. 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.

Tourism is one of the most important sectors for the world economy with about three trillion economic income worldwide and an expansion, on average, of five



Capua, photo: Ludovico Mascia

per cent per annum. It can generate a set of benefits including the development of economic opportunities through both the increase in jobs and the creation of local and regional markets. It can also ensure the protection of cultural and natural heritage through the provision of interpretive and educational values associated with the valence and the historic significance of places, besides contributing to the development of researches by studying best practices for environmental protection. It can also contribute to improving the quality of life through the development of an infrastructure system for the territory of reference, or it helps the cross-cultural understanding within a community. It is also true that, if it is not integrated into a careful planning strategy and properly managed, tourism can irreversibly alter the state, integrity and authenticity of places, for example, through the creation of services not integrated into the landscape, including parking , shops, hotels, roads and airports.

Among the physical and environmental impacts, we highlight the acceleration of erosion, pollution and the gradual, partial or total degeneration of the ecosystem. Among the social impacts, mass tourism may reduce the quality of life of local communities and create tension in everyday relations between visitors and residents. The main goal for who is involved in the heritage management, therefore, is to plan a balance between protection and promotion, including local knowledge, open to the widest audience possible, and protect assets from excessive and unsustainable human pressure, which might alter, as often happens, the authenticity of those places.

We wonder then, in times of global economic crisis, when tourism is one of the possible areas for development for the development of territorial economies, social integration and improvement of quality of life for local communities, as may be possible to combine economic development needs related to cultural tourism with the necessary strategies of heritage's protection and enhancement in a sustainable way.

At this question, more are being added. For example: Why regions or cities with a rich built heritage and natural heritage, fail to protect their properties, unlike others, however, that through tourism, have also improved the living conditions of their population? And then: How much and how history, geography, culture



Capua, photo: Ludovico Mascia

and traditions of the place have to do with the actual ability to enhance the assets? And again: What is the real value of cultural and landscape heritage, and how this value can be related to real socio-economic development of local communities?

If the local people do not feel the landscape, the city, the natural context in which they live, as their own, not only in the cultural and identification aspects, but also as the place where they can live their lives with dignity, then it is difficult to feel involved in a collective project aimed at the protection, preservation and enhancement of the environment around them.

“Tourism has to be a resource for the area, but in respect of local identity. We should therefore plan it in all its components, to achieve a positive final outcome also in terms of emissions or noise pollution, which could be caused by poor planning of accessibility and mobility for the enjoyment of sites of interest.”

Tourism and project, as a rediscovery of the identity of the territories, of their vocation as well as participatory process shared by the local community, are key factors of best practices worldwide for heritage’s protection. In consequence, the fundamental international comparison to share virtuous examples of management of monuments, sites and historic environment, in which conservation and development coexist as positive models, which can be transferred to other contexts.

The strategy of protection and enhancement of heritage, thus understood, faces the possibility of transferring management policies from one environment context to another. Contemporary research on local development in a global context show that examples of successful development in a region, city or industry, however, are hardly re-propose, in the same way in different areas. The local development, in fact, depends on environmental conventions, models of reference, habits and social conventions that cannot be recreated but only built.

It is also true that best practices are all characterized by constant and key factors that cannot take in consideration the condition of the territory. In asset management, in a logic of sustainable tourism development, concepts such as cultural identity, integration of tourists with the local community, cultural tourism, economic development, tourism management, participatory processes in the



Capua, photo: Ludovico Mascia

appropriation and knowledge of the identity of the territory's values, are synonymous of successful policies, and therefore can become a stimulus for planning and management strategies to be adopted elsewhere.

The full participation of communities in heritage management for the definition of its local identity is, in fact, as much a duty as a responsibility for governments and citizens, in order for that development to be oriented to the real expectations and needs of the inhabitants of the territory.

In a collective project in which tourism becomes a component of the broader process of regenerative preservation of heritage, the methodological approach, multidisciplinary and multi-dimensional, structures the knowledge of the area and directs its management as "Knowledge Factory."

"The governance of the production cycle, understood in its regenerative action and in its role of modifying infrastructure, landscape products, it will be realized only if the complexity of local identity values are measured by knowledge, in their dual multi-dimensional understanding of the physical activity produced and to be produced, and returned as a heritage to citizens and stakeholders of the territory to take up economic activities at different scales of sustainable investment. The result will be that the products will have the more valuable the higher the degree of knowledge that we will be able to transfer in any part of the production cycle."

In this sense, the depth of realities that are considered management model for the real involvement of local people, it becomes spin off for reflection on strategies, which could be adopted, as advocated by the World Heritage Convention (1972) and the Budapest Declaration on World Heritage (2002).

Particular attention, for the international importance which they invest and for the specific legislature related to them, should be reserved for those sites that for their typological characteristics, historical, or natural assets are considered emblematic and of excellence for a Country or for the world community. This is the case of properties included in the World Heritage list, which, for their Outstanding Universal Value, become an attraction for cultural tourism on a global scale.



Capua, photo: Ludovico Mascia

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THE “RENAISSANCE” OF THE ROYAL PALACE OF CASERTA

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After decades of surveys and parliamentary debates, proposals and bills, the “reform” of public museums has come, unexpectedly, in August 2014, included within the decree of the fifth reorganization of MiBACT (1). Launched in 2013 (2) by the Minister Massimo Bray to carry out the spending review measures and to combine the administrative skills in the tourism field, the reorganization was taken up and completed by the Minister Dario Franceschini after taking his office (3). Key elements of this “reform” are the creation of a “national museum system” and, in every region, of museum poles; the construction of a new “Museum Directorate-general”; the bestowal to twenty nationally relevant museums of the maximum administrative status and of a form of economic and financial managerial autonomy (among these there’s the Royal Palace), choosing their directors through public selection. The twenty museums execute a public service and their operation is inspired by the principles of impartiality, good performance, openness, advertisement and accountability responsibility (4). The notice for the public selection of the directors of Italian museums with special autonomy from January 2015 (5) has further divided the Director’s tasks compared to what had established the cd. “Decreto Musei”, pointing out that he “programs, addresses, coordinates and monitors all the activities concerning the museum management, including the organization of shows and exhibitions, but also of study, valorization, communication and promotion of museum heritage; curates the museum cultural project, making the Royal Palace a “living” place able to promote the cultural development (6). The new directions is given to Dr. Mauro Felicori, cultural manager and museologist. Communication, marketing and territorial relationships are his strong points and the results are there for all to see. The media overexposure that occurred, which for the first time highlights the strengths and opportunities of a real development of the Monumental Complex and not the weaknesses and the threats that very often take place outside the Palace, has played a decisive role. The “Renaissance” of the Royal Palace has been a constant positive mark in the entrances and, consequently, in takings, compared to the same period of the previous year. The Palace also has a digital reputation, which had never been so high (7): almost a hundred thousand likes in seven months and first place among the Italian museums on Facebook (8)



(more than 140.000 likes), an outstanding increase of followers on Twitter (9) and Instagram (10). An increasing interest in the surrounding territory, now seen as “Caserta System”, it’s enough to think about the trending topics like #neidin-tornidellareggia (In the Royal Palace surroundings), #allaReggiaconNoi (At the Royal Palace with us) and #casertapride, is seen through these little things. At the basis of this project, there is a clear vision of the role of the museum and of his relationship with the direct and indirect stakeholders.

The awareness of the educative role of our cultural heritage, in order to develop into the citizens and, above all, into the youngster a widespread and shared integrity of history, culture, identity and an active participation to its preservation and tutelage, is increasingly affirming itself. This was testified by the various studies on the phenomenon, conferences, debates, publications (11) and, despite the hesitation, the uncertainties, and reconsiderations, some administrative and legislative measures used (12). Despite or thanks to this context, cultural and legislative, and to the vivacity of the polemics, in Italy a wide reflection on the pedagogy of our heritage has developed by using the experiences done at the superintendences, peripheral agencies of the Minister of the Cultural Heritage and Activities, which have the institutional task of preservation and tutelage (“we have to preserve what we know and love”). This reflection has allowed an operative methodology, which can be summarized in this way: putting as goals the education to the knowing and to the conscious use of our cultural heritage as a means for the learning of the real and the complexity in a relationship of partnership between school, cultural institutions and territory; the realization of educational programs that have to consider the recognition of the scholar legitimacy of the content of the heritage and their didactics specificity; the elaboration of “paths” on which the role of the three partners (school, museum, territory) actualizes according the following steps: the museum intended as the expert place where the object is an important support for the concreteness of the programs (not only the ones concerning with art); the territory as “widespread cultural heritage” with which the school interacts because of the multidisciplinary scheduling, which includes different kind of knowledge even though they are not strictly related to school; the relationship between cultural



institutions and scholastic institutions (13); above all to increase the sense of belonging to the cultural heritage, reinforcing the relationship of the public with the institution and elaborating projects of "emotional approaching and cultural territorialism". Another unmistakable shattering signal of the new direction was bringing back contemporary art to the center of the museum offering of the Royal Palace. The collection "Terrae Motus" boasts more than 70 pieces donated by the most important artist during the 80s; it was wanted by the Neapolitan gallery manager Lucio Amelio after the earthquake that stroke South Italy on the 23rd November 1980 and it is linked to the Royal Palace by precise testamentary will. The collection has been stored in the backrooms of the historical apartments for too long, as if it was an embryonic form of experimentation on the flexibility and on the possibility of reusing the historical places as a setting for contemporary works and styles that made problematic the access when it didn't block directly the public fruition. The collection in the last 25 years was almost forgotten, never supported by a serious project on the communicative level and on the didactic one, even though that the setting up is the first kind of communication of a museum.

The title given to the new setting up "Terrae Motus in cantiere" suggests the provisional nature of the new placement, provisional but quite exhaustive that allowed, for the first time, to observe almost the totality of the collection. The explicit will is to create a didactic project with permanent laboratories suitable to the different necessities of the "publics" in addition to a calendar of seminars and public meeting with curators and artists. But this is only the beginning of a long story...we hope.



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HISTORIC PRESERVATION PLANNING IN WASHINGTON DC

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Executive Summary

Washington D.C. is the capital city of the United States. It was named after President George Washington, and designed by French architect Pierre Charles L'Enfant. It experienced several changes from the original design blueprint and finally becomes what it today. As a federal monumental city, historic preservation system in D.C. followed federal framework to regulate and financing preservation activities. But it has some special part, especially for old Georgetown area. It has one of the strictest regulations and review process regarding demolition, alteration, and new construction in historic sites in the U.S. But it lack local historic tax incentives, mostly rely on federal financial support.

Today, D.C. is marked by contrasts. Same as other famous cities, gentrification is a serious issue there. Neighborhoods in some marginalized regions tend to be disproportionately lower-income. Revitalization of historic sites seems aggravate this problem. Population growth leads to expensive housing prices and inadequate affordable housing. The office of Planning has tried some projects to minimize potential adverse impacts of historic preservation, and they need more time and tests.

Overview of the Case Study City

Washington D.C., as known as the District of Columbia is the capital city of the United States. It was established in 1790 by the Constitution of the United States, and the site of the district along the Potomac and Anacostia Rivers was first selected by President George Washington in 1791 (Fletcher, 2008). This location could provide a convenience connection between northern and southern states as it already included two pre-existing settlements, the port of Georgetown and the city of Alexandria. To better design this planned city, President George Washington appointed Pierre Charles L'Enfant, a French architect, to devise a plan for this city. He had a street plan that the layout is like a grid centered on the Capital Hill, following the site's natural features and reserving the largest hill for the Capitol Building, the White House and other public buildings

(Fletcher, 2008). L'Enfant aligned the streets along a compass-oriented grid superimposed by wide diagonal avenues. After him, Benjamin Banneker and Major Andrew Ellicott surveyed the territory and reproduce the complete design, including streets, buildings, and open spaces (Bordewich, 2008). Until then, a preliminary map of a federal and capital city had been established.

As Washington DC was still far from complete back to 1800s, British forces invaded the DC area and set a fire to local buildings during the War of 1812. The Burning of Washington destroyed a lot of public facilities, including the White House, the Capitol, and other buildings of the U.S. government (WHHA, 2016). When the government returned to the capital, it had to manage reconstruction of numerous public buildings. After the destruction, DC barely remained anything there, especially permanent residents (Destination DC, n.d.). But the city welcomed a population growth as a result of the Civil War. The post-war government expansion led to a period of rapid increase in the mid- to late- 19th (Destination DC, n.d.). President Abraham Lincoln created the Army of the Potomac to defend the federal capital, so thousands of soldiers and significantly expanded infrastructure support came to the area (Sears, n.d.). According to the United States Census (1860), it led to notable growth in the city's population – from 75,000 in 1860 to 132,000 in 1870. In 1901, there was an vital comprehensive plan, the McMillan Plan, which was impacted by the City Beautiful movement which attempted to redevelop the national Mall (Fletcher, 2008). This plan restored and beautified the downtown core area in DC, including the National Mall, park system, as well as those monuments and museums in that region. This Plan updated original L'Enfant framework and generated the green center of today's Washington D.C. It is still a guide for current D.C. city planning and becomes an official policy for the national capital.

In addition to the population increase during and after the Civil War, population of this city peaked around 1950s during the post-World War II government expansion period, more than 800,000 within its border (Tatian and Lei, n.d.). After 1950, the white exodus to the suburbs started and the racial population breakdown shifted from majority-white to majority-black. Nowadays, after more than 200 years as the U.S. capital, Washington D.C. has developed as a vi-

brant and culturally diverse city. According to statistics from the Census Bureau, the estimated total population is 633,736 ; Black or African American is about 49.6%, while white people is about 40.2%, Asian is 3.6% and others races are 3.8% of the total population. In terms of median household income, the average income in DC is increasing over time if compared in adjusted dollars and current median household income is \$69,235 . Based on historic and current data in the Census Bureau, the income change from about \$35,000 to \$almost \$70,000 from 1960s to 2014 in historic inflation adjusted dollars, which is always higher the national average income . For education attainment in D.C., the percentage of the population 25 years and over with a high school diploma or more is 88.9%, which is higher than the national average 86.3% . Historic data demonstrates that the percent of education attainment generally increased over time from 41.2% in 1940 to more than 80% in the 21st century. However, during those years, 1990s and early years in 21st century, the percentage was a little bit lower than national level. In D.C., the total housing units' number is 306,174 in 2014 and it reveals that the total number is rising these years.

CSC Historic Preservation History

Historic preservation in the United States could be traced back to early nineteenth century (Logan, 2012). In 1916 Congress created the National Park Service via the National Park Service Organic Act. This agency promoted historic preservation activities in the U.S. In 1964, the demolition of Pennsylvania Station in New York City aroused public eager to support preservation.

In Washington D.C., post-civil war government expansion and post-World War II development led to a rapid population growth and increasing demand for housing in Washington D.C. As the capital city and place where federal government locates, D.C. has a unique development and historic preservation history compared to other cities in the U.S. Since it is the political center of the U.S, federal agencies and Congressional commissions took entirely control of planning and historic preservation in D.C. before the enact of the Home Rule Act of 1973 (Michailof, 2007). Before 1973, the primary concern was establishing a monumental city that meet a nation's capital criteria and facilitating all demands of federal bureaucracy (Michailof, 2007). After this Act, the District of Columbia

ultimately founded its own local planning agency and residents were encouraged to participate.

In terms of historic preservation, it started from private fields and citizens close to the monumental cores. Constructions in the core area have a long history and are not only symbols of local prosperity history, but also a sign of federal development. Local residents had launched some local activities to restore row houses in the 1930s and attempted to protect local buildings' architectural character (Michailof, 2007). When federal agencies were still responsible for D.C.'s planning, Congress approved the Old Georgetown Act in 1950 . It requires external changes, alterations, and new constructions in this "Old Georgetown" area should be reviewed by the Commission of Fine Arts . Public sector followed the private interests in redevelopment to attract more residents back to D.C. area as a lot of people moved to the suburban areas during the 1960s. Under this scenario, a lot of houses were restores, which required a complete mechanism to protect historic constructions. Local agencies followed the trend and became major public support in the historic preservation in Washington D.C. In 1978, the D.C. Historic Landmark and Historic District Protection Act, the first comprehensive historic preservation ordinance in that city, was enacted to protect and enhance historic properties that would benefit health and welfare of local residents in the District of Columbia . It established the current D.C. Inventory of Historic Sites by merging the Landmarks List with the catalog of D.C. properties listed in the National Register .

Between mid-1970s and 1980s, there was upsurge of residence-initiated preservation activities in the D.C. area (Logan, 2012). Several reasons caused this phenomenon; the federal to local authority control shift, the legality of historic preservation law acknowledged by the U.S. Supreme Court pertaining to the dispute between New York City and Penn Central Terminal in 1978, and other ideas sprawl in the local communities (Logan, 2012). All these elements influences the affirmation of historic district in Washington D.C. Since 1960s, agencies approved more and more historic districts. At nearly 225 years old, Washington, D.C. is fortunate to have a wealth of historic buildings and neighborhoods. According to the planning office (2015), until now, there are 55 his-

toric districts in the D.C. territory, including 27 neighborhood historic districts and 28 other historic districts (parks, military, campuses). Among them, Capitol Hill has the largest number of contributing buildings, about 8000. Washington D.C. as the capital of the US has become home to about 74 National Historic Landmarks.

CSC Historic Preservation System

Historic preservation agencies

After federal agencies turned administration power to local agencies, several agencies involving historic preservation activities were established in the District of Columbia: D.C. Historic Preservation Office, State Historic Preservation Office, D.C. Historic Preservation Review Board, and the Mayor's Agent. The system has overlaps and seems to be affected by federal bureaucracy. Various agencies and complicated system is a feature of D.C. agencies.

The D.C. Historic Preservation Office (DCHPO) is a part of the D.C. Office of Planning. According to the introduction from Office of Planning of Washington D.C., work of the Historic Preservation office is to support efforts of the Historic Preservation Review Board, the Mayor's Agent and other related agencies. It improves administration of historic resources in the D.C. area, as well as advocates public education on historic preservation and protection. DCHPO provides historic preservation guidelines to historic property owners and tenants to assist them maintain the architectural character of their properties. Officers from HPO would contribute appropriate advice to participants regarding external maintenance, repair, alteration, and other replacements. In addition to design guidelines, DCHPO has annual reports to the D.C. Council on implementation condition of the 1978 Historic Landmark and Historic District Protection Act. The office also established an inventory of historic sites in D.C. for the public to search and examine.

DCHPO implements federal historic preservation programs while the State Historic Preservation Office (SHPO) would concern local programs in the District of Columbia as one of the preservation offices established in each state/territory under the National Historic Preservation Act of 1966. Therefore, the SHPO's

responsibilities are historic preservation survey, approval of historic properties, review of government programs that may have impacts on historic properties, public education same as DCHPO, and promotion of tax incentives on historic preservation . SHPO receives annual grant from the National Park Service to maintain different projects.

The Historic Preservation Review Board (HPRB), just like its name, reviews new construction application and addition application of a historic construction to check whether proposed projects meet preservation standards. It would designate historic landmarks and districts in the D.C. area. As it is a official body consists of advisors appointed by the Mayor (nine professional members and private citizens), it often offers practical recommendations to the Mayor and enhances public participation in historic preservation . HPRB also promotes and reviews the implementation of federal preservation projects in the District of Columbia.

The Mayor's Agent is the director of the Office of Planning, who would afford help and guidance to balance preservation with other public targets and ensure historic preservation would be compatible with planning programs . The Agent reviews permits involving historic properties on behalf of Mayor and is required to hold public hearings on permit applications about demolition, addition, and other related activities of a historic landmark, which are regulated in the D.C. Municipal Regulations. Title 10C .

Historic preservation regulatory

A significant historic preservation ordinance for the District of Columbia is the Historic Landmark and Historic District Protection Act (D.C. Law 2-144) which was enacted in 1978. As mentioned above, it established current D.C. Inventory of Historic Sites by combining the Landmarks List with those D.C. properties listed in the National Register. In order to better organize city in different aspects, the D.C. Council has passed the D.C. Official Code. Among those codes, there are two regulations about historic preservation, Historic Landmark and Historic District Protection under Division I, Title 6, Chapter 11, and Preservation of Historic Places and Areas in the Georgetown Area under Chapter 12 of same title, Housing and Building Restrictions and Regulations. Another

vital regulations about historic preservation is the D.C. Municipal Regulations, Title 10-C, Historic Preservation. Under this title, there are 13 articles about various elements of historic preservation, ranging from designation of historic landmarks and districts to standards for constructions, from HPRB review process to administration procedures . These regulations and acts found the legal framework for historic preservation activities in Washington D.C.

If a building or construction intends to be listed in the state register, the DC Inventory of Historic Sites, it need to meet the criteria:

“Historic and prehistoric buildings, building interiors, structures, monuments, works of art or other similar objects, areas, places, sites, neighborhoods, and cultural landscapes are eligible for designation as historic landmarks or historic districts if they possess one or more of the following values or qualities: (a) Events: They are the site of events that contributed significantly to the heritage, culture or development of the District of Columbia or the nation; (b) History: They are associated with historical periods, social movements, groups, institutions, achievements, or patterns of growth and change that contributed significantly to the heritage, culture or development of the District of Columbia or the nation; (c) Individuals: They are associated with the lives of persons significant to the history of the District of Columbia or the nation; (d) Architecture and Urbanism: They embody the distinguishing characteristics of architectural styles, building types, or methods of construction, or are expressions of landscape architecture, engineering, or urban planning, siting, or design significant to the appearance and development of the District of Columbia or the nation; (e) Artistry: They possess high artistic or aesthetic values that contribute significantly to the heritage and appearance of the District of Columbia or the nation; (f) Creative Masters: They have been identified as notable works of craftsmen, artists, sculptors, architects, landscape architects, urban planners, engineers, builders, or developers whose works have influenced the evolution of their fields of endeavor, or are significant to the development of the District of Columbia or the nation; or (g) Archaeology: They have yielded or may be likely to yield information significant to an understanding of historic or prehistoric events, cultures, and standards of living, building, and design.”

If compared DC criteria to national register requirements, they are all required to have contribution to history, culture, and archaeology, but inventory of DC concentrates on local factors and has more categories than national register.

The designation process is a pivotal element in historic preservation. As regulations in D.C. requires, the initial step of designation is to conduct research and documentation of the historic characteristics of the property after officers receive the application of the property. Information and details would be recorded on a standard application form which includes a physical description of the property and a statement of its significance. Other materials such as pictures and maps are also requested. During application, applicants could consult HPO officers which would improve their application preparation. The HPO staff needs to complete review of the application within 10 days of arrival . After that, if the application is accepted, HPRB will make a decision on it after a public hearing . According to information from the Historic Preservation Office, the application fee is \$100 for a landmark of up to five buildings, and \$200 for one of more than five buildings. Additionally, the fee ranges from \$250 to \$1000 depending on the number of buildings in historic districts. There is a special request for Georgetown area regarding permits and applications. All plans for construction, alteration, or demolition of any buildings within the Georgetown geographic area are necessitated review and approval of the Commission of Fine Arts .

Financial mechanism

Financial resources are irreplaceable pillar in historic preservation field. To support preservation, rehabilitation, and renovation projects, various governmental agencies and nonprofit organizations at the federal, state, and local levels offer various financial programs, mainly tax credits, grants, and loans.

Tax credit as an effective approach to promote historic preservation has federal level and state level. The federal government has offered tax credits as an incentive for preservation and rehabilitation of historic buildings since 1976. This tax credit program is managed by the Historic Preservation Office as well as the National Park Service (NPS). They will make ultimate decision on project eligibility. Current tax incentives in federal level are “20% tax credit for the certified rehabilitation of certified historic structures” and “10% tax credit for the rehabil-

itation of non-historic, non-residential buildings built before 1936” . Both credits are designed for substantial rehabilitation which must include a depreciable building . The 20% credit must passed examination from both the NPS and the Internal Revenue Service while the 10% credit projects must meet a physical test about external walls and internal structural framework. Given Washington D.C. is a special capital area, it does not offer state-level historic preservation tax incentive as other states and mainly rely on federal tax credits and grants. However, the HPO would introduce different historic properties program depend on annual budget.

National grants are also significant financial resources for preservation and rehabilitation. The federal Save America’s Treasure program is one of the largest and most useful grant program to protect historic structures. It is a competitive matching-grant program. The minimum grant request for collections projects is \$25,000 Federal share and the minimum grant request for historic property projects is \$125,000 Federal share while the maximum grant request for all projects is \$700,000 Federal share . This grant aims at preservation work on national significant artifacts and historic sites/structures. Two other type of grants are from the National Trust for Historic Preservation Programs, National Trust Preservation Funds and the Cynthia Woods Mitchell Fund. The former one proposes matching grants from \$500 to \$5,000 for preservation planning; the latter one focuses on historic interiors, which provides nonprofit organizations and public agencies grants from \$2,500 to \$10,000 to assist in the preservation and restoration of historic interiors . In addition to federal grants, some local organizations establish grants to preserve historic constructions in Washington D.C. For instance, D.C. Preservation League implements the Preservation Initiatives Grant Program to provide matching grants to individuals and nonprofit organizations for preservation activities. This grant awards \$5,000 to \$10,000 to preservation planning projects that contribute to the preservation, restoration, or rehabilitation of a historic property or site. Besides, it has a award for house owners or other people who attempt to conduct exterior work that physically preserves a historic property .

HISTORIC PRESERVATION AND TOURISM IN BOSTON MASSACHUSETTS USA

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The history city of Boston is located in New England, on the Atlantic coastline of Massachusetts. Founded in the 17th century, Boston has been the center of attention in New England since the colonial period. Boston has a longer history than other cities in America. As one of the oldest cities in the United States, Boston was the scene of several key events of the American Revolution, such as the Boston Massacre, the Boston Tea Party, the Battle of Bunker Hill, and the Siege of Boston. In the past 350 years, many world's greatest patriots, writers, thinkers, athletes and artists called Boston their home.

The races in Boston have a high diversity and the percentage of non-white population is relatively higher than that of Massachusetts. Immigration in Boston is always considered to be an economic booster for cities. Large immigrant communities in cities generate waves of technology start-ups, small neighborhood proprietorship, real estate investment and international trade. In addition, the Wall Street Journal observed that 90 cents out of every dollar earned by immigrants stays in their adopted communities, creating a huge boost to local economies.

As for the housing units, the owner-occupied housing unit rate in Boston is only half of the number that in Massachusetts. The median house income did not reach the income level in the whole state. This means people with lower income still need to pay for more money on renting house. So the person in poverty is 10% percent higher than the State level. As urban concentration increases, the demand for new housing and commercial space become higher and higher.

As a famous city in the world, Boston is one of the top 10 destination cities in North America though it is ranked No.10 by international overnight visitors. According to the flight statistics in 2015, up to 10.9% of the passengers were international passengers. In order to let people from all over the world have a better understanding of Boston, there are several languages people can choose to read information published in its government website. The overseas visitor total direct spending was about \$763 million in 2014. By the estimates of Visitor Bureau, the average overseas visitors spend eight nights in Boston when visiting while the average visitor from somewhere in the United States spends 2.2 nights. Overall, Boston hotels enjoyed the highest occupancy rates in May,



June and July according to STR Inc.. Average occupancy in July 2015 was 83.8%. Oversea visitors to Boston is growing steadily in recent years.

Boston was the center of the revolutionary movement in the 1770's, and the monuments to those glorious times still stand. So tourism in Boston features visiting landmarks such as freedom trail, Faneuil Hall and public garden. There are also a lot of museum in Boston to ensure people's visiting of all ages and all interests. The Boston Science Museum features over 400 hands-on exhibits. The New England Aquarium has more than 2000 sea creatures on display, including fish, whales, and penguins. The Museum of Fine Arts is the largest museum in New England, and has a large collection of art museums that are spread all across the city. Finally, the Boston Children's museum is dedicated to educating and entertaining kids at the same time.

There are currently more than 23 major theatres, orchestras, and symphonies in Boston. People can see top performances from popular Broadway musical shows to experimental productions, along with opera, dance, comedy shows, and everything in between. Sports fans can also enjoy their time in Boston. They can attend professional basketball, hockey, and baseball games involving some of America's greatest teams. Football fans can enjoy professional games or college-level ball at many of Boston's colleges and universities. The Boston Local Food Festival is an outdoor celebration of many locally grown and produced food. The most important objective of the Boston Local Food Festival is to increase accessibility and availability of healthy local food for all. Massachusetts eaters of all ages, races, and socioeconomic levels will see, taste, and appreciate the variety of healthy, delicious food.

To include all the significant sites in Boston, the No. 1 thing people will do in Boston is to walk the 2.5-mile, red-lined Freedom Trail that leads to 16 historically significant sites. From this map we can clearly see the routes and 16 destinations. The walking tour begins with the city's establishment in 1630. It features many old sites such as Old State House, Faneuil Hall, King's Chapel, the Old South Meeting House and the site of the first public school in America. It's a good chance to explore museums and meeting houses, churches, and burying grounds. Tourists can take this walk with a costumed guide, with an



audio guide or by themselves.

The Freedom Trail Foundation is a nonprofit organization established in 1964 to preserve the trail. It tries to help by asking people who are willing to donate an extra dollar for the walking tour. This minor behavior can still collect almost \$100,000 each year. But the money is far from enough to do the maintenance and restoration work.

It is incredible that the best way to raise money for historical site in Boston is to wait for disaster to strike. For example, the Hurricane Wilma caused extensive flooding in 2005, which caused damage to Old State House. Then the Bostonian Society realized the building should be made permanently flood proof, and it raised \$2 million within six months. But if the measures were taken in advance to prevent the happening of such damage, then a lot of money can be saved. People always begin to take measure only when the accidents happened, which is the least effective way from the cost-benefit perspective.

Faneuil Hall has served as a local marketplace since 1742. It was also a meeting place for revolutionary leaders, which is occupied by dozens of shops and restaurants now. Today, the market hosts a mix of local vendors and national and international retailers. With the fast development of heritage tourism and a large population of tourists in Boston, the quality of the marketplace has declined over the years. The unique merchant became less and more people sell tourist bait such as cheap printed T-shirts, tote bags, or even toy cars or over-price sarongs. In addition, the marketplace needs a face lift. The private companies that managed the property invested very little in the market over year. The rental situation is dragging down the quality of the businesses because vendors don't want to invest money in spaces they might lose. Merchants worry they might be kicked out by the new investors who have more money. Even if they are invited to stay, some worry they won't be able to afford rent in the building. So developing sustainable tourism strategies are quite necessary for Faneuil Hall. It should not only put emphasis on attracting the foreign tourists, but also concern the business conditions of the local merchants. After all, the merchants who stayed here for 20 years treasure more about the preservation of the historic heritage because they regard Faneuil Hall as home. And the government



should take measures to help survive in the highly competitive market economy. As a city full of history, historic preservation is a major contributor to Boston's economy. As a consequence, historic preservation has positive economic effects, both direct and indirect. As Mike L. and David (2002) mentioned in their report, "the direct impacts consist of labor and material purchases made specifically for the preservation activity." The multiplier effects include the cost in producing items purchased for historic preservation. Based on their research, the direct effects of historic preservation can be translated into multiplier effects such as jobs, income or even GDP. So the city of Boston should take measures to make improvements of the historic preservation mechanisms. As for religious properties, if they are to be sold, measures still need to be taken to ensure that the buyers are right and the treasured landmarks continue in creating community pride. As mentioned above, the community plays an important role in religious properties. State of Massachusetts has handbooks like "A Guide to Community Action" and "Steps to Successful Advocacy" to help people find appropriate ways to engage in protection of religious buildings. In order to better preserve the historic heritage and contribute to the development of tourism, the following measures should also be taken into consideration.

- Incorporate historic preservation goals and objectives into urban revitalization and economic development activities, such as the City of Boston's neighborhood Main Street program.
- Support establishment of local historic districts in the region's most significant historic commercial and industrial centers, and examine alternatives to local historic districts such as neighborhood conservation districts for areas where protection of broader community character is more appropriate.
- Encourage the adoption of demolition review mechanisms. This can help protect the important building with historical or aesthetic value.
- Emphasize the link between historic preservation activity and the region's quality of life and its contribution to local, regional and state economies. Communities in Boston have traditionally been a leader in the implementation of local preservation mechanisms. Increasingly historic preservation should be seen as an important component of the local people's quality of life.



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SAN FRANCESCO AL MONTE: FROM A CONVENT TO A HOTEL TO PROMOTE THE HISTORY AND CULTURE OF NAPLES

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San Francesco al Monte is one of the most suggestive hotels in Naples, founded as a convent in the first half of the 16th century. Originally, a friar, Agostino Miglionico, built his cell by carving it into the hillside and still today, part of the hotel is sited inside the rock that forms the Vomero hill; extraordinarily a tunnel also exists, excavated in the tuff stone, currently not viable, that leads directly to the monastery of Saint Martino, one of the highest peaks of the city. The cell then was transformed into a chapel, next to which the actual convent was built and named to Saint Lucia, virgin and martyr. In 1560, the people who were living in the convent were about a dozen. In the successive century, through the purchase of a plot of land for the construction of a facility for the novitiate and thanks to a donation by the monks of Saint Martino, the complex reached a considerable size and counted about one hundred persons, including priests, clergy and laity. In 1668, the convent was taken over from the Franciscans by the “Discalced” friars of Spain and the successive year, twelve monks, coming from Granada, took possession of the building. The Spanish presence lasts only a few years, until the arrival of the Austrians, who returned the construction to the Italians, bringing it back to its role of main convent in the province of Naples, in addition to being the residence of the Provincial Minister, a study home, an infirmary and a novitiate. So it's clear how in the 18th century, the monastery assumed an important and central role, both as a historical building and as a religious community of the city. Remarkably, in 1751 the royal architect, Luca Vecchione, created a passage between the convent and the aqueduct, to solve the problem of the water supply that until then had been dealt with collecting rainwater from a single well. In the following years, the convent (as the rest of the city) was put under pressure by the French invasion, cause of several cannon attacks from the fort of Saint Elmo, placed right above the monastery. The French military occupation years (1806-1815) were very hard and many priests abandoned the structure. Tranquillity returned only with the Bourbon restoration that, since 1816, coincided with the convent's period of maximum splendour: Ferdinand II of Bourbon inaugurated what is now the current Corso Vittorio Emanuele (at that time Corso Maria Teresa) reaching as far up as the religious structure, where the Royal family received Bles-



sings, event which gave immense prestige and value to the friars community. The idyll ended in 1862, following the unity of Italy, when the State took possession of the Saint Lucia Convent, due to a law that imposed the closure of religious facilities not engaged in teaching or caring for the sick. Therefore, in a few years, the convent emptied itself and only seven monks remained, to give service to the church, while part of the structure was taken over by the Municipality (allocating its use to the police and the municipal guards) and what remained by the Province. But the Church didn't easily give up the convent and in 1894, Father Ludovico Palmenteri almost repurchased the whole complex, while the remaining area was bought by the Minister of the Neapolitan Alcantarine Province and the building returned to its original function. Restoration works were carried out, including the retaining wall of the hill. For the late 19th century the convent was alive again and it hosted more than forty monks. During the 20th century, the convent continued to grow, a seminar was also implemented and it was completed in 1957, funded by the State due to damages caused by the war; but in the course of less than fifteen years, vocations drastically reduced, clericals were cleared out and the inner rooms were rented as classrooms. Today the convent of Saint Lucia is still owned by the friars but rented, on a long term basis, to a family of entrepreneurs, who have transformed the building into the San Francesco al Monte Hotel. The 2001 project of restoration and functional adaptation to a hotel structure was designed by the Neapolitan architect Luciano Raffin. In the new project, all the most beautiful and artistically important environments have been preserved with care, such as the Chapel of Saint Giovan Giuseppe della Croce, on the third floor, the "Furnace Room" and the frescoed Refectory. The aisle in the corner of the ancient cloister is now the main access to the hotel and accommodates the reception. The rest of the courtyard is used as a waiting living room, where the guests can take a break in a suggestive space, which was originally open, but is now protected by a coloured glass roof. The peculiarity is given by the interior facades that keep the features of windows and balconies and overlook on elegant armchairs and sofas positioned on the ground floor. A long vaulted hallway starts from here along which the offices, the elevator and the stairs that provide access to the rest of the building



are located. The upper floors recall the original purpose and are characterized by long corridors with wooden doors leading to the rooms, former cells. These were assembled two at a time, to get spacious and comfortable rooms, adjusted to the well-being standards of the hotel. Everywhere, you can see fragments of frescoes, ancient pottery and decorations. In particular the wonderful stairs have steps made of trachytic rock and risers decorated with squared tiles of different colours. Or you can admire, in one of the corridors, the Nativity scene of the 20th century, with hand-painted terracotta shepherds, a real mastery which exhibits an ancient tradition of the city. The arched windows, visible from the interior paths, allow to appreciate the wonderful view of the gulf and are a valuable opportunity for tourists to see the city from above and understand the urban setup. Many treasures are safeguarded from one room to another, making the hotel absolutely extraordinary: for example, on the third floor one can find the cell where Saint Giovan Giuseppe della Croce lived the last years of his life. He is remembered for the miracle of the apricots, which grew around him all year long, including the winter months and he was beatified in 1789. In the same year, the cell was transformed in a votive chapel and today is one of the most typical environments of the entire building, most of all because this room remained almost intact, particularly the beautiful original hand-painted pavement. In every corner it's possible to find fascinating details, as tuff tunnels where the stone emerges from the walls, or the refectory with in its background a great fresco, that recalls dinners and atmospheres that friars ordinarily lived. Walking through the San Francesco Hotel is a cultural experience, to comprehend and understand both the historical and the contemporary city. In fact the building houses a collection of modern art, arranged from the ground floor to the third floor. The art works, the paintings and the sculptures exposed, belong to the Morra Foundation of Naples and they document a period that goes from the Sixties until today. Moreover, the Neapolitan culture also includes the sphere of food and wine, and for this reason, there are two typical restaurants: the first one is "the terrace of Barbanti", whose name recalls the bearded friars who inhabited the convent and which is placed in a wonderful panoramic balcony, where Neapolitan cuisine and fine wines, mainly from the Campania region, are



served; the second one is “the ancient vineyard of the convent” and it is open only during the summer because it is located on the top floor, where the ancient vineyards remain and dominate the landscape. This is the last level (at the seventh floor) and it is the conclusion of the walk through the hotel: a wonderful roof garden that overlooks the bay and has been set up for the reception of guests, with chairs, shaded areas, a bar and two swimming pools. In this area, the architect has given space to contemporary language and at the same time has preserved the style of the building and its fragments, especially the tiles still visible in the pavement. In my opinion, this adaptation project is fully successful, because on one side, it preserves and safeguards the historical building, taking care of all the original elements discovered and maintaining clearly the nature of the convent building; on the other side, it responds adequately to the new function as hotel, welcoming guests with all the comforts required today and strongly promoting the territory, with care and attention, revealing more or less known aspects of the Neapolitan culture. Today the role of the architect is strongly related to the preservation of historical heritage and when structures change function, turning to the tourism field, it is essential to have the attention and the ability to combine different needs. The continuous use of an historical building can be a suitable solution to ensure the constant maintenance of a structure and therefore a better state of preservation, as well as the diffusion of knowledge of cultural heritage; the example proposed of the Hotel San Francesco al Monte reveals how the recovery of a building is not only aimed to the protection of architectural heritage, but can also be the promotion tool of the territory.

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RESTORATION AND ADAPTIVE REUSE OF A HISTORIC PROPERTY IN BOSTON: THE CHARLES STREET JAIL BECOMES THE LIBERTY HOTEL

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Boston, Massachusetts was one of the earlier established cities of the United States. Founded in 1630, and situated on the Atlantic seaboard, this city not only played a central role in American history, but went on to become a political, commercial, financial, religious, and educational center of New England. Additionally, Boston has a long history with adaptive reuse in regards to preservation. Faneuil Hall is one of the earliest examples of adaptive reuse in Boston. Originally conceived as a marketplace and meeting hall, this building was continually adapted and expanded to fit each generations' needs. Today, the building is once again a market place and a nationally designated landmark. Spanning the city's long history, this paper will be an in depth look at an adaptive reuse case study featuring preservation in contemporary Boston.

The building of interest was originally called the Charles Street Jail. Located on Charles Street, just off the banks of the Charles River, this prison was initially on the outskirts of the city limits. The original jail began construction in 1847 and opened in 1851. Designed by architect Gridley James Fox Bryant, the jail featured four wings, housed two hundred and twenty inmate cells, and the centerpiece was a ninety foot octagonal rotunda. This prison was designed under new guidelines that established the style of prison that comes to mind in today's society. Previously, prisons in America, were designed more as institutions. But, Bryant's design featured the long hallway layout that allowed the guards clear visibility of the inmates while offering inmates more communal space while not in their cells. Additionally, the wide, numerous windows offered more light making for a more humane experience than had been previously offered in prison design. (McMaster, pg. 14)

Throughout the years, the jail gained notoriety from housing inmates such as suffragist protestors, the infamous gangsters Sacco & Vanzetti, and Malcolm X. But, as prison populations began to rise, the jail faced more and more criticism. Overcrowding began as early as 1906, and by the mid-1960s, the jail had been investigated numerous times for what was called, "A malignancy on the face of Boston. A haven of political patronage and a mockery of modern penology that violated inmates' constitutional rights by amounting to cruel and unusual



punishment.” (McMaster, pg. 22) By 1990, the jail was shuttered, all prisoners had been relocated to other facilities, and the building was left abandoned. Curiously, in 1980, the property was listed to the National Register of Historic Places. Designated under criteria relating to outstanding historic events and outstanding architecture/engineering, this building was considered exemplary regardless of its current state of delapidation and neglect.

In 2007, with the help of Boston Preservation Alliance, the architect team of Cambridge Seven Associates, and preservation architect Ann Beha from Ann Beha Architects, the former Charles Street Jail was transformed into the new four-star luxury hotel – The Liberty Hotel. This hotel now features two hundred and ninety-eight luxury rooms with picturesque views of the city skyline and the Charles River. There are six distinct food and beverage venues and six thousand square feet of meeting space. In regards to its adaptive reuse, the hotel holds that the jail’s granite exterior and expansive interiors remain largely unchanged. (Liberty Hotel, History) The central octagonal rotunda was sensitively preserved and now forms the core of the hotel’s main atrium. It features the building’s trademark windows and historic prison catwalks.

Restoration and renovation efforts were intense. “There were ten inches of white paint over all of the exposed brick you see today. That had to be painstakingly chipped through, the brick had to be removed to get it completely removed of paint, and then that brick was put back in its original place.” (Donovan, Ziptopia) The preserved jail cells within the hotel restaurant and wrought-iron work on the windows are just two more examples of the preservation that went into the restoration. The jail’s former exercise yard is now a private, beautifully landscaped courtyard for hotel guests. Rough estimates put the project costs at \$150 million. Because of the scope of restoration work, the city of Boston gave the developers \$25 million back in tax credits.

The new hotel does its part to stay connected with its history. Since the jail closed relatively recently, there are stories of past inmates coming to stay at the



Images from Google Maps/"Street-view" & Cambridge Seven Associates.

hotel as guests. Also, former guards have brought in mementos such as old locks and keys and gifted them to the hotel. Certainly this hotel knows how to market its historic side as well. There is an area in the lobby called the “historic exhibit” featuring original elements of the jail in a museum style setting. And, while not specifically listed on the “Freedom Trail” tour of Boston, they are on the route and offer a “Freedom Trail Package” that includes a stay at the hotel and tickets to the tour. (Liberty Hotel, Blog) The hotel also maintains its distinct contemporary vibe. By catering to “VIP clientele” and hosting city-wide events, this property brings in visitors from all over to a side of the city that, in the 1990s and early 2000s, was less than desirable. Now, in part to the new use of this building, that end of Charles Street has experienced a renaissance.

While all the renovation activities seem positive, it should be noted that this project has raised some questions in the practice of adaptive reuse. The framework for restoration, currently used in the United States, does not seem to offer much in the way of superintendence. There are a lot “regulations” and “recommendations,” but since there is so much bureaucratic red-tape sometimes properties can get forgotten about or overlooked.

If this property were to have been within Boston’s designated historic district (the Hotel currently resides one block from the Beacon Hill Historic District), the project would most likely not have been able to happen. The large guest tower newly appended to the back side of the building would have changed too much of the original view and it would have been exceedingly difficult to get a certificate of appropriateness. And it is in this same vane that one cannot be sure how the property maintains its place on the National Register of Historic Places. Sadly, the National Park Services, which oversees the Register, is largely overburdened and does not have the resources to follow up with every property. Many buildings listed on the National Register do not receive their check-ups and hence there is not much policing of changes to buildings – regardless of their protected status.



Images from Liberty Hotel website & Library of Congress digital collection.

This project, thankfully, worked and worked well. It has brought much in the way of great financial incentives to the city and the building maintains. The Liberty Hotel does, however, highlight the fact that seemingly innocuous changes can have a major impact on historic properties. It is interesting to note how restorative adaptations can sometimes get a “pass” when there is money to be made - especially when outside of a protected historic district. As mentioned earlier, the United States has yet to find a perfect system of restoration and preservation attempts. Perhaps this should be the new outlook – that there is not one perfect system. Each building should be allowed to continue its own “life.” A cookie-cutter formula would never work for each situation. But, with a more open-framework approach it may be possible for more historic buildings to live on through adaptive reuse. The Liberty Hotel is a clear example of outstanding architectural achievement and adaptive preservation – of which, comparatively, the United States only has a few of this magnitude. It represents an era of Boston that should be preserved. And, by adaptively reusing properties hopefully more of our history will last.

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REGULATION FRAMEWORK AND FINANCIAL MECHANISMS OF BOSTON

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Boston is a city with rich history and full of successful example of historic preservation. As the Pioneer of American historic preservation, it is very necessary to explore its Regulation Framework and financial Mechanisms of historic preservation.

a. Regulation framework

At the federal level, the most important authority of preservation would be the national park service Authorized by the National Historic Preservation Act of 1966. It documents and records most important building, sites, structures, objects, and districts within the nation. This program can only provide limited protection to historic properties. In Boston, 295 properties and districts listed on the National Register, including 58 National Historic Landmarks.

At state level, the Massachusetts Historical Commission, established by the legislature in 1963, is the principal force identifying, evaluating as well as protecting historic properties in the Massachusetts. Moreover, it provides political, economical and technical support to the local preservation agencies through MHC's Preservation Planning, Grants, and Technical Services Divisions. The commission has 17 members with various backgrounds including historians, architects, archaeologists, geographers, and preservation planners. Now the chairman is William Francis Galvin, the Secretary of the Commonwealth. The main work includes:

- Survey: identifying describing and locating historical and architectural buildings, structures, objects, areas, burial grounds as well as landscapes.
- State Register of historic Places: similar to the national one, creating standards and protection guidelines to register properties within local historic districts; belonging to local, state, national landmarks and state archaeological landmarks; or properties with preservation restrictions.
- Environmental and planning Review: authorized by state and federal law, reviewing and commenting on state and federal projects.
- Preservation Restrictions: easements protecting properties from being altered by present and future owners.

At the local level, The Boston Landmarks Commission (BLC), established in



before and after of Fowler-Clark- Epstein farm

1975 is the most important municipal preservation agency identifying and preserving historic properties for the Boston community. The main duty is to review the proposal of development and demolition of the historic properties. It also offers support to the local Historic Commissions. The BLC is crucial to the local preservation since it has the power prevent the historic building from being demolished. In the zoning provision shows: “Buildings, 1) located in District or Protection Area designated by the Landmarks Commission; 2) located within a Historic District designated by the Landmarks Commission ; 3) and buildings designated as a Landmark are subject to review by the Landmarks Commission staff for the purpose of determining whether such buildings are significant” (ARTICLE 85 - DEMOLITION DELAY)

The Fowler-clark house known as the Fowler-Clark- Epstein farm has a historic house and barn, located at on the southwest corner of Norfolk and Hosmer streets in Boston’s Mattapan neighborhood. This building was threatened with demolition. However, during the demolition delay period, the Boston Landmarks Commission recognized its historic value and finally decided to protect it (Historic Boston Incorporated). The City Archaeology Program was founded in 1983, a part of City Archaeology Lab, aiming at protecting Boston’s irreplaceable archaeological resources. They help the city to find more historic resources, and also organize education program to help residents to value and acknowledge the historic preservation. Since the city is also known as the “City of Archaeology”, this program is designed to serve hundreds of known archaeological sites within the city. Historic district commissions was established in 1960, based on the Massachusetts Historic Districts act (Chapter 40c), They are focusing on reviewing proposed exterior design changes of properties located within each boundaries. Each district has its own guidelines for design review and ordinance of regulation process. There are totally nine historic districts and each district has a relative historic district commission:

- Aberdeen Architectural Conservation District
- Back Bay Architectural District
- Bay State Road/Back Bay West Architectural Conservation District
- Bay Village Historic District



before and after of Fowler-Clark- Epstein farm

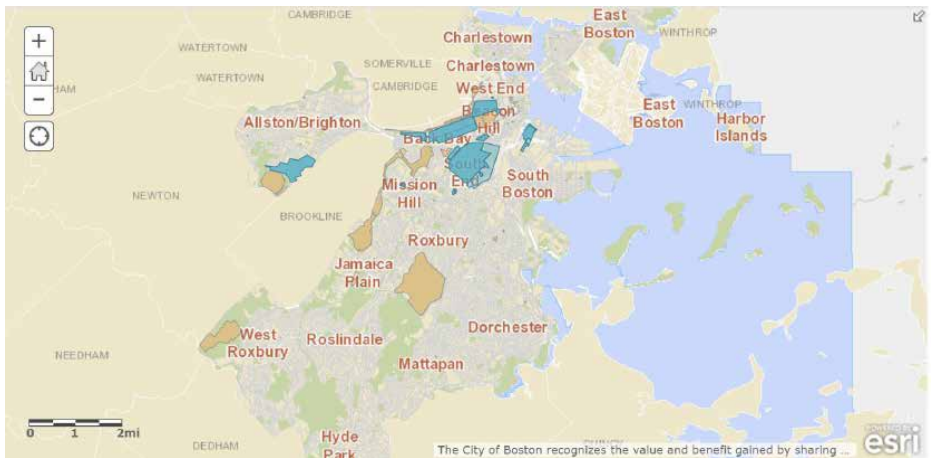
- Historic Beacon Hill District
- Fort Point Channel Landmark District
- Mission Hill Triangle Architectural Conservation District
- South End Landmark District

Comparing to the National districts, local districts are able to regulate the exterior changes by a review process. However local historic district commissions do not have authority on land use regulation of historic districts.

b. Financial Mechanisms

At federal level, the most important one is the Historic Tax Credit (HTC). This program established by the Tax Reform Act of 1986 provides financial resources to support the rehabilitation of historic structures within the nation. The preservation tax incentives include:

“A 20% tax credit for the certified rehabilitation of certified historic structures—applies to commercial, industrial, agricultural, rental residential but not owned residential properties. Structures should be on the National Register. Exceptions apply for state or local historic district buildings. A 10% tax credit for the rehabilitation of non-historic, non-residential buildings built before 1936.”(p. 3, Historic Preservation Tax Incentives) The other federal-level financial resource is the Low Income Housing Tax Credit (LIHTC) established under Section 252 of the Tax Reform Act of 1986. The LIHTC supports private development of affordable housing for low-incomes. There are two kinds of LIHTCs: an allocation of 9% LIHTCs over a ten year. Although the 9% LIHTCs can cover up to \$160,000 per unit of funds paying for eligible costs, the number of property eligible to it is very limited. The 4% allocations can maximally cover \$100,000 per unit of funding, which is more reliable and easier to obtain. Combined with Historic Tax Credit, the Low Income Housing Tax Credit plays a crucial role in historic rehabilitation of properties owned by low-income households (Housing a Changing City: Boston 2030, the administration’s housing plan). Moreover the New Markets Tax Credit is also an important financial resource to the historic preservation in Boston. For example, the Eustis Street Fire House located in 20 Eustis Street, Dudley Square, was protected by Historic Boston Incorporated in 2011, this project (Table 1, Figure 3) receive totally \$2.5 million from multiple resources.



Map of historic district

Among the \$2.5 million, 5 million came from the New Markets Tax Credits (Historic Boston Incorporated).

Table 1 capital sources summary

Capital Sources Summary

\$265,238	Federal Historic Tax Credits
\$246,510	State Historic Tax Credits
\$514,424	New Markets Tax Credit
\$435,000	Permanent Loan, City of Boston
\$350,000	HBI Equity
\$244,404	Secured Fundraising
\$200,524	Developer Fee
\$303,446	Public & Private grants to raise
\$2,559,546	TOTAL SOURCES

At state level the commission provides various kinds of financial support. There are three types of grants and a state level tax credit: Massachusetts Preservation Projects Fund, Survey and Planning Grants, Certified Local Government Program and The Massachusetts Historic Rehabilitation Tax Credit Program. Among them, Massachusetts Preservation Projects Fund and The Massachusetts Historic Rehabilitation Tax Credit Program directly provide financial support to specific preservation program. The other two focus on support local preservation authorities. The Massachusetts Historic Rehabilitation Tax Credit Program, authorized by the Massachusetts Historical Commission, provides up to 20% of the cost of certified rehabilitation expenditures in state income tax credits. To be eligible, the property should be owner-occupied and income-producing. This program will expire on December 31, 2017. Massachusetts Preservation Projects Fund program offers 50% matching grants for projects of restoration, rehabilitation, stabilization, and documentation. To be eligible, the property should be owned by municipalities or nonprofit organizations and be on the list of State Register. This program also provides a option that applicants are able to apply for up to 75% of the total project cost if they willing to donate



The Eustis Street Fire House

an additional 25% of the cost for long-term preservation and maintenance of the property. It is this option that encourages people to put long-range efforts on historic preservation. Certified Local Government Program, eligible for local communities, which have enacted historic preservation legislation, provides at least 10% matching federal funds. Survey and Planning Grants are similar to CLG program: it offers 50% matching federal funds to local historical commissions, Certified Local Governments, local and state agencies, educational institutions, and private organizations. “Funding by survey and Planning Grants, Boston completed a multi-year survey of Beacon Hill, and initiated a multi-year survey update of the Central Business District (Massachusetts, 2010, p.16).”

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BRIN 69. FROM THE FACTORY TO A MIXED-USE BUILDING

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This article is developed with the mutual work of Italian and American student on the adaptive reuse of the historical proprieties. Between the two countries there are some differences about regulation and idea of historical proprieties. The meaning of adaptive reuse is to “recycle” old structures for new activities to establish a critic dialogue with identity and local values (1).

“Everything flows and nothing remains...so it seems (2)”

In Italy there are a high number of historical building, every city has its own historic collage. Differently the recent American cities have few historic building with the grid as urban layer and the skyscraper as ideal building. There is an opposite relation between new and old buildings in both countries. The study of the team is focused on the city of Naples for Italy and Boston for the United States. The city in the state of Massachusetts was founded in 1630 from an English colony in the area of the harbor; today the city is expanded and different with the financial district near the historical harbor, with the classic skyscrapers that change the skyline of the city. Differently Naples is not changed during the last century, the waterfront is almost the same with few contemporary transformations. Important interventions are placed outside the medieval wall, still the sign of the ancient city. In these boundary there are the most important transformations, public spaces for the old city and the suburbs where are located huge industrial buildings, today the outsourcing policy of industries provokes a state of neglect of huge spaces, waiting for a transformation. In this sphere, article try to identify some concepts typical of this phenomenon studying the American examples in Boston and the project Brin 69 in Naples.

An interesting interpretation of this approach in the U.S. is given in the volume 18 n.03 of the official magazine of the Boston Society of Architects, *ArchitectureBoston* (3). This number is focused on the theme “preserve”, where some authors give a different vision of the adaptive reuse of the historical proprieties. In some cases, the reuse of historic buildings is an opportunity to increase the economic value of the properties compared to the neighborhood, as indicated in the article “Preservation Follies” by the American economist Ed Glaeser. Against destruction of the common heritage in the 2014 the National Trust for Historic Preservation published a document called “Older, Smaller, Better”, try-

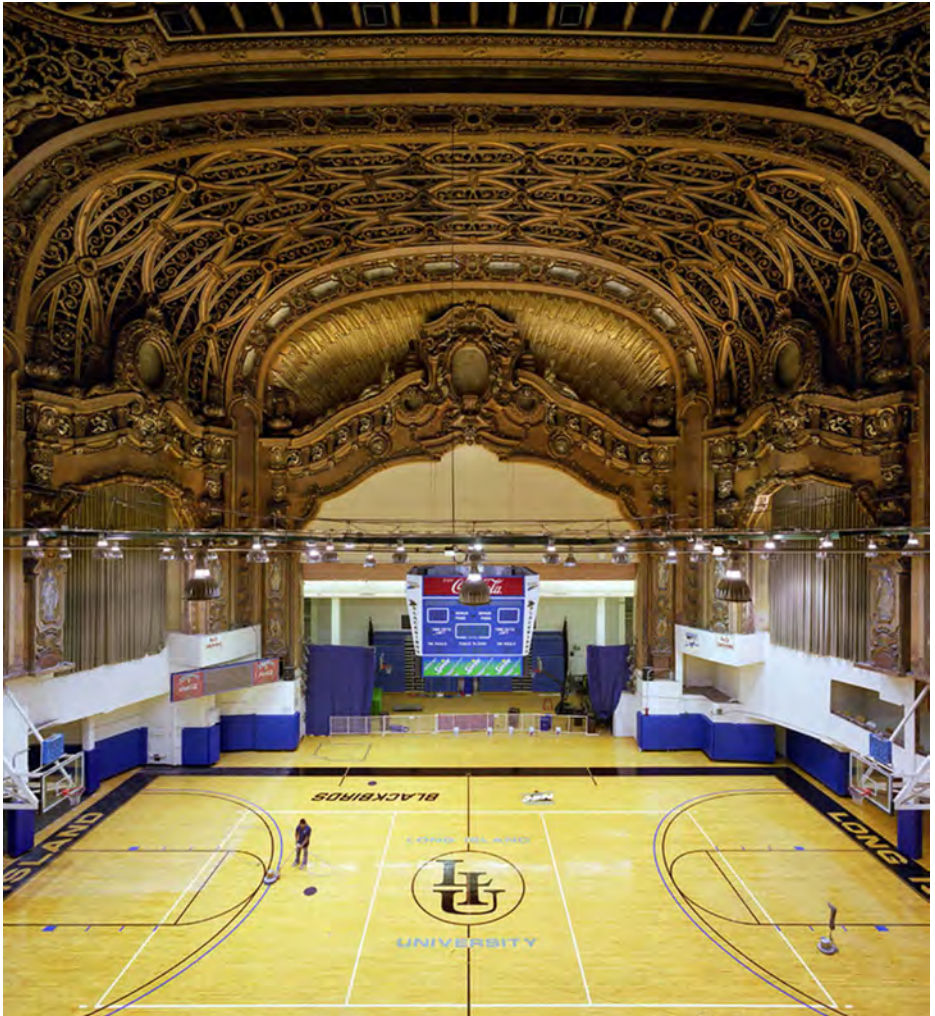


Figure 1: Paramount Theatre, Brooklyn, NY, 2008 from Theatre. Source: Yves Marchand & Ro

ing to stop the huge transformations of entire historic neighborhood with contemporary building, underlying different buildings and areas to preserve slowing down few real estate projects as in the city of Los Angeles. The destruction of an historic building of a neighborhood alters the urban context and delete social values bonded that constructions. As in the book *The Death and Life of Great American Cities*, when Jane Jacobs hopes for protection of her apartment block of Greenwich Village, today the neighborhood is an elite-place with a high market value, differently when lived there the American sociologist.

In Boston operates the non-profit organization Historic Boston that protect few properties at risk of demolition, promoting a sustainable reuse of the buildings with new functions. Sustainability is a concept bonded to the reuse of old building, not only as a production of better energetic performance from materials or machineries but also for the reduction of waste. In the last fifty years' human being has produced more waste than accumulated in the previous story, a waste society (4). In the United States two-thirds of the waste in the landfill come from construction and demolition industries, producing high levels of pollution due chemical elements present in the construction materials, as demonstrated in a study from the Boston University in 2013. Increase the reuse projects decrease the number of waste and pollution as well as increase the quality of the neighborhoods with the presence of historic structures with which people are bonded. In her book Jane Jacobs highlights that a city needs of historical buildings, a city cannot grow without them (5). Some interesting reuse-projects are showed in the series *The Theaters* by two photographers Yves Marchand and Romain Meffre, a work focused on places of great entertainment, today with another completely different function or abandoned. All those North-American structures are obsolete as the Loew's Theater in Montreal, opened in the 1917 and after several internal division closed in 1999 to re-open in 2005 as gym. The Westlake Theater opened in the 1925 in Los Angeles, after some works closed in 2009 still waiting for a new function. The Paramount Theater in Brooklyn (1928) with 4.124 seats was closed in 1962 and reused in the same year as gymnasium by the Long Island University. In Naples, there are not "extreme" reuse projects like the American examples, an historic building could be transformed



Figure 2: general plan for east of Naples with the two building of the Real Albergo dei Poveri (North) and the Brin 69 (south). Source: Comitato NapleST.

in a hotel, a school, a library or a museum, with minimum architectural interventions. A good example is the reuse of an old factory, the building of the Ex Mecfond, the building is the second bigger structure in Naples, it is 250 meters long, after the Real Albergo dei Poveri with a façade 383 meters long (6). The project was designed by Italian architectural office Vulcanica completed in 2011, this new building is the first of several key-projects for the development of the old industrial area east of Naples, today this urban project is proceeding slowly. In front of Brin 69 there is another huge building, an ex-Tobacco industry, where the project designed by Italian architect Mario Cucinella is ready from 2009 but the construction site did not start yet. It was difficult to use the structure with a single function, the reuse was focused on a mixed-use building with offices, lofts, commercial spaces and a three levels parking. The historical steel trusses were restored and the old introspective cladding became a transparent skin with a 360° view on the city and towards the bay of Naples. The skeleton of the old building was restored and treated to be suitable with current fire-regulation. Sideways the old steel skeleton was built a new structure to support the new floors inside the new building with offices and stores at the ground floor open until deep night with the aim to develop the area that today lives only during the day. The new structure is lightweight due the hi-bond steel-sheets for part of the roof and the glass for the roof of the court and the façade. The final cost of the construction was 30 million of euros, a great amount of money for an Italian project but a normal one for the American standards. The building has a green-side with the inner court with plants as the *Dracena Deremensis* useful to reduce the pollution of the air, specifically the plants in the building can eliminate 50 mg of benzene every 1 sqm. Brin 69 is a necessary project for the city of Naples with the reuse of an old factory building with new materials, different from other reuse or restoration projects in the city. The building is the second longest building in the city after the Real Albergo dei Poveri, designed by Ferdinando Fuga in the 1749, they represent the two polarity of the city, the old one and the contemporary one, both restored recently. All these projects are bonded to the construction and demolition cycle, creating a great amount of waste in landfill or worst. The cycle of materials from construction sites is a new challenge, Italy



Figure 3: the façade during construction.

does not produce as the U.S. but is always a problem to be solved, changing the way to work, to reduce consumption and waste (7). A possible solution should be a “reuse market” for the construction materials. This solution is not possible in Europe due the laws restrictions but is a good practice in the United States as demonstrated from the work of Superuse (ex 2012 Architects) (8). Materials receive a new life, helping to launch a new economic sector with a significant decrease in the waste problem. An important and interesting practice to import in Europe and especially in Italy.

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Figure 4: the steel skeleton of the old factory.



Figure 5: the inner court. Source: Nagorà.

CRUISE SHIPS AND HERITAGE HARBORS: A DIFFICULT RELATIONSHIP. ANALYSIS OF THE ECONOMIC AND ENVIRONMENTAL IMPACT OF THE CRUISE INDUSTRY IN VENICE

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Despite the absence of a definition of ports at the regulatory level, the Italian legal system has always had high regard for the topic since the Civil Code of 1865 to the present day with the recent Legislative Decree no. 169/2016, which will be examined later.

The ports belong to the category of *res publicae* since Roman law, and such a connotation remains substantially unchanged even in the codifications of 1865 and 1942, by means of which was respectively conferred and confirmed the legal status of public property. The Italian legislation is vast and encompasses a plurality of sources of law among which it is useful to recall some:

- the 1942 Civil Code that, under Article 822, includes the ports among the assets belonging to the State Property;
- the Navigation Code that, under Article 28, more specifically includes them among the assets of the maritime domain and under Article 35 gives them a functional purpose to “public use of the sea”;
- the Presidential Decree no. 616 of July 24, 1977, which in some ways can be considered the first legislative provision of the division of administrative powers between the State and Regions in the field of maritime domain;
- the Law no. 84 of 28 January 1994, which reformed the port classification dating from Royal Decree no. 3095, April 2, 1885, recognizing new functions to ports, highlighting its functional terms, by establishing the Port Authorities and attributing to the Regions - only for certain categories of ports - administrative functions related to maritime activities.

Subsequently, the reform of Title V of the Constitution carried out by the Constitutional Law no. 3/2001, was the turning point in the division of powers between the State and Regions. Among the changes introduced by the reform it should be aislative power” concerning port matters, then the assignment to the same of the “exclusive legislative powers” in the field of tourism and therefore of tourist ports, and finally the recognition - in general - of administrative functions attributed to the Municipalities [1][2].

Finally, we must highlight the recent Legislative Decree no. 169, 4 August 2016, concerning reorganization, rationalization and simplification of the rules relating to the Port Authority in relation to the aforementioned Law no. 84/1994. Such



legislation should finally bring a breath of fresh air as being potentially able to reintroduce the Italian port system [3]. Among the new features are worth mentioning, to wit:

- the establishment of 15 Authorities of the Port System (i.e. AdSP) that will replace the 24 existing Port Authorities;
- the creation of a body called the Coordination of AdSP National Conference, whose aims are coordinating the large infrastructure investments, planning the port city planning, establishing the state concession strategies and carrying out marketing activities and promotion of the ports in the international arena;
- a renewed environmental awareness by means of the introduction of Article 4-bis of the Law no. 84/1994, under which the planning of the port system is subject to the observance of the energy and environmental sustainability criteria, in view of reducing CO₂ emissions and promoting renewable energy.

Likewise, the regulatory transposition by the legislature of that growing environmental sensitivity manifested by the community should be definitely admired, in that over the years it has changed the old concept of port understood as a peripheral place of mere exercise of industrial, commercial and traffic activities to that of being an integral part of the city, to be enjoyed and protected even as part of the landscape and environment.

In this regard, it is important to emphasize that the so-called heritage harbors have spread in Europe by virtue of the attention to date reserved for environmental protection which tried to achieve a compromise of the conflicting interests at the regulatory level, i.e. between the increase in the economical network that a natural port generates and the natural, urban and architectural environment preservation attributable not only to the landscape, but also to vessels moored or transiting through these ports.

The heritage harbors are well known institutions to those countries bordering the Mediterranean or that benefit from the sea: just think of the Venetian lagoon, in which the cultural, landscape and architectural heritage is a value to be preserved, because, if used wisely, is a source of economic growth for the city itself. Indeed, it is no coincidence that Venice and its lagoon have been a UNESCO World Heritage Site since 1987: the OUV (Outstanding Universal Value) which



led to obtaining that award, expressly states that “because of their geographical features, the city of Venice and the lagoon settlements have preserved their original integrity of the built heritage, the settlement structure and its interrelationship in the lagoon. The boundaries of the city and other lagoon settlements are well circumscribed and delimited by the water. Venice has maintained its borders, the landscape characteristics and the physical and functional relationship with the lagoon environment.

The structure and the urban morphology of Venice has remained broadly similar to what the city had in the Middle Ages and during the Renaissance”. On the basis of these reasons, therefore, it is easy to understand the concern that Venice can be affected by large infrastructure projects, especially in view of the exponential increase of cruise tourism which considers that city a very desirable goal to reach. The protection of the delicate lagoon environment - which involves constant attention to the hydraulic and hydrogeological balance, as well as physical and ecological unity of the lagoon - must coexist with the passage of big ships. It is incumbent to make a clarification: Venice, over the centuries, has always been reached by the sea and for this reason was built to meet this need. Venice, moreover, has also been able to diversify its port system by assigning Maghera to goods and Maritime to passenger. The great adaptability shown by the lagoon city, therefore, has allowed an exponential increase in cruise traffic which today is an indispensable part of the economic base of the city as they allow both to diversify the competitiveness and to qualify the tourist economy. It would be a mistake not to pay due attention to a now indisputable fact: Venice is the European capital of cruises, “world-terminus of arrival and departure for cruise ships second only to US ports in Florida” [4].

The economy linked to the cruise encompasses the earnings deriving not only from port activities of service to the ship and passengers, but also from the maintenance or supply of the “great white ships” and the expenses incurred by tourists who stop there. However, from the environmental and structural point of view, the sustainability of the lagoon seems problematic: the benefits on the economy cannot in any case weaken the protection of another and greater interest as the safety of navigation, which is linked to the necessity of not compro-



missing air quality, to contain the wave motion and to control noise and vibration for the stability of the seabed. These requirements - to whose care is overseen by the Maritime Authority and the Magistrate to the Waters - are involved more and more because of the current size of cruise ships, whose gross tonnage is certainly disproportionate to the historical and architectural context of the lagoon city.

To protect the preciousness of the lagoon landscape, its morphology and its biodiversity, for years the "NO GRANDI NAVI" Committee (No Big Ships), made up of Venetian citizens, opposed to the cruise ships passage in the lagoon, have brought this issue to the attention of the institutions. More precisely, to protect the safety of the peculiarities of the lagoon, the Ministry of Infrastructure and Transport has issued the decree of March 2, 2012, the so-called Decree Clini-Passera. Article 2, letter b of the abovementioned Decree prohibits the transit of vessels used to carry goods and passengers superior to 40,000 gross tons through the Giudecca Canal and the San Marco Basin; Article 3, however, makes that prohibition applicable when other waterways are available, which have to be identified through a joint action of the Port Authority, the Port Captaincies and the Magistrate of the Waters, even if ordinarily engaged in different functions.

The provision in question has raised several controversies, despite its obvious preventive purposes; in the wake of such regulatory intervention the institutional players made copious interventions on this issue – on a multilevel perspective but still with contrasting results. Several alternatives have been proposed, which may vary depending on whether or not the Maritime Station is used; there have also been jurisprudential interventions among which, the regional administrative court of Veneto's quashing of the Port Captaincies of Venice's orders which provided the limitation of the transit of large cruise ships in the Giudecca Canal and the San Marco Canal (in 2015 the ban was applied to a gross tonnage of more than 96,000 tons).

The decision taken in 2015 was based on the lack of alternative waterways other than those used. But this has made the Authorities difficulty to provide appropriate projects more evident. And yet, the solution could come from Venice's past, which is linked to the sea as a source of growth and wealth: it is not necessary - for the lagoon's safety and protection of the environment - to completely exclude the opportunity of using the economic potential of Venice's cruise industry.

These goals could easily be pursued together by enhancing the adaptability of



the lagoon city and by encouraging the cruise industry to respect those quality standards specific for the Venetian reality.

On the other hand, to paraphrase Thomas Mann, Venice “the most improbable of cities”... “should not be reached in any other way than by ship” [5].

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CASTEL DEL MONTE: CULTURAL HERITAGE AND TOURIST FLOW

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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 Montefusco.

These are the words of the text in question: "Federico II, Emperor of the Romans, King of Jerusalem and Sicily, Riccardo of Montefusco, 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.

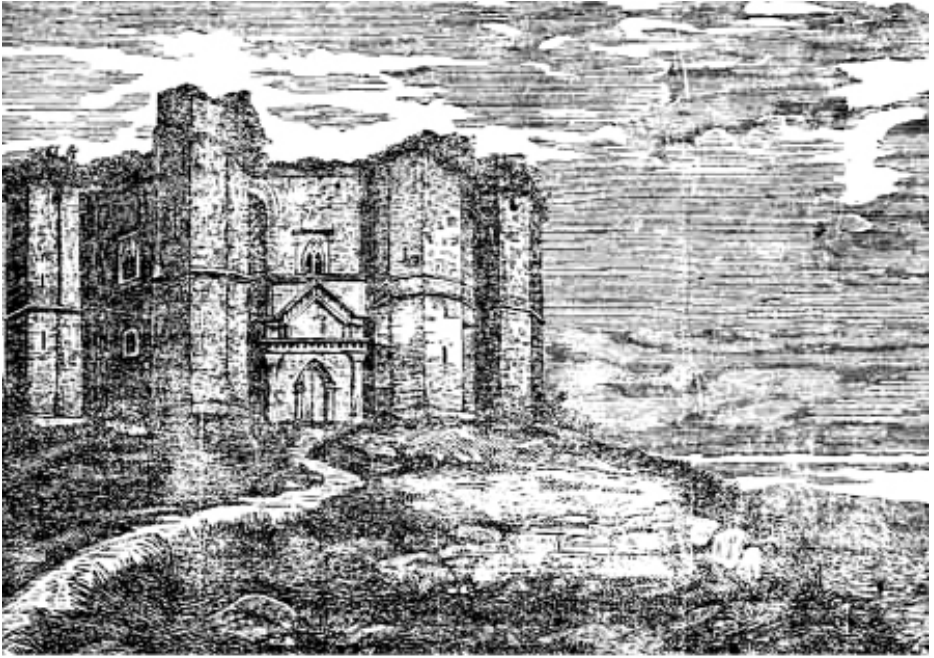
These materials have decorated, embellished and finished the various rooms, including the doors and interior windows. Other materials used for decorations are the glass paste and the glazed ceramic.

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-



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.

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.

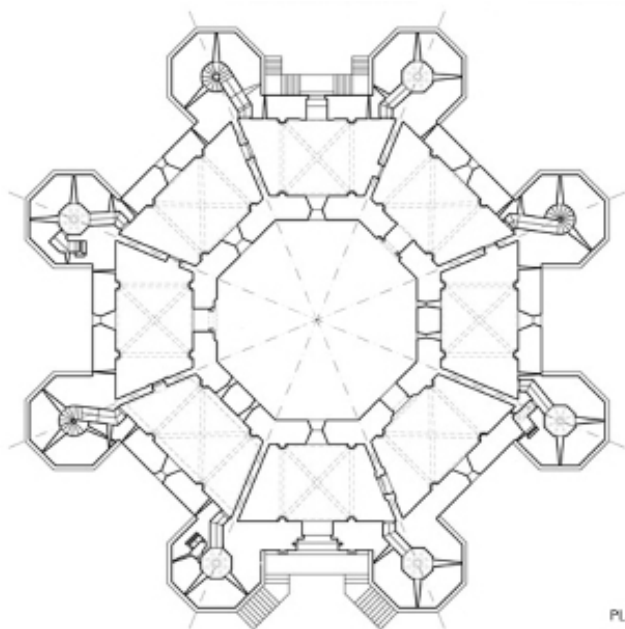
For each floor there are some rooms not in the mouth, service or hallway, with several independent paths. Decorative flowers in number eight, adorn the various columns on the ground floor and the first floor, the keystones in the halls, on the portal. For each floor there are some rooms not in the mouth, 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.

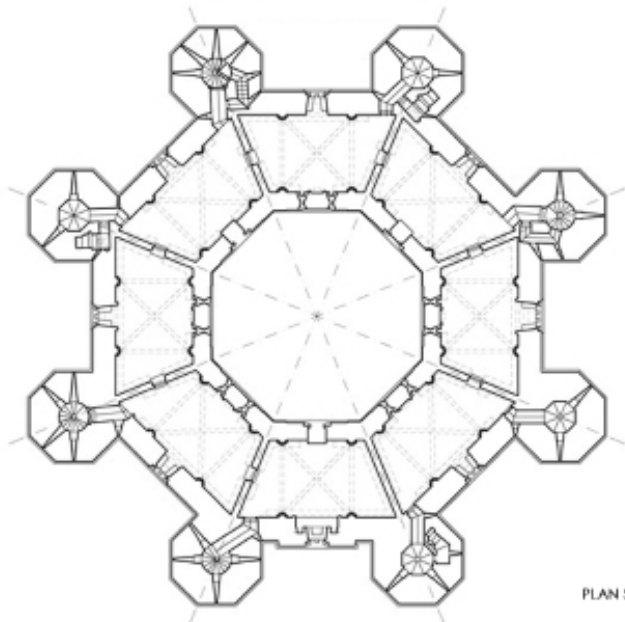
The various octagonal towers also consist of toilets, ventilation systems, drains, basins and inlets for the lanterns, and to access it there are spiral staircases that turn to the left, unusual and not suited to the defense in a castle, inside. Upstairs, in the area of outside, every room is lit by 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



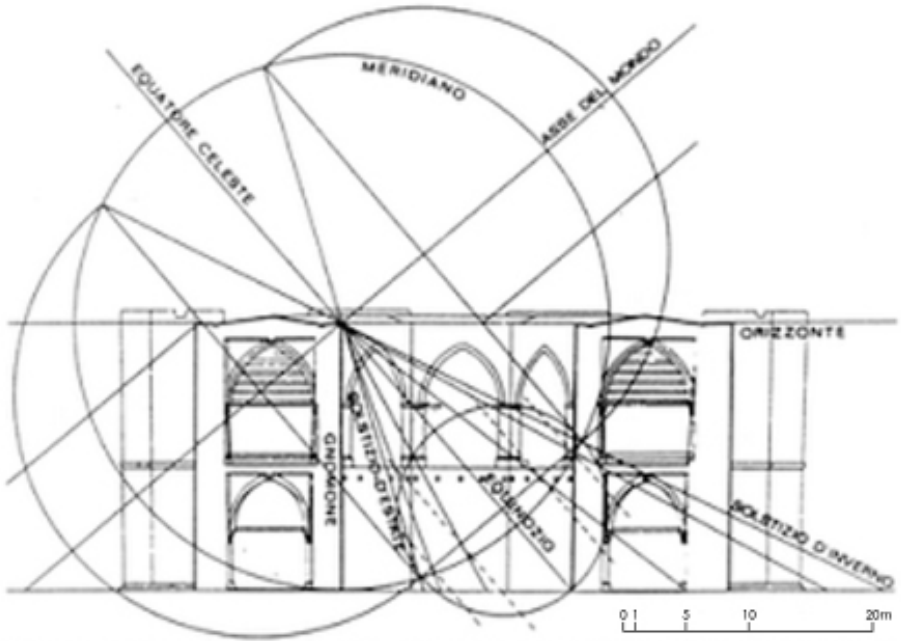
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PLAN FIRST FLOOR



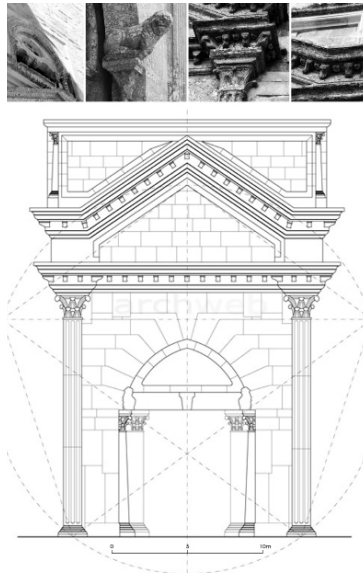
PLAN SECOND FLOOR

which are joined together, and going to a landing, stand beautiful telamons that hold six ribs. In the east of the castle there is the throne room above the main entrance, where the sides are two recesses which accommodate the rings to maneuver the gate of the main portal. On the keystone of a face is not identified. On the terrace, very scenic, there are double sloping cover, one of them used to direct the water to the tank of the court, while a pipe directs the water to the pipes of the services of the towers of the castle. The fascination that has always exercised Castel del Monte, from 1996 UNESCO, is a source of pride in the medieval history of Puglia and the time will make it even more mystical, mysterious, charming this beautiful castle with multiple messages not yet deciphered. It is difficult and hardly likely to consider the work of Castel del Monte commissioned by a different figure of Federico II of Hohenstaufen, the prince of the largest earth, mysterious figure, loved and hated but most dominant of the thirteenth century. Studying his person, his years of reign, but especially his passions his life at court, Castel del Monte becomes an inseparable part of his image. In Castel del Monte nothing was left to chance, even the smallest piece of rock was placed in a logical and rational, in a thirteenth century through architecture which is transmitted coded messages contained in the castle still unresolved. The number eight can be found repeated, petrified, turned into shape and made, therefore, immortal. The similarities with the buildings in Sicily are obvious and, this, is not that a further and explicit contact that this period has had the cultural area oriental a genuine link; nevertheless there are clear characteristic gothic styles. The similarity is more in the forms which are associated with projects and styles typical of muslim architecture in the middle east and Africa, of course, with gothic veins, as I have said previously. In conclusion remains the doubt that still so we can find, both in terms of direct and indirect references, considering as a starting point the possible influences 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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VICTORIAN AND EDWARDIAN RESIDENTIAL ARCHITECTURE IN THE UNITED STATES

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Boston's Back Bay is one of the largest examples of intact Victorian and Edwardian residential architecture in the United States. Built as one of Boston's premier neighborhoods, it fell into decline for many years, but was saved by a combination of dedicated residents, architectural preservationists. Its architecture is protected by law and the vigilant oversight of the Back Bay Architectural Commission. Beacon Street is a major thoroughfare in this district.

The General Court in 1966 passed an act establishing the Back Bay Architectural District and the Back Bay Architectural Commission, a commission presently within the City's Environment Department. The area is covered within the boundaries of the centerlines of Back Street on the north, Embankment Road and Arlington Street on the east, Boylston Street on the south, and Charlesgate East on the west. The residential portion of the district, with which these guidelines are concerned, is that portion which is zoned for residential use and which lies north of the alley between Commonwealth Avenue and Newbury Street.

1900, 532 Beacon Street was built for a local lawyer Francis William Kittredge and his wife, Mary Hascal (Wheaton) Kittredge. Builders Morrison Brothers built this building with the design of George A. Avery. He designed the building in Back Bay style of the 1890's, which is also used to the architect for 530 Beacon, a building built 1908. In 1919, the MIT Chapter of Alpha Theta Sigma Chi fraternity leased the house as their fraternity house because their old house was closed down since the World War I. 1924, the fraternity acquired it from William J. Stober, a lawyer and real estate conveyancer, for \$40,000 (a shade under \$520,000 in 2006 dollars). They had raised \$28,000 from alumni over the last 15 years, and took out a loan to pay the rest. 1970s, Basic repairs and upgrades to its heating and plumbing were made. Since 2000, for providing an excellent living and learning environment for future generations of MIT students, they decided to renovate the aged building. In 2013, a full renovation and restoration was started. And in 2015, the renovation work was finished and won the Preservation Achievement Awards. The renovation work lasted 22 months, and costed six million dollars.

There are three organizations got involved into the renovation works. Sigma Chi was client and built up an Building Committee with Alpha Theta alums to



532 BEACON STREET IN 1940 AND 2015

oversee the project. The renovation team was composed with LDa Architecture and interiors and SeaDar Construction. The Back Bay Architectural Commission reviewed all the work.

Sigma Chi is not only one of the largest international fraternities in North America, but also has a long history at MIT that began in 1882. It is the oldest continuous Fraternity at MIT with one of the oldest houses. Therefore, they have deep connection with the house. But because 532 Beacon Street is showing its age, and cannot afford increasing demand of students, a renovation plan that providing things such as updated infrastructure systems was put up by Alpha Theta. They aimed to offer a first-class home space that reflects the exemplary nature of the brotherhood and is in line with the needs and expectations of modern-day students. And MIT provided strong support to express their positive attitude that Fraternities play a very important role in providing great living experiences and learning experiences for our students.

LDa Founded in 1992. Their mission is providing design solutions for a wide range of clients throughout New England, practicing in the residential, interior design, commercial, cultural and academic sectors. They took charge as architect in this project. And Sea-Dar Construction worked as General Contractor, their job including estimating, pre-construction planning, construction, construction scheduling, and design-build capabilities.

Because of their duties, all exterior work were reviewed by the Back Bay Architectural Commission. A certificate of appropriateness, design approval, and exemption application were all approved by the Commission prior to beginning their exterior work.

The structural elements of the house was repaired and reinforced as necessary to ensure the structural integrity of the building. And the exterior of 532 Beacon Street was restored to preserve the building's historic appearance for the next several decades. The window stained-glass was repaired and restored. New insulation, and state-of-the-art energy and climate systems will dramatically improve the energy efficiency of the building. A fifth floor was added to the building for providing space for increasing number of students. Key signature areas of the house to remain (i.e., restoration only), such as the library, dining room,



First Floor of 532 Beacon Street in 1888



Architectural details in the library include a coffered ceiling and built-in benches under the bay

central open staircase, etc.

Completely new life safety systems was built, including an efficient heating system, newly-installed boiler, piping, fan coil units, and an air conditioner which wasn't existed before. They also improve the accessibility of the building as required by ADA code, an elevator was set up to second floor. Because of the existing mechanical, electrical, and plumbing systems are all past their current usable life spans, they installed all new MEP systems for today's demand.

Besides, 532 Beacon Street contains a great deal of original woodwork and other finishes. The renovation restored and preserved these finishes and items.

For example, items such as hardwood floors, wainscoting, balustrade, and coffered ceiling were all be restored and preserved, as will original stained glass.

The highlight of the project was incorporating modern building systems while preserving the historic integrity of the building's original elements. All these projects fall into the scope of adaptive reuse wherein either the materials can be reused for new purposes or the entire structures is designated an entirely new function. "We wanted to make it a 'new building,' but have it feel exactly the same." said by Peter Makrauer, the architect.

The renovation project of 532 Beacon Street represented the future of adaptive reuse of historic building in the limitation of regulations. It extended the life of the building in both exterior and interior way by updating the inside without changing the original facade. It brought technology to the building and didn't interfere its structure. This concealed renovation work was advocated for the future heritage preservation projects.



Old photo of 532 Beacon Street

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Boston - photo credit royalcaribbean.com



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 Philip’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 in 1783. 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 Occurrences: 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, Faneuil Hall in 1742 and finally Quincy Market in 1824. Later 19th cen-

ture 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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WYNWOOD: BEARER OF TOURISM

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Since its birth in the late 1800s, Miami City has been through multiple periods of boom and bust. Located in Florida at the southern point of the United States, Miami was not attractive as a city because of its unsuitable climate and environment for habitation. The inauguration of the Florida East Coast Railroad, however, enabled and encouraged settlement and development. In the 1920s, many rich developers invested in Miami City's future, visualizing it as a resort and beach destination. Rapid development of resorts and hotels in the 1920s gave the city its reputation as "Magic City." Even during and after the 1926 Great Depression, Miami's lure never faded away. More and more people visited its pristine beaches while staying in Art Deco and MiMo style hotels. In the 1960s and 1970s, mass movement of immigrants to Miami transformed the city into a cultural melting pot. Today, this cosmopolitan city is known for its beaches, and in the 2014 had the busiest passenger cruise port in the world: about 4.8 million vacationers pass through the port. While Miami Beach City promotes its aesthetically spellbinding Art Deco buildings, Miami City has touted its MiMo style architecture and cultural resources, while sponsoring music and art festivals as well as art fairs.

One particular neighborhood stands out for these special characteristics: the Wynwood Neighborhood Revitalization District. It is located inland north of downtown Miami. Previously a warehouse district, this area was home to many local blue collar and Puerto Rico residents who were unemployed in the 1970s. Developed by David Lambari and Tony Goldman in 2006, it took much attention and enthusiasm from these developers to realize this neighborhood's full potential. Their vision was to make it an open canvas for street art (image 2). Goldman's first act was to create Wynwood Walls, an open-area gallery of art. The huge murals are on every corner, framing every curve and angle of the buildings. Among these vibrant-color wall paintings are restaurants and bars whose facades are extremely integrated and cohesive with the adjacent walls (Image 3-4). This area has such character and charm, fully embodying a sense of place, that it has become a tourist destination where the arts thrive. The music and art festival bring tourists, and the area is "transitioning into a globally recognized destination for art, fashion, innovation, and creative enterprise"



Image 1 Location of Wynwood

(Robbins, 2016). Even television commercials such as American Express's have used Wynwood as a backdrop. This revitalization has fostered growth and opportunities in the neighborhood, which is seen in the number of growth of the population from 13,374 in 2010 to 15,434 in 2014, with a median age of 34.7. This urban renewal and economic development is been drawing not only local residents to these neighbourhoods but also tourists as well. However, despite Wynwood's eye-catching murals, the Art Deco District in Miami Beach City is still the region's top tourist attraction. In general, the economy of the Greater Miami area revolves around hospitality and tourism. Tourism in Miami City can be divided into eco-tourism, consisting of visiting beaches and the Everglades Park, and cultural and historical tourism. Miami did not always have attractive cultural and historical tourism. In the 1970s, it almost lost its tourist draw due to the opening of Walt Disney's Orlando resort and the growth of affordable and accessible Caribbean resorts that diverted tourism elsewhere. However, with the revitalization of the Art Deco district in the 1970s and a shift from eco-tourism to cultural tourism helped Miami recapture the lost vacationers. Now the city has done it again with the renewal of the Wynwood neighbourhood as an artistic, posh area.

In 2014, Miami visitors—of which 80% are domestic—generated \$23.8 billion. The area attracts mostly young visitors between the ages of 25 and 54. In the fall of 2010, 13.5 million people attended arts and cultural events in Miami (Katsikos, 2012). The art and music festivals are driving people more to Wynwood and putting it more on the map. One instance of this is Art Basel, an international art festival located in nearby South Beach that promotes but the festival promotes and supports Wynwood as well. In order to make Wynwood district well known, even the Miami Design Preservation League based in Miami Beach City has sponsored a new buss shuttle to ferry South Beach tourists to and from the Wynwood art district. The 8.2 miles distance from South Beach to Wynwood makes it difficult for visitors, most of whom stay in Miami Beach, because they are normally without personal transportation to get there. Tours and shuttles provide opportunity and accessibility for tourists, therefore increasing the number of visitors to Wynwood. Tour guides or self-managed app tours provide



Image 2 Wywood Malls

visitors with the tools to explore the street arts. In March 2015, around 40,000 people visited Wynwood neighborhood, whereas the Art Deco district brings in 11,600,000 people annually out of which 80% are domestic visitors. While Wynwood promotes Art Wynwood and other festivals based in the district, and strives to advance the district's recognition in the world, the number of tourists needs further assessing.

The case of Miami's Wynwood district is not singular. Districts from West Oakland, California to Williamsburg in Brooklyn have also been attracting a new breed of tourists over the last decade, seeking creative energy in adaptive reuse neighbourhoods, with a new and vibrant tech/start-up atmosphere layered in with the existing arts and cultural scenes. Nonetheless, Wynwood is different, as Jacquelyn Katsikos argues, having had an inorganic development (Katsikos, 2016). Similar to SoHo in New York City, a major preservation destination in Manhattan, Wynwood was revitalized on a developers' idea to create a commercial area rather than on an organic flow of artistic people. After a while, the building becomes unaffordable and pushes the artistic types out. Katsikos likens this to SoHo: as prices are rising higher, more and more artists and art professionals are forced to move to Williamsburg in search of cheaper housing. In the 1960s, the revitalization of SoHo began; a report done in 1993 stated that 43.6% of New York tourists wanted to visit SoHo (Messinger, Friedman, and Yee, 1994) Currently, the rates of visitation are higher.

The Wynwood art district has similar prospects of growing and becoming a unique neighborhood known worldwide. Yet it is difficult to ward off new construction that does not adhere to the language and style of the streetscape. Since this recently developed district is not an historic district, many new super-complexes, such as the Mana Plan, challenge the integrity of the district (Viglucchi, 2016). He concurs that “[this] project could overwhelm its modestly scaled neighbors while providing insufficient public benefits and little help in mitigating its impact on traffic, parking, policing and other public services”—even though the special zoning approved by the Miami City Commission limits the height to 12 stories. These major developments threaten Wynwood's sense of place: as Ted Kaufman argues, zoning does not protect a certain quality of a place



Image 3 Restaurant in Wynwood Mall



Image 4 Restaurant in Wynwood with graffiti on the wall

(Kaufman, 2009). A sense of place anchors a community and creates identity; therefore it means everything to the neighborhood. This is what brings the tourists to Wynwood.

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Procida, photo: Gino Spera



