

Florian Nepravishtha  
Andrea Maligari

# MODERNISATION AND GLOBALIZATION

NEW PARADIGMS IN ARCHITECTURE, CITY, TERRITORY



La Scuola di Pragmatica  
ed Ince



# MODERNISATION AND GLOBALISATION

NEW PARADIGMS IN ARCHITECTURE, CITY, TERRITORY

FLORIAN NEPRAVISHTA  
ANDREA MALIQARI



La scuola di Pitagora  
editrice

Florian Nepravishta, Andrea Maliqari

## **MODERNISATION AND GLOBALISATION**

NEW PARADIGMS IN ARCHITECTURE, CITY, TERRITORY

### **Editor:**

Florian Nepravishta

### **Layout:**

Vjola Ilia

### **Cover:**

Andi Shameti

**Publisher:** Faculty of Architecture and Urbanism (FAU), Polytechnic University of Tirana

### **Press:**

Printing House Filara Print, Tiranë 2021  
Rruga: "Sabaudin Gabrani" Tirane, Albania

### **© Copyright 2021**

*Reserved literary property*

La scuola di Pitagora editrice,

Via Monte di Dio, 54, 80132 Napoli - Italia

*The total or partial reproduction of this publication, as well as its transmission in any form and by any means, including through photocopies, without the written authorization of the editor is absolutely prohibited.*

*Le nostre edizioni sono disponibili in Italia e all'estero anche in versione e-book.  
Our publications, both as books and e-books are available in Italy and abroad.*

ISBN: 978-88-6542-814-6

ISBN: 978-88-6542-815-3 (e-book)

# Collana FAU

## Forum for Architecture and Urbanism (FAU)

Series founded and directed by Florian Nepravishta

Number three

## Collana FAU

### Serie “Forum for Architecture and Urbanism (FAU)”

Serie founded and directed by Florian Nepravishta

Forum for Architecture and Urbanism (FAU) series of scientific publications has the purpose of disseminating the results of national and international research and project carried out by the Faculty of Architecture and Urbanism (FAU) of the Polytechnic University of Tirana (UPT). The volumes are subject to a qualitative process of acceptance and evaluation based on peer review, which is entrusted to the Scientific Publications Committee. Furthermore, all publications are available on an open-access basis on the Internet, which not only favors their diffusion, but also fosters an effective evaluation from the entire international scientific community. The Faculty of Architecture and Urbanism (FAU) of the Polytechnic University of Tirana (UPT) promotes and supports this series in order to offer a useful contribution to international research on architecture, urbanism and cultural heritage, both at the theoretico-critical and operative levels.

## Editorial board

**Agron Lufi**, Polytechnic University of Tirana, AL | **Andrea Maliqari**, Polytechnic University of Tirana, AL | **Armand Vokshi**, Polytechnic University of Tirana, AL | **Denada Veizaj**, Polytechnic University of Tirana, AL | **Entela Daci**, Polytechnic University of Tirana, AL | **Elfrida Shehu**, Polytechnic University of Tirana, AL | **Etleva Bushati**, Polytechnic University of Tirana, AL | **Florian Nepravishta**, Polytechnic University of Tirana, AL | **Gjergj Islami**, Polytechnic University of Tirana, AL | **Gjergj Thomai**, AQTN, Polytechnic University of Tirana, AL | **Julian Veleshnja**, Polytechnic University of Tirana, AL | **Ledita Mezini**, Polytechnic University of Tirana, AL | **Loreta Capeli**, Polytechnic University of Tirana, AL | **Frida Pashako**, EU and Municipality of Tirana, AL | **Marsida Tuxhari**, Polytechnic University of Tirana, AL

## International Scientific Committee

**Alberto Ferlenga**, IUAV, Venezia, IT | **Alcibiades P. Tsolakis**, Louisiana State University, US | **Antonio Capestro**, Università di Firenze, IT | **Amir Čaušević**, University of Sarajevo, BH | **Aleksandra Đukić**, University of Belgrade, RS | **Alenka Fikfak**, University of Ljubljana, SI | **Anna Bruna Menghini**, Università La Sapienza, Rome, IT | **Bálint Bachmann**, Budapest Metropolitan University, HU | **Carlo Bianchini**, Università La Sapienza, Rome, IT | **Carmine Gambardella**, Cattedra UNESCO su Paesaggio, Beni Culturali e Governo del Territorio, IT | **Caroline Jäger-Klein**, Vienna University of Technology, AT | **Derya Oktay**, Ondokuz Mayıs University, TR | **Dukagjin Hasimja**, University of Pristine, KS | **Edmond Hajrizi**, University for Build and Technology, KS | **Enrico Fontanari**, IUAV, Venezia, IT | **Enrico Aguleri**, IUAV, Venezia, IT | **Elisabetta Rosina**, Politecnico di Milano, IT | **Ermal Shpuza**, Kennesaw State University, US | **Ezio Godoli**, Università di Firenze, IT | **Eva Vaništa Lazarević**, University of Belgrade, RS | **Fabio Capanni**, Università di Firenze, IT | **Francesca Calace**, Politecnico di Bari, IT | **Francesco Defilippis**, Politecnico di Bari, IT | **Francesca Giofrè**, Università La Sapienza, Rome, IT | **Francesco Collotti**, Università di Firenze, IT | **Francesca Fatta**, Università di Reggio Calabria, IT | **Ipek Durukan**, Mersin University, TR | **Giuseppe De Luca**, Università di Firenze, IT | **Goran Radovic**, University of Montenegro, ME | **Heinrich Haass**, Hochschule Anhalt, Bernburg, DE | **Laura Baratin**, Università degli Studi di Urbino, IT | **Loredana Ficarelli**, Politecnico di Bari, IT | **Lorenzo Pignatti**, Università di Pescara, IT | **Luigi Corniello**, Università degli Studi di Campania “Luigi Vanvitelli”, IT | **Luigi Maffei**, Università degli Studi di Campania “Luigi Vanvitelli”, IT | **Manfredo di Robilant**, Politecnico di Torino, IT | **Minas Bakalčev**, St. Cyril and Methodius University, Skopje, MK | **Mirjana Devetakovic-Radojevic**, University of Belgrade, RS | **Mosè Ricci**, Università di Trento, IT | **Ornella Zerlenga**, Università della Campania, IT | **Paolo di Nardo**, Università di Firenze, IT | **Paolo Giordano**, Università degli Studi di Campania “Luigi Vanvitelli”, IT | **Piero Rovigati**, Università di Pescara, IT | **Pilar Chias Navarro**, Universidad de Alcalá, Madrid ES | **Renate Bornberg**, Vienna University of Technology, AT | **Paul Luis Meunier**, École Spéciale des Travaux Publics, Paris, FR | **Pierfrancesco Fiore**, University of Salerno – IT | **Ulisse Tramonti**, Facoltà di Architettura N. S. del Buon Consiglio, U.di Firenze, IT | **Ulrike Herbig**, Vienna University of Technology, AT | **Saverio Mecca**, Università di Firenze, IT | **Taner OC**, University College London, UK | **Thomas Dillinger**, Vienna University of Technology, AT | **Violeta Nushi**, Faculty of Architecture, University of Pristine, KS | **Višnja Kukovič**, University of Split, CR | **Yannis Aesopos**, University of Patras, GR | **Zoran Djukanović**, University of Belgrade, RS |

The background features a complex, abstract geometric pattern. It consists of numerous overlapping hexagons of varying sizes and orientations. Some hexagons are solid light gray, while others are outlined in white. A network of thin, dashed white lines connects various vertices of the hexagons, creating a web-like structure that suggests connectivity and complexity. The overall aesthetic is clean, modern, and technical.

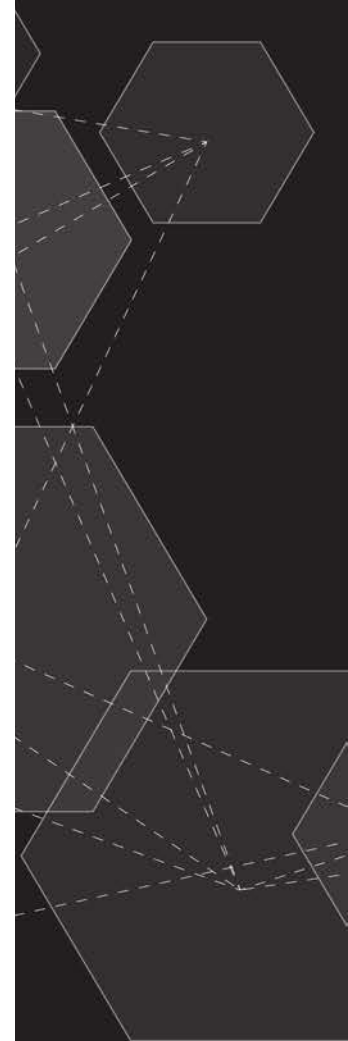
# MODERNISATION AND GLOBALIZATION

New paradigms in architecture, city, territory



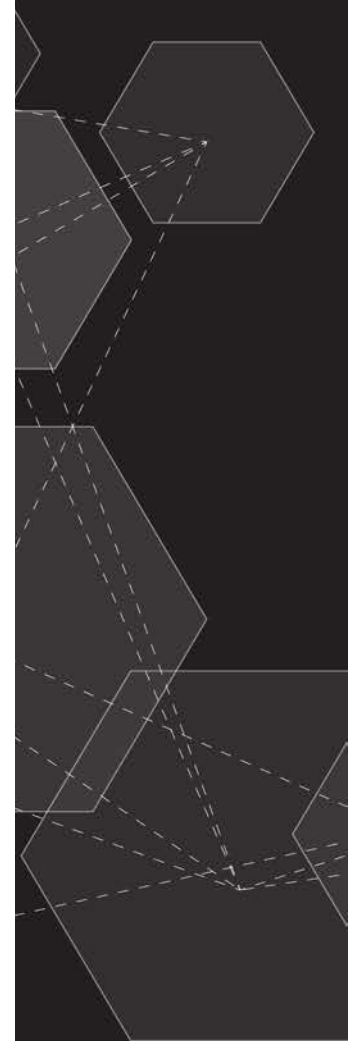


<b>CONTENTS</b>	<b>05</b>
<b>Introduction</b>	<b>17</b>
<b>Modernisation: a global paradigm</b> <i>Florian Nepravishta</i>	<b>18</b>
<b>CHAPTER 1 - GLOBAL AND LOCAL MODERNIZATIONS</b>	<b>23</b>
<b>1. Cities in the long present</b> <i>Mosè Ricci</i>	<b>25</b>
<b>2. Architectural modernity in Bosnia</b> <i>Lorenzo Pignatti</i>	<b>31</b>
<b>3. The typological space of the self-represented contemporary city</b> <i>Claudio Zanirato</i>	<b>37</b>
<b>4. Brutalism: the new face of a city</b> <i>Kujtim Elezi, Nuran Saliu</i>	<b>43</b>
<b>5. Architecture of destruction</b> <i>Llazar Kumaraku, Ermal Hoxha</i>	<b>49</b>
<b>6. Modernism as the unconscious of globalism: mapping of subjectivities in Sigfried Giedion's historiography</b> <i>Skender Luarasi</i>	<b>57</b>
<b>7. 20<sup>th</sup> century modernisation and modernist architecture in Albania</b> <i>Eled Fagu, Florian Nepravishta</i>	<b>64</b>
<b>8. Modern and modernity in Albanian art reality during the 20<sup>th</sup> century</b> <i>Emir Hoxha</i>	<b>72</b>
<b>9. Architecture in socialist Albania: re-reading in the rhetorical perspective of Enver Hoxha's textual language</b> <i>Gjergji Islami, Andronira Burda</i>	<b>78</b>
<b>10. Modernisation of architecture design during the transition period in Tirana</b> <i>Fiona Nepravishta</i>	<b>83</b>
<b>CHAPTER 2 - MODERNISATION AND CULTURAL HERITAGE</b>	<b>91</b>
<b>11. Protected cultural heritage, sustainable development and the Heumarkt project in the historic city centre of Vienna</b> <i>Caroline Jaeger-Klein</i>	<b>93</b>



<b>12. The heritage of urban design in Albania</b>	100
<i>Antonio Capestro</i>	
<b>13. Fragile Territories. The reconstruction of a missing city</b>	108
<i>Michele Montemurro</i>	
<b>14. Promoting historical urban open space as a convivial environment</b>	115
<i>Filippo Angelucci, Hanan Elfraites</i>	
<b>15. The neomedieval historicism of Tullio Rossi Savoia's churches in the 'Salario-Trieste' district of Rome (1930-1950)</b>	121
<i>Silvia Cacioni</i>	
<b>16. Cultural heritage in Naples: Palazzo Cassano Ayerbo d'Aragona</b>	128
<i>Ornella Zerlenga, Vincenzo Cirillo</i>	
<b>17. The architectural, urban and landscape restoration of the Poggioreale Cemetery Hill in Naples</b>	135
<i>Paolo Giordano</i>	
<b>18. The survey of monasteries on the West Coast of Athos</b>	143
<i>Luigi Corniello, Gennaro Pio Lento</i>	
<b>19. The medieval system of the Confraternities</b>	150
<i>Raffaela Fiorillo</i>	
<b>20. The survey of the fishpond of the Hvar Tvrđalj Fortress</b>	156
<i>Luigi Corniello, Angelo De Cicco</i>	
<b>21. The historical cities in transition in the global trend: some issues of architecture's identity survey and representation of the 'genius loci'</b>	162
<i>Paola Puma</i>	
<b>22. Architecture and ruins. Two projects for the Imperial Forums</b>	167
<i>Rachele Lomurno</i>	
<b>23. Resilient cultural heritage</b>	172
<i>Benida Kraja</i>	
<b>24. Contemporary heritage and cultural enhancement in the urban suburbs</b>	178
<i>Caterina Palestini</i>	
<b>CHAPTER 3 - PHENOMENA OF REGENERATION, REVITALIZATION, AND ADAPTIVE RE-USE</b>	185
<b>25. From urban regeneration to urban transformation</b>	187
<i>Enrico Anguillari, Enrico Fontanari</i>	

<b>26. Brownfield development for sustainable regeneration: the exemplary cases in San Francisco and Samsun</b>	191
<i>Derya Oktay</i>	
<b>27. The 'SMART Villages' European model in small town regeneration policies</b>	198
<i>Pierfrancesco Fiore, Begoña Blandón-González, Emanuela D'andria</i>	
<b>28. How to revitalize a collective monument in rural Albania? The case of Lazarat</b>	204
<i>Manfredo Di Robilant</i>	
<b>29. Revitalization of the historic villages of Rehova and Borova</b>	210
<i>Florian Nepravishta, Gladiola Balliu, Xhejси Baruti</i>	
<b>30. Conversion of created values in rural centres - a second chance for multiple benefits</b>	221
<i>Aleksandar Videnovic, Milos Arandjelovic</i>	
<b>31. The aesthetic condition of vacant vernacular heritage for tourism adaptation and recovery of depopulated villages</b>	226
<i>Ignacio Galán, Yves Schoonjans, Gisèle Gantois</i>	
<b>32. Finale Emilia: an example of post-earthquake reconstruction</b>	236
<i>Alessandra Cattaneo, Laura Baratin</i>	
<b>33. Urban regeneration processes for new value systems</b>	242
<i>Chiara Corazzieri</i>	
<b>34. Directions for the urban regeneration of border towns in the Republic of North Macedonia for achieving sustainable development</b>	248
<i>Damjan Balkoski, Eva Vanista Lazarevic</i>	
<b>35. The integral management of urban development process and cultural heritage protection in the city of Korça</b>	255
<i>Klea Papando, Edlira Mema</i>	
<b>36. Modern possibilities for protection, revitalization and presentation of industrial heritage in the case study of "Bajloni" Brewery in Belgrade</b>	262
<i>Marko Nikolić, Ena Takač</i>	
<b>37. Opportunities and challenges of rehabilitation of abandoned industrial heritage sites in the context of former modernizations</b>	267
<i>Svetlana Dimitrijević Marković, Sanja Simonović Alfirević, Mila Pucar, Snežana Petrović</i>	
<b>38. Sustainable revitalization of the historical building through preservation of the authenticity</b>	273
<i>Edlira Çaushi, Enkeleida Goga Beqiraj</i>	
<b>39. Conservation and reuse of cultural heritage in global society. The case study of places of cult in the city of Zadar in Croatia</b>	278
<i>Adriana Trematerra</i>	



<b>CHAPTER 4 - MODERNIZATION OF URBAN PLANNING, DESIGN, AND LANDSCAPE</b>	<b>285</b>
<b>40. Minor squares in the historic centre of Florence: toward a possible model of urban resilience</b>	<b>287</b>
<i>Cinzia Palumbo</i>	
<b>41. Widespread regeneration of urban spaces with different degrees of transformation</b>	<b>295</b>
<i>Massimo Carta, Fabio Lucchesi</i>	
<b>42. The surface temperature of urban texture in the Vlora promenade</b>	<b>301</b>
<i>Ani Tola (Panariti), Andrea Maliqari, Gjergj Thomai, Parashqevi Tashi, Paul Louis Meunier</i>	
<b>43. For a radical symbiosis between city and river</b>	<b>308</b>
<i>Caterina Padoa Schioppa</i>	
<b>44. University and Pescara city, before, during and after Pandemy</b>	<b>314</b>
<i>Piero Rovigati</i>	
<b>45. Integrated development programme for Arrëza village</b>	<b>320</b>
<i>Xhejsi Baruti, Gladiola Balliu, Fiona Nepravishta</i>	
<b>46. From vernacular to high-rise: transformation of neighbourhood space qualities in Tirana</b>	<b>326</b>
<i>Irina Branko, Andi Shameti</i>	
<b>47. Quality of life and sustainable urban redevelopment</b>	<b>332</b>
<i>Teresa Cilona</i>	
<b>48. Post - industrial visions in the Albanian territory</b>	<b>340</b>
<i>Francesco Paolo Protomastro</i>	
<b>49. Designing of resilient systems for sustainable use of Stilaro Valley</b>	<b>347</b>
<i>Vincenzo Gioffrè, Caterina Gironda, Massimo Lauria, Cristian Murace</i>	
<b>50. Metropolitan coastal landscapes. Traces of a common vision</b>	<b>354</b>
<i>Francesca Calace, Carlo Angelastro, Olga Giovanna Paparusso</i>	
<b>51. Urban development change of Gramsh city during years 1945-1990</b>	<b>360</b>
<i>Gjergj Thomai, Iva Mezezi</i>	
<b>52. The use of public space as an urban regeneration tool. A case study in residential block "1 Maji" in Tirana</b>	<b>366</b>
<i>Klaud Manehasa, Xhesi Çoniku</i>	
<b>53. Conservation planning towards a sustainable urban development</b>	<b>370</b>
<i>Santiago Orbea</i>	

<b>CHAPTER 5- HOUSING MODERNISATION</b>	<b>377</b>
<b>54. The house next door. Impressions on the history of the Albanian dwelling</b>	<b>379</b>
<i>Anna Bruna Menghini, Marson Korbi</i>	
<b>55. Searching for new housing areas as an urban challenge</b>	<b>385</b>
<i>Agata Pięt</i>	
<b>56. Modern residential towers as a pedagogical tool in architectural education, with reference to Egypt</b>	<b>390</b>
<i>Amr Abdelfattah, Ibrahim Saleh</i>	
<b>57. Post-War Italian dwellings</b>	<b>397</b>
<i>Chiara Ingrosso</i>	
<b>58. Transition of neighbourhood, from centralised to the market system. Case study "8 Marsi" Neighbourhood, Tirana</b>	<b>402</b>
<i>Fatlinda Murthi, Mevis Struga</i>	
<b>CHAPTER 6 - FUTURE DESIGN AND TECHNOLOGIES</b>	<b>409</b>
<b>59. Future Design</b>	<b>411</b>
<i>Paolo Di Nardo</i>	
<b>60. Surface markings. Inmatex: interaction, material, experience</b>	<b>415</b>
<i>Rossana Carullo</i>	
<b>61. The "Hylocene" material library: a narrative approach for contemporary material innovations</b>	<b>421</b>
<i>Sabrina Lucibello, Carmen Rotondi</i>	
<b>62. Hardware, Software and the Digital Revolution: an overview</b>	<b>427</b>
<i>Giorgio Verdiani, Andrea Pasquali, Elisa Miho, Julia Demiraj, Kristiana Kumi, Megi Ballanca</i>	
<b>63. Multisensory labs for the perception oriented design</b>	<b>439</b>
<i>Luigi Maffei, Massimiliano Masullo, Aniello Pascale</i>	
<b>64. ZEB prototype controlled by a machine learning system</b>	<b>445</b>
<i>Federico Cinquepalmi, Sofia Agostinelli, Fabrizio Cumo</i>	
<b>65. Modernization of built environment by the integration of PV technology: the case of the street light systems</b>	<b>450</b>
<i>Mirjana Devetaković, Florian Nepravishta, Goran Radović, Milan Radojević</i>	
<b>66. Building colours in Tirana creating added value, tangible and intangible</b>	<b>455</b>
<i>Gjergj Ruci, Bleona Dhamo</i>	

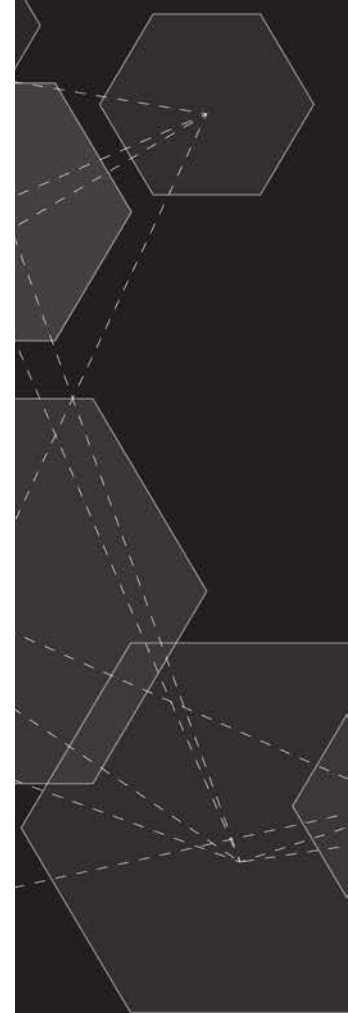






Photo by: Gennaro Lento





## INTRODUCTION

This publication has gathered many leading scientists, scholars, and academic scholars from different countries to exchange and share their experiences and research results on all aspects of Architecture, Urbanism, and Cultural Heritage within the trends of Modernisation and Globalisation of the XXI century. It also offers an interdisciplinary book that presents and discusses the latest innovations, trends and concerns, practical challenges encountered and adopted solutions for Modernisation and Globalisation in cities and urban settlements.

The book expands the horizon by introducing a series of overlapping visions spanning the recently institutionalised Adriatic - Ionian Euro-region, now extended to the Balkan and Southeast European regions. The research topics are concentrated on Architecture, Urbanism, and Cultural Heritage in contexts and territories that reveal their tendencies to Modernisation and Globalisation.

Modernisation and Globalisation in Architecture, Urbanism and Heritage provide a multi-faceted analysis based on the understanding of architects and urban planners working in both developed and developing countries' traditions. Globalisation is a broad concept concerning the diversity of regions, cultures, and actors and the diversity of analytical approaches that can be employed to study it. During the past decade, notions of globalisation have displaced familiar modernisation discourses.

Modernisation and Globalisation is a process that naturally links the past, the present and the future - as a bridge between the past and the future. Current events such as the cultural heritage protection crisis illustrate that the discussion should not be confined to specific geographic regions or narrowly defined analysis methods but to a broader and deeper search spectrum.

The research presented in this book embraces the need to cover various aspects and dimensions of Modernisation and Globalisation in Architecture, Urbanism and Cultural Heritage to see its local and global manifestations. From our perspective, globalisation studies imply research that is not just limited to the most popular spheres of globalisation but also includes the study of global problems such as climate change, overconsumption, population growth, human impact on the environment, water scarcity, conflict-related global issues, global catastrophic risk, global health issue, sustainable development, and cultural heritage protection.

In summary, the distinctive character of Modernisation and Globalisation is that it delivers a significant interna-

tional and multicultural thematic issue associated with Architecture, Urbanism and Cultural Heritage, including their impact on cultural-geographic regions.

The Modernisation and Globalisation of territories and cities is the object of this book.

Through contributions from colleagues and scholars from different international universities, the intention is to explore different interpretations of contexts, to study processes of Modernisation and Globalisation in territories and cities, to define strategies for urban transformation and to confront issues raised by environmental and architectural sustainability, all framed by an up-to-date and contemporary vision of the entire Adriatic-Ionian and Balkan region.

Culture and the strength of ideas are essential for building bridges between knowledge and rediscovering a new relationship between Architecture, Urbanism and Cultural Heritage, the key to interpreting the processes transforming territories and cities.

The book is composed of six chapters:

1. Global and local modernisations.
2. Modernisations and cultural heritage.
3. Phenomena of regeneration, revitalisation, adaptive reuse.
4. Modernisation of urban planning, design, and landscape.
5. Housing modernisations.
6. Future design and technologies.

## MODERNISATION: A GLOBAL PARADIGM

*Florian Nepravishtha*

Advanced civilisations have historically contributed to their progress and modernisation over the centuries. Modernisation was promoted in the Age of Enlightenment of the 18th century, with the theory of modernisation created by the German sociologist Max Weber (1864-1920) as well as the paradigm of modernisation produced by Harvard Talcott Parsons (1902).

Societies and their various cultural heritages have developed and evolved because of social and political change. Around the world, in many countries, culture has served as a source of identity, as evidenced by urban history. At the same time, globalisation and modernisation are spreading because of exchanges between different countries in the international arena. Local cultures are being limited slowly but progressively, paving the way for global culture, which has become an indispensable tool for economic growth, technological and scientific development, and adaptation to the surrounding environment.

Modernisation is a paradigm for a gradual shift from a backward, traditional, rural, agricultural civilisation to a modern, secular, urban, industrial society. The growing demand for the city's industrialisation and society has been associated with the emergence of modern society. As a result of the modernisation process, societies and cultures evolved a distinct set of personality characteristics, organisational and institutional structures, a belief system, and symbolic expressions that set them apart from previous socio-cultural systems.

Modernisation was implemented at different times in different countries and required different times for each of them to achieve the same goals. Depending on each country's geographical and sociological characteristics, modernisation was realised as a continuous and open process, not a one-time success. We live in a fast-paced world where goods and products move quickly worldwide. Trade exchanges between developed and less developed countries are the foundation of the global economy. Tourism and migration are critical components of everyday social experience, and media images and cultural products are globally displaced. Politics is often conducted worldwide through international organisations or global social movements. These processes

reduce the importance of distance in space, and global interdependence impacts all cultures. They bring up cultural identity, power, inequality, and conflict issues.

Globalisation is a relatively new phenomenon and belongs to the period after the 1960s or after the 1980s due to the impact of new technology (Scholte 2005). Nation-states have lost power, influence and even sovereignty due to their policies towards the demands of mobile capital, which has consequences for the survival of social democracy and the welfare state when both are constrained to accommodate business interests. Such behaviour is thought to result in the disappearance of national cultures and the emergence of a more homogenised (or hybridised) global culture (Martell, 2007). As individuals who absorb culture from around the world rather than relying on themselves are more willing to be influenced by international style, national divisions have faded.

International organisations such as the United Nations (UN) and the International Monetary Fund (IMF), as well as global social movements and even global civil society, are considered substitutes for nation-states from a hyper-globalist perspective (for example, Gill 2000; Keane 2003). Globalists see transnational, global forces as the primary source of economic, sovereignty and identity issues, where political, economic, social and cultural aspects are primarily concerned with a political framework organised around the global division of labour and power. Traditional economies and societies are giving way to modern development, and these changes are becoming visible in cities' urban morphology.

The concentration of population in urban areas and the rapid development of cities see them face profound questions about how they should develop. The city's existing structure is under the constant pressure of transformations and modernisation from a large flow of investments in infrastructure, real estate and tourist structures. Today, cities are changing under the motto of modernisation, a change that, in many cases, is causing the alienation of traditional structures developed over the years. Preserving and improving the environment's quality would include applying local values through the urban structure and city spaces through today's modern technologies.

Traditional methods of urban planning care for a sense of traditional culture and community, while modernist projects, when taken out of context, contradict traditional ones based on historical experience. The reality of the development of our cities faces the challenge of modernism inspired by global developments and finding common ground between the two trends without sacrificing traditional and passive design techniques. Integration of the two modes would need a consistent blend between the traditional and modern international development cultural paradigms.

The implications in the global development framework are essential in the practice of developing cities where, in addition to the tendency to modernise them, traditional and sustainable technical solutions are required for urban growth and improvement. Modernisation is treated as a complex combination of good and bad regarding heritage conservation, and its scientific and technological successes have come at their costs in relation to communities' spiritual and emotional life. He is currently unifying the world by establishing common standards.

Cultural heritage is a particular historical link with the past, a tangible embodiment of the social and cultural traditions that have evolved to give modern cities and societies their meaning and character. During the twentieth century, preservation reflected a judgment that buildings or cityscapes were of architectural or historical value that should be preserved. In the new century, various reasons have been used to justify conservation.

Reflecting the fear that globalisation and an accelerated pace of modernisation trends in the urban structure of our cities and change are creating amnesia of historical values in the community in many cities, the benefits of preserving urban memory are being promoted. Heritage advocates today are less interested in architectural quality than in using objects, fragments of urban fabric or memory of past events to reshape cultural identity and enhance emotional attachment to cities.

Many defenders of urban memory and heritage architecture think that modernisation affects the erasure of the past and memory, negatively affecting collective memory and communities. Heritage conservation provides important economic, social and psychological benefits, providing a sense of belonging and identity. Urban memory advocates today see preservation as a creative process that uses memory to create the future. Preserving heritage, preserving historical monuments, and valuing customs are sometimes seen as obstacles to modernity and better living conditions. Some consider heritage preservation a cost, even though many examples suggest otherwise.

Le Goff, in his book "Storia e memoria" (1977: 394), addressing the relationship between the growth of social memory and cultural forgetting, asserts that contemporary people are "haunted by the fear of losing memory, a collective amnesia, [a fear] that finds expression in difficult in the so-called retro trend, or trend of the past, shamelessly exploited by memory markets since memory has become one of the symbols of consumer society".

In the long term, preserving heritage provides significant economic, social, and psychological benefits, enriching the sense of belonging and identity. The modernisation of the city by erasing the past has the effect of destabilising memory and fragmenting communities.

Heritage and modernisation can work together by developing a common language and a mutual understanding of what each has to offer to city development. With the intervention of renovated and reused old buildings and industrial heritage, urban regeneration often becomes innovative urban start-up centres - improving social life and expressing the vibrancy of a city.

Some questions related to the preservation of heritage and the modernisation of the urban structure and social life arise and await answers from specialists and scientific researchers as follows:

- How should we approach preserving urban and architectural memory, and who should decide what is worth preserving?
- Is conservation based on emotional attachment an appropriate way to judge heritage's urban and architectural value?
- Should the judgment on conservation be aesthetic, practical or commercial?
- How should the urban environment respond to aspirations for modernisation?
- As identity evolves, does the prioritisation of heritage negatively impact modern development while failing to meet current social and economic needs?

In this book, researchers from different countries try to give answers to some of these questions.







The background features a complex network of overlapping hexagons and dashed lines, creating a sense of interconnectedness and modernity. The hexagons are rendered in various shades of gray, some solid and some outlined, while the dashed lines connect various points across the composition.

# Chapter 1

## Global and local modernisations





Mosè Ricci

How many furniture, houses, or urban districts designed and made in the '80s are still relevant today? What clothes or shoes that period can be worn without appearing old, unusual or out of time?

Almost all we could say.

In forty -even sixty- years, the inhabiting spaces (clothes, furniture, houses, districts, ...) have not changed that much. Their projects have been modified even less. The way in which they are conceived and designed is almost the same. Fashion, architecture, and city neighbourhoods are solid forms that better represent the people who generated them. They express a lifestyle, a status and, in some way the aspirations and expectations for the future. Is it possible that they remained so indifferent to the changes of the last decades?

These have been the years of the most profound technological revolution in history. More pervasive and effective than the one of the internal combustion engine at the end of the XIX Century that upsets not only the modes of production and the social hierarchies but also the aesthetics and the solid shapes of living. When, with the second industrial revolution, all the material world changed very quickly. They invented urbanism. The architecture of iron and concrete generated new larger, and larger cities. The art went futuristic and abstract. Lifestyles changed and clothes too. The modern world projected humanity in the future with its forms. The ideas of speed and the future expressed the zeitgeist in the design culture. As Zygmunt Bauman wrote in *Liquid Modernity* (polity Press, Cambridge, UK, 2000), "modernity is time in the era in which time has a story" In modernity, *genius loci* coincided with *genius saeculi*, the forms of the city, of architecture, of fashion, fulfilled the epoch. In the modern age, it was unthinkable to dress or design furniture, houses or cities as they did in the previous century.

Today it is no longer the case. The distance between Gestalt and Zeitgeist has never been so dramatic. The paradigm that binds the aesthetics to the projection of time blown up. The overcoming of modernity lies especially in this. We live like in a long present. Where the sensitive forms and their representations in solid space no longer carry an idea of the future. They seem to be always more or less the same. Immutable and increasingly displaced in the rush of the shar-

ing information technologies revolution that is upsetting the system of social relations and the way in which things and places are related to each other. Even today, everything changes and so much faster than before. Innovation is conducted in the intangible areas of the Net rather than in the material solid spaces. The way to experiment and disseminate information and knowledge are especially mutating in a vortex of accelerated change where the tools and virtual synapses materials involve the activities and lifestyles linked to them while the more traditional and unconnected spaces tend to remain inert, equal to themselves. Or they change slowly.

Douglas Rushkoff, professor of media theory at the City University of New York, describes the impact of the information technologies revolution on society as the present shock. Crushing of the time in a myriad of parallel peripheries where everyone feels the need to live the instant in which everything happens. The disorientation that blurs past and future in a continued hyper-connection and creates an infinite present. He wrote "The future that we have pursued for much of the twentieth century has finally arrived. Today the technology that we can dispose of allows us to stay connected with anyone and to have at hand all sorts of information at any time. But what will be the effect on our lives of this amazing compression of space and time? The era of total access has a downside that we had underestimated. Social networks fuel the anxiety of a constant "here and now" without direction and priorities, fragmented and distracted. E-mail and instant messaging are now an assault, and we are overwhelmed by an illusory continuous present that always gets out of hand."

We live with our heads in the Cloud. Objects are intended to produce information that is monitored and transmitted in real-time. Everything is accessible and traceable. The control is based on knowledge. In the era of the Internet of Everything, everything is destined to become another (as Marco Valsecchi wrote in February 2016 in the Sole24 Ore Dossier on Technological Innovation).

How the forms of living are changing, or will they change? The architecture of the eternal present, paraphrasing Sigfried Giedion (*The Eternal Present*, the beginnings of architecture

1964), is still able to propose innovation through projects? Is it still suitable, in other words, to express visions of the future for solid material spaces? Moreover, how those visions can and will make sense in the era of 4.0 technology?

*Trying to give some answers to these questions, it is best to go step by step.*

The digital progress we have seen in recent years is certainly impressive, but it is only a clue of what will come. It is the dawn of the second age of machines. To understand why this is happening now, we must understand the nature of technological progress in the era of hardware, software and digital networks. The rapid and always faster digitisation will probably lead to more economical and environmental devastation due to the fact that becoming the computers most powerful companies will have less need for certain types of employees. The progress he will leave someone unemployed in its race, perhaps many people.

Erik Brynjolfsson and Andrew McAfee, two economists at MIT, developed those concepts in the book: *The new machine revolution. Jobs and growth in the era of triumphant technology* -published in Italy by Feltrinelli in 2015- which tells us with great effectiveness the impacts of the sharing information technologies revolution for lifestyles and work processes. The economic crisis is the first tangible result of the digital revolution that gradually reduces the job opportunities and empties the built spaces of the western city featuring new metropolitan figures. The technologies for sharing information tend to transfer in the immaterial space of the Net functions and places that needed physical spaces to be realised until now. It is an obvious phenomenon at all. Just think about how are changing the behaviours of consumers that more and more now are buying on the Net, and there is less need for retail spaces in the city. You can meet, establish a relationship, give a talk via Skype or other social media without physically being there where it takes place. Now everything happens in the video, but soon our presence will be virtually expressed by holograms that can also simulate physical emotion and meaning. Anyone can become a part-time taxi driver and sell his travels on Uber or share the car with Car to Go or even the political choices at the click of Avaaz. In a few years, with a 3D printer, we can produce construction components and whole buildings. You can make spare parts of any object in common use at home and a basically equipped laboratory and blenders and other machines. While the new figures of digital artisans are emerging, the appliances factories in Friuli and Veneto have already closed. All the computers become more powerful

and smaller and smaller. New technologies have less need for physical space.

The ASCI Red, the first product of the Accelerated Strategic Computing Initiative of the US government, was the fastest supercomputer when it was introduced in 1996. To develop it had cost \$ 55 million, and its 100 cabinets occupied nearly 200 square meters (80% of a tennis court) at Sandia National Laboratories in New Mexico. Designed for tasks were needed so much computing capacity, such as to simulate a nuclear test, ASCI Red was the first computer to exceed the teraflops, a thousand billion floating-point operations per second, in the classic test parameter for the speed of the computer. To get to this speed consumed 800 kilowatts per hour, about as much as eight hundred houses. In 1997 he touched 1.8 teraflops. Nine years later, another computer touched 1.8 teraflops. But instead of merely simulating nuclear explosions was able to draw those and other graphics in all their magnificence realistic, three-dimensional, real-time. He does not do it for the physics community but a video game. This computer was the PlayStation 3 of Sony, Red all'ASCI equal in performance. However, it cost about \$ 500, employing less than a tenth of a square meter, and consumed about 200 watts per hour. In less than ten years, the exponential digital progress has transferred the computing capacity at the level teraflops by a single state laboratory to the living rooms and the halls of the whole world. The PlayStation 3 has sold approximately 64 million units. The ASCI Red was withdrawn from service in 2006 (Brynjolfsson McAfee, 2015).

In just 10 years, from a 200 square meters apartment to a mobile device that takes up less than a tenth of a square meter. This story is emblematic. Just to make it clear that not only the shared information revolution incredibly reduces the need for the occupation of physical space, but also cancels the necessity of specialisation of physical forms -removing the rationalist principle of Louis Sullivan Form Follows Function- simply because by using small digital devices we can do almost everything almost everywhere. Anyone can find thousands of similar examples that show how you always need less functional space to live and work because many of the uses that occupied real volumes in the city have been transferred or will transfer in the virtual spaces of the Net.

If all of this is about to happen or already it happens, it is clear that many essential paradigms of modern, not only that of the close relationship between function and form of architecture or town, emptied of meaning. Ultimately the sharing information technologies revolution displaces the certainties of the modern project, and it makes suddenly seem out of time all the theories and practices that relate to

it. The zoning, the functional organisation of urban or those architectural spaces, the models theories, the best practices ... seem to be manifestations of a logic that belongs to another era. They were designed to handle the expansions of inhabiting solid spaces that are no longer expected to grow nowadays. For sure enlarging footprint is no more the only possible project for the development of built spaces.

According to CRESME (an authoritative Italian observatory on the building market) and WWF reports 2007-2014, Italian cities have grown enormously in recent years. Between 1999 and 2009, approximately 300 million cubic meters per year were built up. It means 46 cubic meters per inhabitant. Building stock is equal to about 70 apartments per square kilometre if we calculate the national territory minus the protected rural areas and woodland. Between 1999 and 2007, house values rise steeply: in over eight years, from +25% in the islands (i.e. Sicily and Sardinia), +30% in the North, and +60% in Central Italy. The same has happened with the number of buying and selling transactions and the number of real estate agencies, architectural firms and construction companies. And the landscape has felt the impact of development just as much as the cities have. Between 1990 and 2005, a total of about 3.5 million hectares (a surface area as large as the Lazio and Abruzzi regions together) have been transformed. In Italy, each Italian citizen makes use of 230 square meters of urbanised territory. There are more than 200,000 kilometres of roads, 7,500 kilometres of disused railways, and 27 million homes, of which 20% are vacant. Each year, starting from the late 1990s, about 244,000 hectares of ground are consumed. With a game in which everyone believed to win - owners who put their savings safe, building companies working, the administrations that survived with urbanisation taxes, a policy that was continually prized by the rhythm of the building cycle - it was perpetrated a bloody and unprecedented invasion of Italian landscapes.

Since the collapse of the housing market in 2007, all the countries hit by the economic and environmental crisis suffer abandonment and disposal often also for more recent works. The results of the Survey into the Property Market drafted by the Parliamentary Commission for Environment, Territory and Public Works, carried out in 2010, clearly outline the actual urban condition in Italy. From 2007 to 2010, there were 120,000 unsold flats, around 40% of those built. In 2010 the investments in the property sector dropped by 7%, and new buildings by 32%. The buying and selling transaction fell (-15% in 2008 and -19% in 2009), and in the three years 2006-2009, the business volume of the property market collapsed by 33%. The same report highlighted the fact that in 2008 to purchase a house in the semi-central part of a large urban

area, an average of nine years of household income was required, as opposed to 3.4 years in 1965. The evictions for payment arrears went up by 25% between 2008 and 2009. Moreover, there are 5.2 million empty houses out of 10 million unrented properties in Italy. If we exclude the first homes and the relative accessories and the other properties whose use could not be reconstructed or that have not been detected in the income tax declaration form, around 17.5 million property units are owned by private families. Of these, not even one-third (29%) is declared as being rented. It is very likely that out of this very limited share, there is the impact of evasion. Or the vacant houses. Despite the growing number of empty houses, in 2010, at least 230,000 families were living in a condition of cohabitation and 70,000 in precarious living conditions.

Even the numbers on the infrastructure reserve are significant. In Italy, there are 20 million square metres of railway yards that are either disused or in the process of being closed down, of which around half (9.5 million) are in metropolitan areas. In the meantime, around 5,000 km of railway line have been divested, of which 2,600 km are still unused today. There is 20,000 km of abandoned roads, of which 2,600 are unused. The Gioia Tauro Harbour, the Tiburtina High-Speed Railway Station, the Bre-Be-Mi Speedway (and soon -we bet- the Expo) are only the most prominent examples of a policy that always wastes twice First insisting on building new fetishes of past modernity, and then wasting away the greatest historical and natural heritage all over the world. No enhancement devices or strategic investments are forecasted for that. The situation is the same in other European countries. In Spain, between Madrid and Toledo is a kind of new city for 300 thousand inhabitants completely empty and unsold but built even with the rubbish bins and the lampposts. And even in the wealthier countries of northern Europe, the problem is very much present. The Dutch Pavilion at the Venice Biennale in 2010 was an empty room with the threat of plastic hanging from the ceiling of all the empty buildings of Ramstadt incumbent on the head of visitors. Biennale of 2012 always the Dutch Pavilion was called Reset and the German Reduce, Reuse, Recycle. In the 2014 Biennale, Portugal is the Country that dramatically raises the same issue. In just a few years, the economic and environmental crisis has shown us that there is an important form of abandonment in Europe that influences the city's life and economy. It is a sort of abandonment that's not so much determined by an urban population decline as by internal mobility, migration from manufacturing centres, excessive building, the marginal state of agriculture, and the building market's stagnation. All of these factors deeply affect the behaviour

and the wishes of the inhabitants themselves. In short, what is new is being abandoned. It is the abandonment of an idea of growth and the city, even before being an idea about its physical spaces. It responds to a strategy of survival, the economic crisis, and the awareness of the environmental emergency. Its effects are evident, and across the territory, they disseminate the image of a crisis-stricken city.

This is the point. The simultaneous action of three key factors: the economic crisis, the new environmental awareness and the sharing information technologies revolution is so deeply changing our lifestyles and the way we imagine, and we want the solid forms of our future that all our design knowledge suddenly seems inadequate both as an interpretative tool of the current condition and as a device capable of generating new environmental, social, economic performances and new beauty.

If we look to the future, it could be said that one crucial effect of sharing information technologies revolution on the most advanced societies is the possibility of being able to live in much more physical space than in the past. A kind of space that it is not necessary to confirm based on pre-established specific fates. Simply, we dispose of many built volumes that are no longer needed or do not yet know how to use. The same happens for infrastructure and open spaces. Will Re-Cycle be the destiny of the design disciplines in an age that seems to consider only -or at least- with absolute priority the growth of not material spaces and the interconnection devices? If today -and in the future more and more- the theme of the city's development is no longer about the growth but about the resilience and environmental quality? When not constructing new architectures, but retrofitting and re-signifying the existing ones becomes the central issue of the building production?

Returning to the initial question precisely, while everything is whirling changing ... clothes, houses and cities are always the same. Is it possible to start reasoning about a new statute for the cities of the eternal present?

Nothing surprising. In the history of architecture and the city, the great technological changes have produced major changes in lifestyles, in the forms of living and consequently in how we design them. Suppose the major paradigm of modernity was about the best possible spatial synthesis between function and architecture. Today, with the information technologies revolution, we have the opposite problem. To give meaning, narrative and uses -even temporary uses- to spaces that have already given forms. Furthermore, turn them into attractive and ecologically efficient places to live. In *The Structure of Scientific Revolutions*, Thomas Kuhn (University of Chicago Press, Chicago, 1962) clearly explains how

in the early stages of scientific revolutions, when major disciplinary paradigms are in crisis and are about to change, two extreme theoretical positions may contrast each other. One wants to confirm the principles of the discipline substantially. It tends to claim the specificity and uniqueness of the discipline in its traditional and absolute essence. The other uses curiosity as a new knowledge device. He wants to challenge the established principles, pursue the paths of change, exploring other cultures and other worlds, acquire new disciplinary contributions, have different points of view on the future. It is a major challenge for the architectural culture. A challenge that gives value to the existing with conceptual devices that work on the slipway and new life cycles of living spaces. A challenge that sees the environment as a project, the landscape as an infrastructure that produces ecological performances and the city's future as a collective and not authorial vision. In everyday language, a paradigm is a reference model, a term for comparison. The word comes from the ancient Greek *paradeigma*, which means pattern, example, sample. In the philosophy of science, a paradigm is the framework of a scientific discipline. A comprehensive (and globally shared) vision of the world crystallises around this framework. More specifically, it's the world in which the framework operates and the one on which a specific scientific community concentrate. It constitutes and delimits the field, its logic and its research procedures, giving Leibnizian order to things. It is inside this paradigmatic logic that scientific research finds the object of study, the more cogent problems and the best techniques for dealing with them.

Thomas Kuhn (*The Structure of Scientific Revolutions*, cit.) used the following definition for the term paradigm: "The logical relationship between the main concepts that dominate all the theories and all the discussions that depend on them". As a result of being the "first unmoved mover", the paradigm must necessarily be shared by a community of scholars. Not by chance, only the more mature disciplines have a stable paradigm.

In that form, in normal science, a paradigm is the conjunction of experiments based on models that can be copied or emulated. The prevailing paradigm often represents a specific way of seeing reality or the limits on future investigation proposals, which is different from and beyond the generic scientific method. Along those lines, a scientific revolution is characterised by a change in paradigm.

What here is perhaps more interesting is to understand when and why it makes sense to refer to the concept of paradigm speaking about recycling for the space design disciplines.

In other words, whether it makes sense to inscribe the dis-

course on recycling within a wider theoretical frame that relates either to the huge scientific-technological revolution that is now taking place, either to the obsolescence of the old disciplinary paradigms that unfit to understand the changes.

In the world of urbanism, architecture and landscape, a new paradigm is a new way of doing things that has a huge effect on the living spaces. A new paradigm draws its roots from the idea of a paradigm shift in science, in which technology or new findings completely change the way people think about or interact with something. In the design disciplines, the idea is the same; a whole new way of looking at lifestyles, living spaces and their changes. However, they happen.

Detroit is the manifesto of the urban condition that identifies the new recycling paradigm as a conceptual device for the cities in the age of the eternal present. Perhaps it is the most important in this phase of history.

Detroit is the American Pompeii. As a result of the crisis of the economy that had generated it, the Fordist metropolis Detroit was forced to think about the problem of its survival and its fate. In the space of just a few years, its population had fallen from 1,850,000 to 740,000, more than 2,000 buildings had been knocked down, resulting in the abandonment of the centre for an area with an approximately eight-mile radius that is glaringly evident. Detroit has more than 320,000 jobs lost between 2001 and 2008, and about 57% of the population has left the city since 1970, and 25% in the past fifteen years: its public spaces are emptied of meaning, and they do not express a traditional urban figure but suggest a new and different inhabiting way. Something impossible to imagine from a European perspective that is impossible to imagine if you do not go there.

Detroit has one of the larger metropolitan areas in the United States. Its perimeter could include together cities such as New York, Boston and Philadelphia. In the middle, in the famous eight-mile divide of Eminem's song, the modern city built in the last century with an elegant Victorian-style no longer exists.

The empty houses with walled-up windows, which are occupied by squatters, tall buildings with windows crossed by birds, demolished industrial areas, abandoned shops, and empty monuments have turned this city into something else. They have transformed this city into something that is much similar to an idea of a park, and this is not at all unpleasant. Beyond the ring of eight miles, the suburb lives very well around this new urban figure in the making. That's where that the economic activities and houses are moved. There are well-travelled highways and shopping centres in full op-

erating in the peripheral area (a definition that could be obsolete elsewhere). The suburb works well in Detroit, where the modern city ended with the collapse of the economy that had made it. Since 2001, perhaps from the book *Stalking Detroit* by Charles Waldheim, Georgia Daskalakis and Jason Young, the urban American culture has developed an important bibliography about the case of Detroit. The city has become a manifesto.

Many people have exalted the ruin's charm. The low flying images of McLean; the ephemeral urban condition documented by the short films of Zago; the *Disassembled Detroit* by Andrew Moore; the photo of a blonde woman scarred that Jason Young shows during his lectures about Detroit; are the incisive icons of a dead body. It is the funeral of modernity, and it is Ruskin's figure of derelict spaces of Detroit that slowly recolonised by nature. The media immediately popularised this figure, and it has affected the collective imagination.

A charming and ancient vision refers to The Stones of Venice or Angkor Thom and Indiana Jones. It is a vision that can capture the imagination and can attract tourism.

Thanks to the Detroit United States also have their Pompeii. The romantic strength of the archaeology of modernism captures the emotion of all and has in itself the idea of uniqueness. There is only one place in the world where you can experience life today, the end of the modern city. That place is Detroit. No doubt about it.

The question is that in Detroit, there is not only death and that what happens there can involve, or already involves, other places. In Detroit, something decisive for the Cities is happening after the age of modernity that goes beyond the specific condition of the theme of ruin.

Today the best city tour is called *Cloudspotting Detroit, Best Places for Viewing the Sky*, sponsored by the city authorities. In spite of its name, this tour takes the tourist (better if he or she is on a bike) to places that are interesting to visit, ones that are worth seeing if you come to Detroit. There actually are not too many of them. Only 31 "places of interest" for American's 11<sup>th</sup> biggest city, formerly (?) a metropolitan centre of 900,000 inhabitants living in the urban area (as compared with 2,000,000 in the 1950s). What is important is that many of the top sixteen important places in the city are, as Alan Berger would call them, "drosscapes," while the others are evanescent. Demolished areas, potential parks, manholes emitting smoke produced by the underground heat, huge abandoned public buildings, markets selling second-hand objects or where you can just trade things, Victorian houses taken over by nature, houses occupied by squatters, re-naturalised infrastructures, abandoned areas that become sites

for artistic installations...Clouds of dust, vapour or flavours that take the place of traditional urban attractions (there are no architectures, museums, libraries, not even your grocery store in Detroit anymore) give the ruins of this Fordist city back to narrative dimension and to nature.

After 15 years since the acme of the disaster that struck the city, Detroit is finding, slowly, another dimension. For the first time in autumn 2011 - and in percentage more than anywhere else in America - increasing housing prices and new inhabitants. The presence of the university as a stronghold, the reception of the first tourist numbers in restored Victorian villas, the repositioning of the stage to the city centre, the casino in the Greek neighbourhood..., are all obvious symptoms of a city that begins to live in a different way.

New physical or intangible devices take the place of traditional urban shapes. These are icons of the change that reduce, reuse and recycle the remainders of the city in a landscape.

The satellite images of telespace; maps, diagrams and projects through which Stoss Landscape Urbanism develop proposals for the activation of the recycling processes at the urban scale; The Dan Pitera's experiments of reuse of homes burned (Fire Break) and unused spaces (TAP); the adaptation of the Michigan Theatre in a parking lot; "visions" focused on the practice of recovery told by Arens; build the epic of a city that experiences the possibility of another future after the metropolis. It is a process of recycling urban figures that generates new values through the assignment of a new sense of what is there. This is not a process of a redevelopment or urban renewal. There is not any attempt at the city regeneration or of Detroit landscape of the last century. There is not an idea of restoration of a lost urbanity, but the creation of a new value through the reduction of traditional metropolitan functions, the reuse of derelict spaces, and the recycling of surviving urban materials.

Detroit is the first post-metropolis. It is an urban condition that the literature about the city has already anticipated in different ways - from Jane Jacobs to Stanford Kwinter or Edward Sojia - and that not depends on the image of the modern city returned to nature.

The post-metropolis is an urban figure that takes advantage of the spatial effects of an economic and social organisation based on new media. This is why it separates itself from modernity and therefore does not need the same type of physical facts (infrastructure, housing models, industries, etc.) that represent modernity's city.

In other words, the post-metropolitan condition of Detroit swings among the charm of ruins as the replacement of certain metropolitan materials with devices of instant artificial

proximity (new immaterial infrastructures), and the harmony that urban life has found again in Detroit inhabiting unusual spaces and not necessarily fast.

The space settlement is freer to let nature happen. Ecology, sustainability, landscape, open spaces for leisure and kids, bike paths, slow mobility, ..., all this becomes central to the performance and design of urban space.

They are all obvious symptoms of a city that begins to live differently and to convey innovation. Ultimately it is just this - a recycling process of urban figures that generate new value by assigning new meanings to existing ones.

Recycling means putting back into circulation, reusing waste materials, which have lost value and/or meaning. Recycling protects the environment, and it is economically convenient. It is a practice that allows you to limit the presence of waste, reduce disposal costs and contain those of the new production. Recycle means creating new value, a new way. To begin a new cycle in another life. In this lies the propulsion of recycling content. The very idea of recycling provides a vision. As a detective of space, the architects are interested in the possibility of revitalising the existing, finding new meanings for it, and creating new conveniences, and new beauty by the recycling built spaces that so rapidly are abandoning their characteristics of use.

Recycling is an ecological action that pushes the existing into the future by transforming waste into prominent figures. In other words, as scholars of forms of physical space, it is not interesting to adopt the recycling paradigm because it is an ethical action -good and right-, but because in architecture today, to recycle is to design. The new paradigm of recycling projects into the future the reassuring image of the eternal present and twists it into a vision of beauty.

## References

- CRESME (Italian observatory on the building market).  
Erik Brynjolfsson and Andrew McAfee (2015). The new machine revolution. Jobs and growth in the era of triumphant technology. Feltrinelli, 2015.  
Marco Valsecchi wrote in February 2016 in the Sole24 Ore Dossier on Technological Innovation)  
Sigfried Giedion (1964). The Eternal Present, the beginnings of architecture, 1964. Thomas Kuhn (1962). The Structure of Scientific Revolutions. University of Chicago Press, Chicago, 1962.  
Zygmunt Bauman (2000). Liquid Modernity (polity Press, Cambridge, UK, 2000).  
WWF reports 2007-2014.

## Introduction

Charles-Edouard Jeanneret, the future Le Corbusier, made his Voyage d'Orient in 1911, starting from Vienna, sailing along the Danube to Belgrade to continue within the Balkan region, to reach Greece, Athens and then return via Italy by visiting Pompeii and Rome. It was a very important journey for his training, an experience that he reports several times in many writings until he revised and corrected the manuscript of the Voyage d'Orient a few weeks before his death, a publication that will come out posthumously in 1966. It is a fundamental journey for his training because, during this experience, Jeanneret's strong passion for architecture was born, and the proper foundations of the theoretical thought of his architecture, based on rationality and modernity, were formed.

Jeanneret is fascinated by the simplicity of the Balkan houses with white and prismatic volumes of an abstract character, with light façades marked by openings that extend horizontally along the entire length of the facades (free facade); notes that the residential volume of the upper floors is raised on wooden pilasters (pilotis) that raise the house above the ground floor used for functional purposes and that the upper volume often projects beyond the boundary wall and, similar to a bow-window, is projected towards the surrounding urban space.

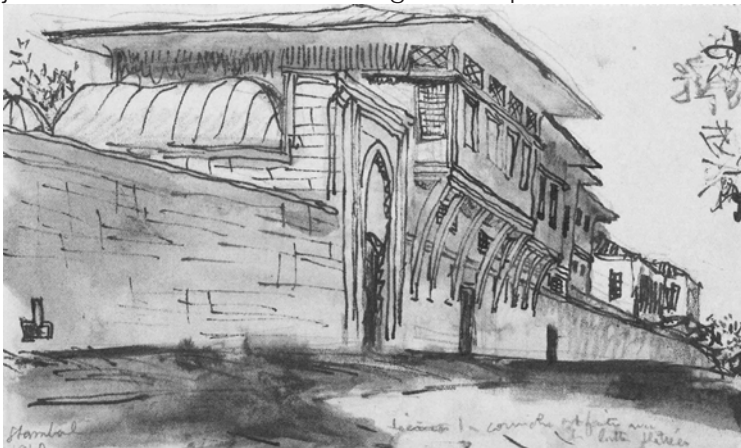


Figure 1. LC 1911. House in Istanbul (FLC 2455).

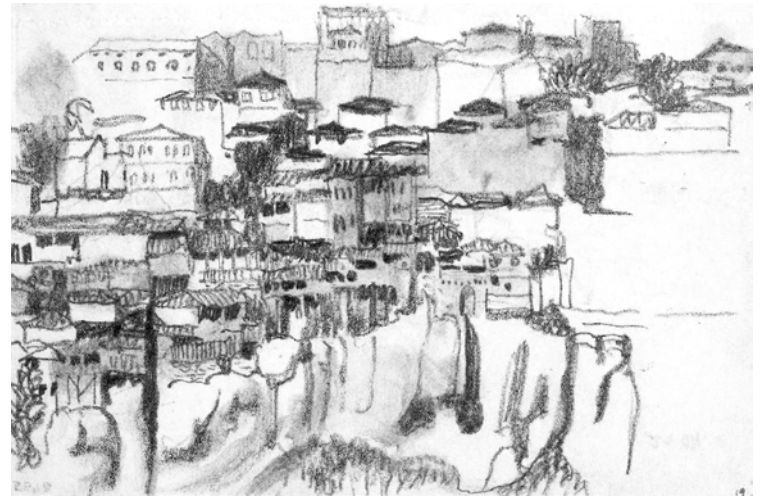


Figure 2. LC 1911. View of Veliko Tirново (FLC 2495).

In *Le Voyage d'Orient* Jeanneret writes: “In Tirново the houses are whitewashed with quicklime, it is so beautiful that I was impressed [...] Each house has its main room; a very large window, wider than high, framed in glass compartments, opens onto the trees and flowers of the garden [...] these rooms are so small that the window occupies the entire wall [...] there is always a hanging gallery outside and overlooking the avalanche of houses [...] this gallery is the result of a fine carpentry, and the profile of the pillars and the roof are reminiscent of the exquisite niches of Islamic furnishings.”

Jeanneret also observes and studies the planimetric composition of the house, appreciating the flexibility of the interior spaces; the spatial fluidity of the Balkan house, allowed by an autonomous wooden frame structure without load-bearing walls, makes us think of the anticipation of the “free plan” of the future Le Corbusier. There is also clear distributional freedom within the individual living spaces with the distinction between the served part (living room or bedroom), which remains free from any encumbrance and furniture compared to the serving part (wardrobes, stove, bathroom, closet). The same flexibility is found in the vertical paths that are freely arranged in space and can be easily repositioned.

All these considerations give strength to the reflection, even provocative posed by the scholar Udovicki-Selb in his essay *"Les Balkans, genèse des 'Cinq points de l'architecture?'"* that a connection can be created between Jeanneret's observations in the Voyage d'Orient and the famous five points of Le Corbusier architecture. Although not supported by real documented sources, this consideration is very fascinating as it fully values the importance of this trip as a unique and formative experience for the future of Le Corbusier.

Jeanneret then discovers the modernity of architecture in the Balkans.

### **Dušan Grabrijan and Juraj Neidhardt**

In addition to the Voyage d'Orient by the young Jeanneret, other considerations link the figure of Le Corbusier to the more recent history of Balkan architecture and Bosnia in particular.

It should be remembered that in the second half of the 1930s, a substantial number of architects from Yugoslavia worked at Le Corbusier's studio in Rue de Sevres, to the point that the Master called that period the Slovenian epoch. Among these, as regards Bosnia, two architects, Dušan Grabrijan and Juraj Neidhardt, deserve particular attention. The first, Grabrijan, had studied with Jože Plečnik in Ljubljana, lived for a short time in Paris and moved to Sarajevo in 1930, where he began teaching at the State Technical Institute, establishing himself as a theorist and scholar of vernacular architecture and the traditional Bosnian house. Grabrijan convinced his friend and architect Juraj Neidhardt, a pupil of Behrens and collaborator of Le Corbusier for four years, to also move to Sarajevo in 1939. Since the early 1940s, both favoured an interesting reinterpretation of the region's traditional architecture through their studies, works and above all through their book, *"Architecture of Bosnia and the way (to) modernity"*, published in 1957, after Grabrijan's death.

During his stay in Paris, Neidhardt had established a preferential and friendly relationship with the Master, to the point that Le Corbusier wrote the only introduction ever written to texts by others for the book just mentioned. In the introduction, Le Corbusier reiterates his closeness to his pupil Neidhardt, whom he defines as "an old friend of the studio in Rue de Sevres" and above all, he says he is absolutely in agreement with the main theme of the book, which he identifies in the relationship between architecture traditional Bosnian and modern architecture.

In the preface, Le Corbusier writes that Neidhardt's book

helped him resolve a fundamental ambiguity, namely the relationship between modern architecture and tradition.

"My book has helped to clarify an ambiguity against which I have found myself struggling all my life", or "the direct imitation made by some architects of the elements of tradition that offers an easy way to build a semblance of culture "rather than using another method, that of" continuity - a continuity of spirit and evolution " .

.....

"For me, who visited Yugoslavia forty years ago and loved its landscape, its houses and people, it was a great pleasure to find in this book the modern spirit of the world harmoniously united with the things of which I have maintained a pleasant memory " .

Le Corbusier therefore presents and centres the theoretical essence of the book: to create continuity with history and design in harmony with tradition, with the culture of the place and with the technical and environmental aspects of a territory, in order to propose a modern architecture that is therefore mainly based on the reinterpretation of tradition, without however renouncing to be protagonists of one's own time and creators of a pure and simple contemporaneity.

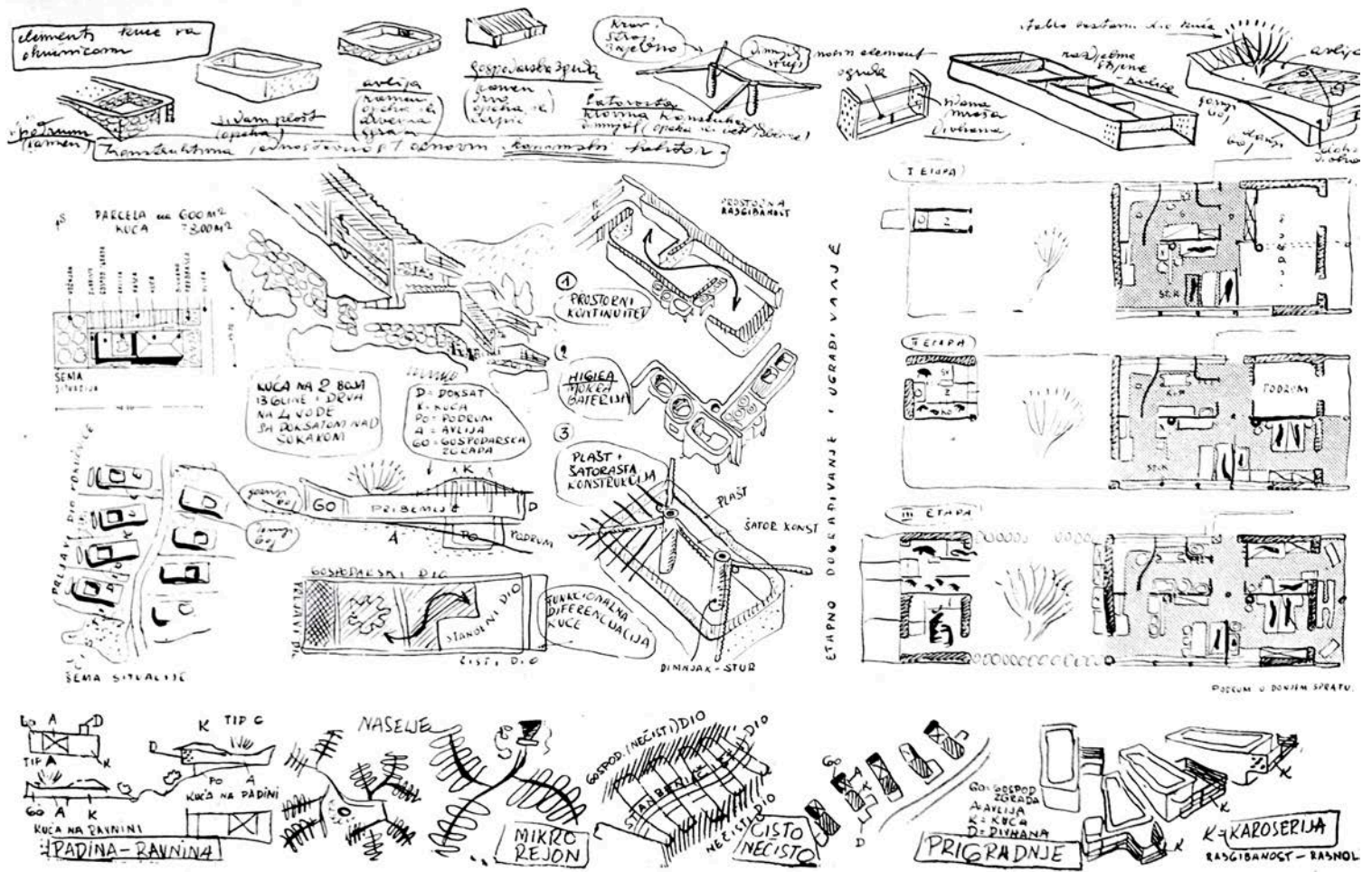
Between the two characters, Grabrijan has always had a role more linked to historical and theoretical research, while Neidhardt has worked more in the relationship between tradition and design. Neidhardt in fact, continues the studies on Bosnian residences carried out by his colleague, giving them a more interpretative key through projects, professional assignments and theoretical studies for residential prototypes, both rural and urban.

Neidhardt observes the volumetric simplicity of the houses, the contrast between the simple geometry of the volumes and the natural context in which they are inserted, underlines the distinction between the stone base part and the upper part consisting of a light wooden frame, the flexibility and adaptability of the interiors, the functional division of the same, the simple rules of aggregation and expansion and the construction systems, he observes that there was only one "unwritten rule", that new construction should not prevent the view towards the valley from the adjacent buildings existing (right of view).

Neiderhardt writes:

*"Here (in Sarajevo), you can find traces of Cubism, the predecessor of modern architecture, since looking at the geometric shapes of the houses, we automatically recognise that oriental architecture, as well as modern architecture, is based on the contrast between the severity of geometric bodies and the freedom of nature."*





Nekoliko primjera korištenja tradicionalnih arhitektonskih elemenata u savremenom smislu.

Utilization of traditional architectural elements in modern structures.

Analiza kuće.

Analysis of the house.

Individualna kuća projektirana po načelu trodjelivosti bosanske kuće. (Kućavilija — gospodarska zgrada (1950 god.).

Individual home designed on the principle of tripartition house — courtyard — utility premises (1950).

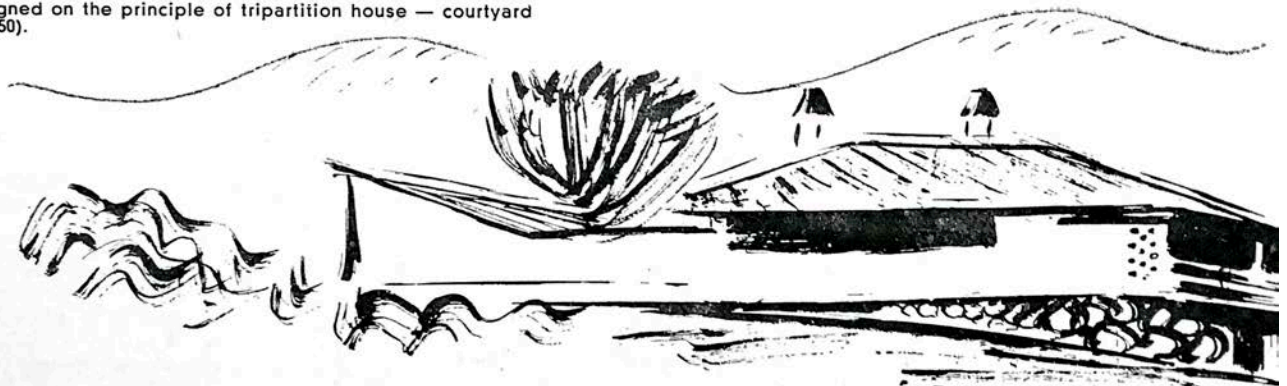


Figure 3. J. Neidhardt. Studies for a rural residence.

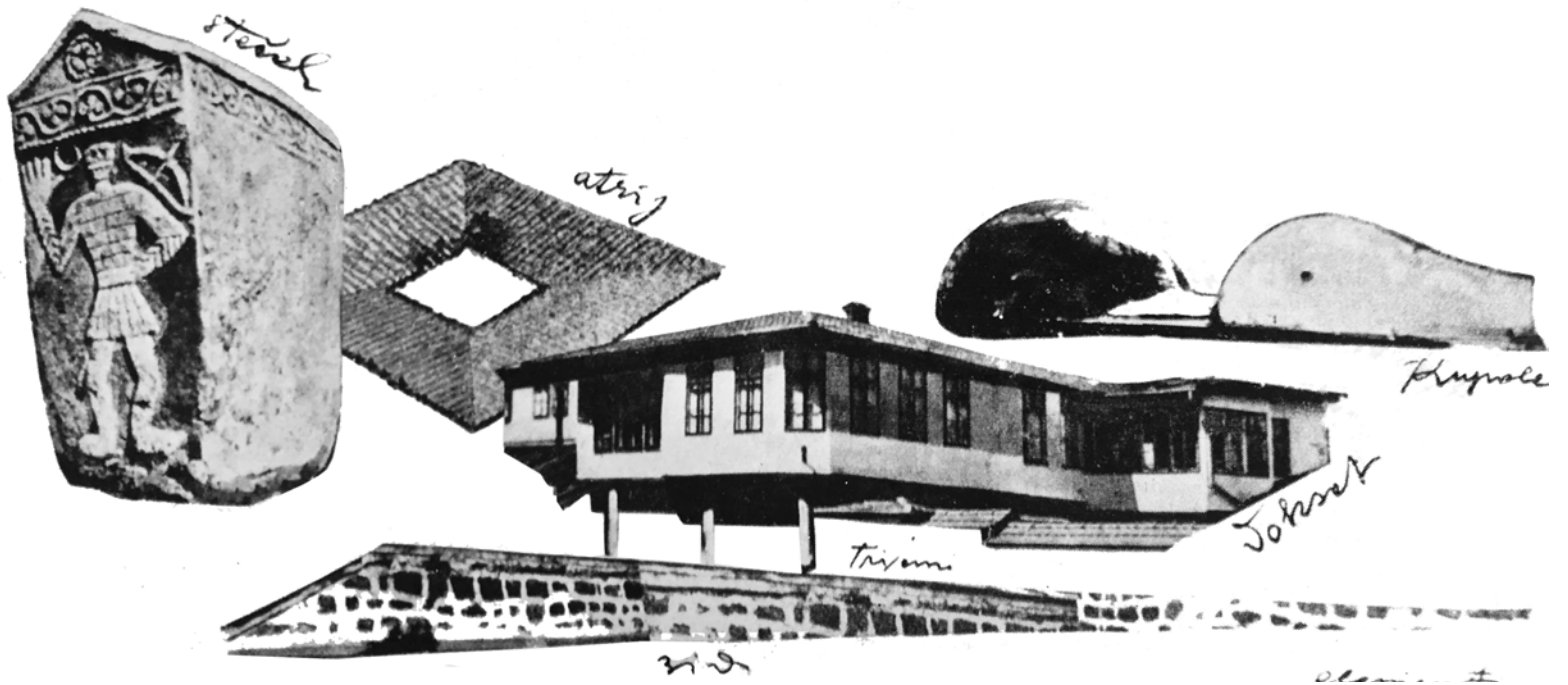


Figure 5. J. Neidhardt. Elements of Bosnian architecture.

Of particular interest is a study for a rural house with an interior patio. It is a single-storey building with a front overhanging the country level, in order to adapt to the topography of the mainly mountainous region; a simple, horizontal architecture, with a stone base and the main volume in a plastered wooden frame, a roof with a pitched roof covered in straw (as in Bosnian houses) and long horizontal cuts in correspondence with the openings, made possible by the lack of load-bearing walls.



Figure 6. Kadić brothers. Kopičić house (1939).



Figure 7. Kadić brothers. Kopičić house (1939).

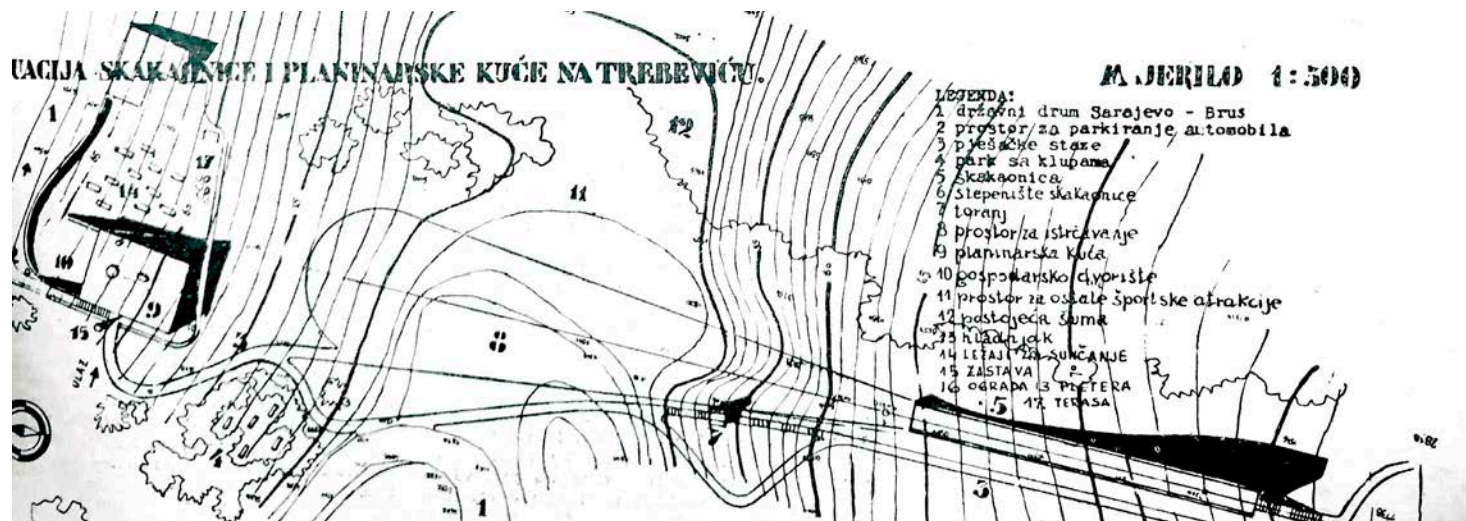


Figure 8. J. Neidhardt. Trebević ski chalet floor plan

In one of the most significant drawings shown in the book, Neiderhardt summarises the basic elements of traditional Bosnian architecture, namely the *stećak*, the Bogomila tomb that testifies to the original pre-Islamic culture of Bosnia, the atrium houses (*atrij*), the walls in stone of the base part (*zid*), the house itself in wooden frame supported by wooden pillars, the protruding veranda (*doksat*) and, finally, the domes that cover the public buildings and the mosques (*kupole*).

We want to conclude this text with three projects that exemplify how this design research continued and is reflected in various residences built in Sarajevo after the war: the first is a project by the brothers Reuf and Emir Kadić, the *Kopčić* house from 1937; the second is the mountain chalet in Trebević designed by Juraj Neidhardt himself, built in 1947 and later destroyed by fire; the third is a small residential settlement built around an existing mosque by Andrija Čičin Šain in 1953.

The Kadić brothers' project for the *Kopčić* house (1939) on *Safvetbeg Bašagić* street, one of the streets that start from the old centre to go up towards the *Mahala*, is fully part of the reinterpretation of the traditional Bosnian house and reflects the studies so far visas; the house looks like a simple raised volume on pilots in white plaster with large horizontal windows that de-materialise the corner.

The residential volume of the upper floor projects onto the street and is separated from it by a low boundary wall covered in local stone, which reveals the partially free ground floor. In the chalet built in 1947 in Trebević in the mountains just above Sarajevo and then destroyed by a fire, Neidhardt tackles the same themes as the *Kopčić* house and puts into practice the theoretical observations he had made on the Bosnian house.

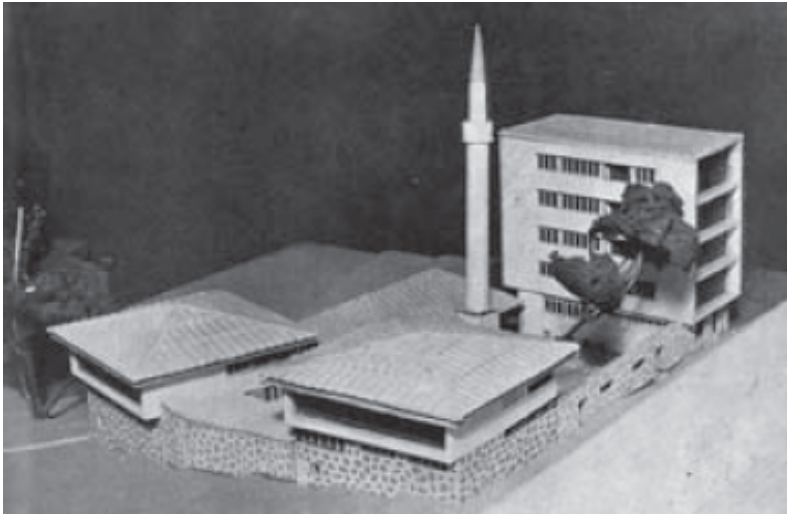


Figure 9. J. Neidhardt, Ski chalet in Trebević, period view. Sarajevo (1947).



Figures 10. J. Neidhardt. Trebević ski chalet layout.

The chalet is a project that represents a synthesis between local traditions and construction elements and a purist concept of architecture, conceived in continuity with the natural context in which it is inserted.



**Figure 11.** *Andrija Čičin Šain. Residential complex at Džidžikovac street in Sarajevo. Model and street view (1953)*

The Trebević chalet was positioned in front of the ski jump ramp. It was a compact and straightforward rectangular volume, projecting onto the slope, with a free-plan basement covered in stone and a rectangular upper volume in a frame and wooden facings with horizontal openings and a pitched roof, all elements that recalled the traditional construction method of Bosnian architecture.

In a residential neighbourhood on the corner of Džidžikovac and Čekaluša streets, there is a refined intervention by Andrija Čičin Šain from 1953 that integrates tradition and modernity in a small residential complex that develops around an already existing mosque and minaret. The project follows the orography of the place with three low and stepped buildings on different levels, with base parts covered in stone above which the factory bodies of three small residential buildings project, conceived in such a way as to recall the doksat of traditional Ottoman houses and wooden loggias facing the street (divan haneh). The project closes with a five-storey vertical volume, of a more modernist character, placed at the end of the complex and joins with an existing building of the same size, now home to the Italian Embassy in Sarajevo.

## References

Alić Dijana, (2010). Transformation of the Oriental in the Architectural Works of Juraj Neidhardt and Dušan Grabrijan, PhD Dissertation, University of South Wales, Sidney, 2010.  
 Amirante Roberta, K. Burcu, T. Panayotis, T. Yannis (edited by), (2013). L'invention de l'architect. Le Voyage d'Orient de Le Corbusier, Fondation Le Corbusier, Editions La Villette, Paris, 2013.

Andrić Ivo, (1993). Tales of Sarajevo, Newton Company paperbacks, Rome, 1993.

Blagojević Ljiljana, Vernacular Serbia traced by Jeanneret, Yugoslav Modern figured à la Le Corbusier, Universitat Politècnica de Valencia, 2015.

Frampton Kenneth, (1984). Anti tabula-rasa: Towards a critical regionalism, Casabella n. 500, 1984.

Giardina Roberto, (2013). Europe and the ways of the Mediterranean. From Venice to Istanbul, from Ulysses to the Orient Express, Bompiani, Bologna, 2013.

Grabrijan Dušan, (1984). The Bosnian Oriental Architecture in Sarajevo, Delavska Univerza, 1984.

Grabrijan, Dušan; Juraj, Neidhardt. (1957). Architecture of Bosnia and the way (to) Modernity, Drzavna Zalozba Slovenije, Ljubljana, 1957.

Foćak, Ita, (2017). The Sarajevo of Ita Foćak, in Domus n. 1011, March, 2017.

Kulić V., Mrduljaš M., Thaler W., (2012). Modernism in-between. The mediatory architecture of socialist Yugoslavia, Jovis Verlag, Berlin, 2012.

Mrduljaš M., Kulić V., (2012). Unfinished Modernisations. Between Utopia and Pragmatism, UHA / CCA, 2012.

Le Corbusier, (1966). Voyage d'Orient, Les Éditions Forces Vives, Paris, 1966.

Pignatti Lorenzo, (2014). Projects along the coast line. Adriatic Identity, LISt lab, Trento, 2014.

Pignatti L.; Gruosso S., (2017). Crossing Sightlines. Targeting the Adriatic, Aracne, Rome 2017.

Pignatti L.; Gruosso S. (2019). Sarajevo. An Account of a City, Lettera Ventidue, Siracusa, 2019

Pignatti, Lorenzo, (2019). Modernity of the Balkans. From Le Corbusier to Tito, Lettera Ventidue, Siracusa, 2019.

### Introduction

Driven by the structural changes in citizenship, the socio-spatial configuration of the city today undergoes significant changes when the individual urban communities are transformed to cope with new realities, new arrivals. Therefore, the cultural heritage of a geographical space that has become increasingly complex is necessarily reconsidered and reinterpreted, enriched by the presence and contributions of newcomers who bring cultural interpretative proposals that are not always in harmony with previously accepted and consolidated models, so the city is reconfigured by consequence (it is forcibly pluralised).

As a palimpsest of visible forms and thoughts, of aspirations and failures, of *utopias* and *dystopias*, the city has always been the place of the unity of the multiple: it is the material expression of streets, squares, walls and buildings enlivened by the active presence of its inhabitants and is, at the same time, an immaterial expression of cultures, languages, aesthetics and political, social and religious wills that follow one another in the diachronic dimension. Compared to the city commonly understood, to the city that we can define as traditional, the postmodern city poses some drastic differences: "it compresses the categories of unity to the advantage of the epiphany of the multiple" (Altarelli, 2015).

Moreover, since we only recognise ourselves in the face of the different, today we need a particular effort to recognise the existing, that is, the characters of the context, as a reality outside the project and must be interpreted with it. It is unnecessary to think that "places are the same everywhere, accept the idea that the peripheries are all alike instead, every place seeks its constructive genius, seeks its meaning". Therefore, the contemporary city is seen as an open work, the result of a myriad of isolated decisions, in constant modification, which is transformed by the stimulus of the habits and lifestyles of those who live there. From a refined sensitivity for centuries around the appearance of a stable image, today, we find ourselves facing the tendency of sensitivity towards unstable, de-constructed images (Fig. 1).



**Figure 1.** Urban transformation interventions in Milan-Cascina Merlata for an urban island of residential towers.

From this point of view, the character of the contemporary era is characterised by the loss of centrality and hierarchy, by plurality, by the overcoming of the idea of reason as it had manifested itself in the previous culture. It is also the crisis of the great Cartesian idea, which flaunted absolute, clear and precise truths for everyone, undermined by partial and ambiguous truths, where confusion rules.

In the figuration of the contemporary project, the form, therefore, undergoes a mutation process. From a place of structuring relations, it dissolves into the frenetic intermitence of apparitions of decomposed images.

Quaroni (1972) argued that "the city is that thing in which the quality of the relations between the parts is more important than the qualities of the individual parts," and today the relations between the parts of the city have entered a crisis definitely. The emerging city does not resemble the historical city, but it is nevertheless the "city of coexistences", intertwining of diversity: it proposes opposing or coexisting visions and fragments.

### Contaminations and hybridisations

Diffusion is associated with hybridisation, the mixture of

uses, favoured by high technologies and teleworking, but it is a horizontal rather than vertical hybridisation (i.e. the combination of mono-functional buildings instead of the superposition of multiple functions in a single building, more similar to the historic city), with varying intensity of transformations, the result of a myriad of small projects.

Discontinuity in relationships is characteristic of dispersion. Furthermore, in the landscape designed by the metropolitan peripheral mosaic, society becomes heterogeneous. Life is diversified by the social and working mix, as it once was in the historic city, so it can also be seen how the city moves to the periphery, dispersing itself. The spatial forms and the populations settled in a particular territory are constantly interacting with each other. They are producers of social and spatial configurations with their own singularity and contingency if it is true that the city is a space in constant evolution. Therefore, if the city as a "collective work of art" reflects urban life and its evolution over time as a material and immaterial, it is difficult to imagine the "built environment as an autonomous entity" .

The urban peripheral parts are also places in continuous and rapid transformation. The prescriptive force of explicit rules (norms and regulations) and implicit (repertoires and languages) that characterise a city and its buildings reach the edges of the urban encumbrance. Between the centre and the periphery, the past borders have now become porous, the spaces interpenetrates continuously, they mix ...

The perimeter settlements, modular and introverted, are both the industrial and artisan areas, built on the repetition in series of the same prefabricated shed module, both the residential districts designed by the iteration of a few building types imposed by the real estate market and the building areas public housing, where even the same typological model is replicated in series only with imperceptible formal variations. These are all urban islands, ordered within them by simple rules of the juxtaposition of building artefacts that make their autonomy visibly stand out from the others or the randomness of the neighbouring areas. Contemporary cities exhibit unprecedented contaminations of spaces, times, and functions through the diffusion of information technologies; they welcome different and often conflicting governments and jurisdictions on their territory .

The "places of social condensation" derive in fact from stratifications and proximity of different activities: they point to "unity of place", but not that of the typologies of the past when still every "function" could be exhausted in a single building.



*Figure 2. New multifunctional district in north Milanofiori-Assago with urban fringe.*

The functions are no longer stable, and they are divided into complex forms and networks. For this reason, it is necessary to distinguish "activities" and "functions" (changing chains of activities aimed at defined but changing purposes) (Fig. 2).The advent of global cities has deprived architecture of those stable reference systems that had justified its action over time, and today it wanders almost lost in an unprecedented expanded field (to use the expression of Rosalind Krauss) that forces you to reformulate your own logic. Only by equipping architecture with an "enzymatic" function, or rather "positive seeds", will it be possible to influence the transformations of the contemporary city (De Matteis, 2018).

Architecture has constantly been confronted with heroic intentions of representation, of a political project. In contrast, today, it has to face the banality of everyday life, passing from the need for representation (symbolic value of architecture) to the constraint of transfiguration (loss of the possibility of identification of the architecture). As also in suburbanite, contextuality is often not apparent, or at times it is simply induced by the need to reduce the environmental impact, in practice "suffered" .

In the city that has lost all rules, the architectural project, therefore, relates to it more and more dramatically, deprived of the possibility of relating in structured ways.

The tradition of the place of the form attributed to the city, the differentiation, has given way to the informal, so the city is everywhere and nowhere, and like the economic model that traditionally supports it does not tolerate anything definitive, in order to always be in able to adapt to changes.

Contemporary social complexity generates the proliferation of a multitude of identities, in turn, bearers of expressions of self-representation, resulting in a typological explosion that tends more and more to escape the usual classifications, configuring a city as a sum of independent and often also conflicting. Thus the individualism resulting from the widespread city only allows events with a strong figurative uniqueness to emerge, capable of gaining a marked identity concerning the “flat” tones of the context, often also with high-sounding ways.

### Places and images

Recognition is linked to the difference, to the unhomogenisation of all places. The correlation between differences determines such an urban identity, hence the unrepeatability of originality. Furthermore, a “space” is characterised by greater abstraction than a “place”, which is instead more identifying.

We spend our time in the constant attempt to “make a place”: that is, create relationships to try to escape from isolation, understood as the space on which we can read social relations in their historical and symbolic environment. It is a frequent reproach against newly built cities, their suburbs but also their new “centres”, Marc Augé explains well, “that of not offering the equivalent of places produced by an older and slower history, where the itineraries of individuals intersect and mix, where words exchange and solitudes are forgotten for a moment, on the threshold of a church, of the town hall, at the bar counter, on the door of the bakery ...” .

The relational space of the contemporary city is a sort of flexible territory, devoid of figurative recognition but rich in service potential. In generalised and polycentric urbanisation systems, as in those in which we find ourselves, the uncertainty of the margins is inversely linked to the structuring of the territory around strong, identifiable urban places. If the architectural elements that have formed the parts of recent cities in an unbalanced way become a “social fact”, these “errors” end up wandering over the possibility of building identity paths in similar contexts, if not demolishing in whole or in part these cumbersome presences (Fig. 3).

Moreover, if “identity is centralising, it insists on an essence, a point”, it is the process by which an architecture, by accentuating the characteristics of diversity from the others, takes on its own character, defines a precise identity, identifying itself. Nevertheless, the contemporary city also sees in the continuous and increasingly accelerated change



*Figure 3. New urban configurations of building transformation in Rotterdam-Chinatown.*

the search for its own identity, in the provisional nature, in the figuration of a sort of “planned chaos”.

Cities express the culture of those who live in them and have inhabited them: homologous globalisation, it is true, but it also pushes to accentuate diversity and identity as a contrary reaction. In this contradictory framework, contemporaneity in the dialectic between homogenisation and identity sometimes comes to propose shortened urban scenarios, themed neighbourhoods or blocks. Moreover, the participation in increasingly mass-produced collective imaginaries seems to compensate for the individual’s tendency to isolation. It induces to trigger processes of demassification of society, increasing the possibilities of choice and the manifestations of subjectivity, as elements of an “extreme” attempt to recover identity, including urban ones. Thus the image of an increasingly ideal city takes shape in the individual, which nevertheless always exists inside or under the real city so that the ideal city of the modern is an “informal” city, not only because it is formless but above all because it requires effort interpretative, imaginative, to those who travel and inhabit it. Transforming itself from a unitary and well-defined place into a banal and confused stacking of discontinuous fragments, albeit connected in a network, the contemporary

city is transformed from a collective place par excellence into the algebraic sum of individual places. Hence the spread of increasingly rigid, less flexible and available spaces: pieces of an indifferent landscape, with characters who do not live there but only pass through them, cross them simply by touching them.

A composite program of large buildings, sometimes set in open areas, always with an introverted character, in a defensive attitude towards territorial transformations, can be considered the cornerstone of the dispersion landscape. If the city is no longer perceived as a homogeneous territory, then it follows that the concepts of discontinuity, rupture, fragmentation are enhanced.

This close contiguity between closed places and spaces of movement, not communicating with each other, generates that effect of heterotopia in the landscape of the widespread city that can be translated into the metaphysics of contemporaneity.

A topic spaces, non-places, become such because they are indefinite, not marginalised, in the absence of an authentic architectural design of environmental integration, or in the insufficiency of this to represent the sense of place in the contemporary world. In "non-places", let us remember, people cross but do not meet: they do not generate relationships in practice. Today space no longer represents the conception of the world but its own subjectivity: the formless space is preferred, highly conflictual, no longer dialectical, devoid of synthesis. The result is a city without a prevailing and orientation image, made up of these spaces. The city becomes a mental abstraction, immeasurable and without borders, de-materialised: a place of appearance and the immeasurable, inconceivable as a whole, in continuous transformation, it escapes memory, cannot be remembered in immobility, it is a non-place (Fig. 4).



*Figure 4. Urban transformation of the ex-Maserati production area in Modena for service activities.*





**Figure 5.** *New exclusive and intensive seaside neighbourhood Tjuvholmen in Oslo.*

Therefore the urban place is not identified with the single space but is articulated in a series of relationships between spaces, which are proposed as pieces of the city available to the individual's interpretation through their own urban utility. The city is a large hybrid landscape, where the heterogeneity and diversity of the individual islands of which it is composed are privileged parts or fragments, which are so distinct that they can offer an answer to the most varied styles of to have his city (Fig. 5).

The loss of relationship of urban populations with the territory is widespread, such as substituting places in non-places. The concentration, continuity and closure typical of places are echoed today by the rarefaction, discontinuity and openness of non-places, dragging the city's destiny with it in this alteration. It should be noted that recently, the explosion of particularism, the violent re-appropriation of differences declare the need for a spatial equivalent for its own territory, especially on an urban scale.

## Conclusions

On an urban scale, these attitudes take shape in the poetics of the object, which means the construction of the city as a set of objects, insisting on the symbolism of the building, on the interactions between buildings. Thus "only the symbol of architecture remains, a presence-absence, in harmony with the figurative void of the historic city and the conceptual void of the contemporary periphery." Therefore, the city is seen as a nebula in which to insert poetic objects, with disorientation, change of scale, de-contextualisation, and overlapping or research of the aesthetic character of the common object.

The sense, albeit expanded, of the difference between the parts of the industrial metropolis disappears in the current configuration of urban aggregates: it melts into a liquid spatiality tending to homologate the "parts". The new disciplinary mission of the urban project should therefore consist in "knowing how to see" the city through "rhizomatic" networks capable of expressing the potential of the new identity spaces and restoring mature meaningful relationships to the system of traditional and static centralities (Monaldo, 2010). Modern Urban Planning came out silently, almost by stealth, from the urban scene where it entered with great clamour and in a spectacular way in the 1930s, inextricably linked to the ideas of rationality and progress. Moreover, the same happened, quietly, to the various postmodern urban planning, which alternated in the last decades of the last century in the name of irony, whim, the logic of the fragment. In their place, a new idea of the city has made its way and has now established itself: the idea of a "compact city", of coexistences, all yet to be conquered (Cassetti, 2016).

The revision of the Modern Movement has led to overturning the unidirectional design with inclusive values, attentive and open to introducing external values into the process. In this way, the city can only regain its own urban functionality given by self-representation, for which sometimes it is necessary to differentiate between internal and external space, giving up its exact correspondence. The new spatiality of the city signals the attempt to overcome modernity: the language of the new architectures emerge as the result of contaminations and crossings of different codes in an attempt to reconfigure the architectural places of identification (Fig. 6).



**Figure 6.** *The Kilometro Rosso, Bergamo Innovation District.*

## References

- Altarelli, Lucio (2015). "La città plurale. Architetture e paesaggi della post-modernità". Milano: postmedia books.
- Augè, Marc (1993). "Non luoghi: introduzione a una antropologia della surmodernità". Milano: Elèuthera.
- Benevolo, Leonardo, and Erbani, Francesco. 2011. "La fine della città". Bari: Laterza.
- Cassetti, Roberto (2016). "La città compatta. Dopo la Postmodernità". Roma: Gangemi.
- Choay, Françoise (1992). "L'orizzonte del posturbano". Roma: Officina.
- Colafranceschi, Daniela (1996). "Sull'involucro in architettura". Roma: Dedalo.
- Corbellini, Giovanni (2016). "Ex Libris. 16 parole chiave dell'architettura contemporanea". Siracusa: Letteraventidue.
- De Matteis, Andrea (2018). "Architettura e realtà. Crisi e nuovi orizzonti del progetto contemporaneo". Macerata: Quodibet.
- Eisenman, Peter (1987). "La fine del classico". Venezia: Cluva.
- Foucault, Michel (a cura di) (1994). "Eterotopia. Luoghi e non-luoghi metropolitani". Milano: Mimesis.
- Indovina, Francesco (2017). "Ordine e disordine nella città contemporanea". Milano: Franco Angeli.
- Koolhaas, Rem (1997). "La città generica". Domus n.791.
- Krauss, Rosalind (1979). "Sculpture in the Expanded Field", in *October*, Vol.8, pp.30-44 London: The MIT Press.
- Lazzarini, Anna (2011). "Polis in fabula. Metamorfosi della città contemporanea". Palermo: Sellerio Editore
- Lynch, Kelvin (1965-85). "L'immagine della città". Venezia: Marsilio.
- Martinotti, Guido (2017). "Sei lezioni sulla città", Milano: Feltrinelli Editore.
- Monardo, Bruno (2010). "La città liquida. Nuove dimensioni della densità in urbanistica". Rimini: Maggioli editore.
- Oberti, Marco, and Préteceille, Edmond (2017). "La segregazione urbana". Roma: Aracne, Roma.
- Perec, Georges (1989). "Specie di spazi". Torino: Bollati Boringhieri.
- Perulli, Paolo (2009). "Visioni di città". Torino: Einaudi.
- Pisano, Carlo (2018). "Patchwork metropolis. Progetto di città contemporanea". Siracusa: Letteraventidue.
- Quaroni, Ludovico (1972). "La torre di Babele". Padova: Marsilio.
- Ricoeur, Paul, and Riva, Franco (2018). "Leggere la città", Roma: Castelvecchi.
- Rossi, Aldo (1978). "L'architettura della città". Milano: clup.

Zanirato, Claudio (2018). "La città in-forme". Bologna: pamphlet.

Zanirato, Claudio (2018). "Replace landscapes". Bologna: pamphlet.

Zardini, Mirko (a cura di) (1996). "Paesaggi ibridi. Un viaggio nella città contemporanea". Milano: Skira.

*Kujltim Elezi, Nuran Saliu*

## Introduction

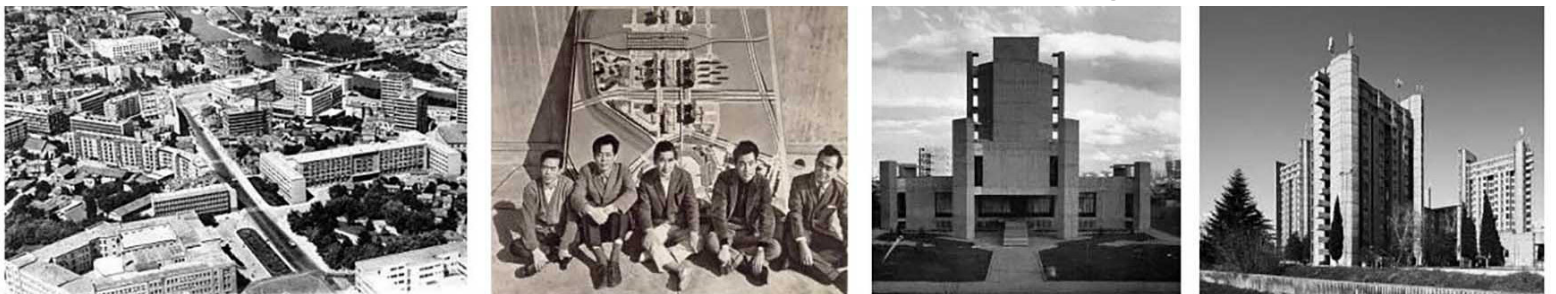
World War II interrupted the development of Modernism in Shkupi. World War II was interrupted for a while, perhaps to continue after the war with even higher energy than before. Through new urban plans and rapid construction of key modern buildings, Shkupi increasingly began to be presented as the capital in which the creation of Modernism in architecture was a matter of high priority, even for the new country's government time. Unfortunately, the pace of creating Modernism in Shkupi was abruptly interrupted on July 26, 1963, when the catastrophic earthquake devastated over 80% of the buildings in the city, most of them belonging to the period of Modernism. UNESCO followed the first steps of reconstruction, and Shkupi gradually started to gain its appearance as a city after Kenzo Tange's design. The reconstruction phase gave hope to the continuation of the dream of realizing Modernism in architecture, but now with a different form from the first one.

## The Yale syndrome

Besides the financial support for the reconstruction in 1965, Shkupi (the Faculty of Architecture) also won a Fellowship for some of its young architecture graduates to participate in post-graduate studies at prestigious institutions in the USA. One of them was Georgi Konstantinovski, who completed his master's degree in Architecture at Yale University in 1965 under Paul Rudolph and Serge Chermayeff tutorship.

Educated with Yale School of Architecture ideas, Konstantinovski's comeback marked a new era of creating architecture in Shkupi. The first two buildings that appeared from that 'educational spirit' are the Archive Building (1966) and the "Goce Delčev" Student Dormitory (1969), both of which were designed by Yale influenced architect Georgi Konstantinovski.

Building was Konstantinovski's first large-scale experiment with highly textured surfaces. It was immediately recognized after it was constructed for its strong urban presence, expressionistic gestures, and labyrinthine interiors. It highly announces a new dimension of spatial layering in contradiction and its effect on the internal spatial geometry. It presents a solid conceptual agenda, a spatial concrete structure, and a high standard. It is composed of separate components that constitute the total image, immediately affective, even if complex: the total and articulate image can be first understood as presence in this context. It equals institutional legitimacy, a will and capacity to manifest existence in concrete terms. In this sense, the program of the building is also significant: incrementally adds to the institutional infrastructure that constitutes its society. It wants the dignified architecture to install new ideas about existing, not merely as belonging to a place, but a purposeful presence and a new way of living. At the "Goce Delčev" Student Dormitory, Konstantinovski presents a strong image of permanence and a large scale of monumentality. Its towers, bridges, and balconies' silhouette represent brutality projecting a brave future of significant architecture lineage.



**Figure 1.** Shkupi before the earthquake, Kenzo Tange's master plan for Shkupi, G. Konstantinovski's The Archive Building and The Student Dormitory "Goce Delčev". (Source: [www.marh.mk/betonsko-skopje/](http://www.marh.mk/betonsko-skopje/)) The Archive

Konstantinovski's stay at A&A was of tremendous importance. On his return to Shkupi, as he later admits, he aimed to introduce the new ideas he had learnt from Rudolph, Chermayeff and Kahn: Brutalism, the socio-architectural approach and the play of light through the buildings he would build. We conclude that the 'Yale syndrome' became known in Shkupi just because Konstantinovski was a product of such a school. Rudolph's A&A building is clad in grooved cast-concrete panels that were hammered by hand to create a rough "corduroy" texture that generates constantly shifting patterns of light and shadows. Konstantinovski was impressed by A&A. That is why both the Archive Building and the Student Dormitory have visual affinities with Rudolph's Yale A&A School. Rudolph's famous sectional drawing illustrates the focus of the design process and is a compelling example of spatial layering. Konstantinovski's spaced line drawings example was produced by hands and were similar to Rudolph's as they illustrated his inspiration and model technique.

The highly textured surfaces, the hammered patterns and the unique rendering style in Konstantinovski's building(s) were derived from Rudolph's unique techniques of architectural rendering. It is more than clear that being influenced by the socio-architectural approach of Chermayeff, Konstantinovski's Dormitory produced a new social agenda in both plan and form. For example, four rooms come off their own corridors, creating social neighbour spaces. In contrast to this spatial program of modesty and restraint, the bridges between the towers recall a glamorous and hedonistic side of architecture. Such a preoccupation with the spatial program is part of the socio-architectural intentions and contributes to the theories of ethics concerning Brutalism in Shkupi.

During his stay at Yale, Konstantinovski regularly visited Kahn's Yale Art Centre (1951). The modernist principle of the outward expression of the structure and functional planning, plan clarity, spatial sensibility, and the purpose of the building demonstrated through its form, the relation of individual/collective ideology of its socio-ethical program were some of the details Konstantinovski learnt from Kahn.

On the other side, working for I. M. Pei in New York, who was also in awe of Kahn, Konstantinovski learnt that architecture is an imaginative synthesis of cultural and political aspiration and that buildings should be known for the great monumentality, drama and unity, along with their ability to provide a strong focus for the symbol of the city itself. Following Pei, Konstantinovski tends to achieve subtexts of culture memory, history and myth.

### Following the Yale syndrome: other contributions to Shkupi's brutalism

Konstantinovski's spirit will be followed soon by other architects. Janko Konstantinov is very close to his understandings of making architecture - 'brutal and monumental,' known first with his Pedagogical High School "Nikola Karev" (1967-68) and second, his very famous Medical Centre "Panče Karagjozov" (1968-70).

While the first one is very expressionistic, the second one is very monumental. However, both have become brutalist urban landmarks. Konstantinov's building completely defied Brutalism's original call for modesty and ordinariness in his Telecommunication Centre in Skopje (1972-1981). It is a large-scale structure that articulates on one of the four vehicular entries to the city. Its elevations comprise ornamented structure, a phenomenon with the emergence of decorative curvilinear forms, which became known as "concrete baroque" in the local parlance".

Marko Mušič's entered the list of Brutalist's authors in Skopje with his new, large-scale building. His Ss. Cyril and Methodius University (1974) is a low-rise, large-scale assemblage of expressive, raw concrete components that transform the site topologically and exceed the visionary capacity of *beton brut*. The plan similarity and site footprint with Paul Rudolph's design for the University in Dartmouth suggest that Mušič was interested in other parallel developments of Brutalism.

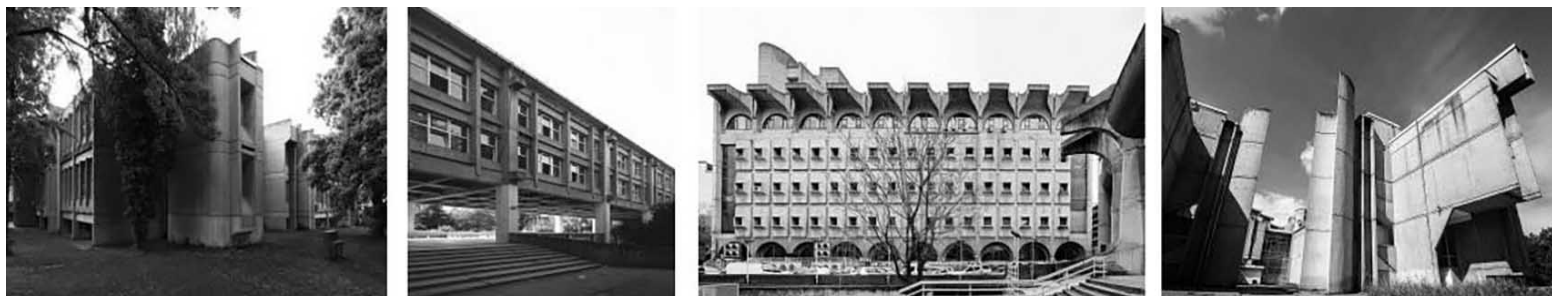


Figure 2. J. Konstantinov's High Schools "Nikola Karev" and "Panče Karagjozov" and Telecommunication Centre, M. Mušič's Ss. "Cyril and Methodius University". Source: [www.marh.mk/betonsko-skopje/](http://www.marh.mk/betonsko-skopje/).



**Figure 3.** K. Todorovski's National Hydraulic Institute, A. Roth's Pestalozzi School, TIGRI's Contemporary Art Gallery M. Tomić's & K. Muratovski's National Ethnographic Museum. (Source: [www.marh.mk](http://www.marh.mk))

However, the most constructivist edifice and very expressive work came from Krsto Todorovski, his National Hydraulic Institute (1972), on the top of a small hill, just to raise his expressionistic volume. Its pin-wheel plan producing a mechanical-like torsion is countered by a triangular geometry connecting the three cylindrical circulation forms- all the more spectacular because it is viewed below.

Alfred Roth's Pestalozzi Elementary School (1967-69) is restrained. Roth's form of Brutalism evolves from his work with Le Corbusier and his later collaboration with Marcel Breuer to develop and construct the "Doldertal" houses in Zurich. Two other buildings worth mentioning here are The Contemporary Art Gallery designed by the Polish firm TIGRI (1966) and The National Ethnographic Museum designed by Mimoza Tomić and Kiril Muratovski.

The gallery is a refined experiment of void and matter, while at the National Museum, architects were exploring the diagonal effects in the building plan. A random representative of Brutalism in Shkupi is the so-called GTC (City Shopping Centre) designed in 1971 by Živko Popovski. The GTC is an innovative model for a shopping centre, developing an open horizontal spatial structure of a platform that allows flow and movement. Further along the river, the Bank Complex (1970) by Radomir Lalovik and Olga Papeš are pure examples of Tange's idea of sharpening the City Gate Centre.

Other buildings that somehow fulfil the mosaic of Brutalism and Brutalist buildings are those from Nikola Bogačev and Aleksandar Smilevski "Orce Nikolov" Gymnasium (1969-71) and The Macedonia Tabak (1981-82) from Slavko Vrencoski.

They are both very representative structures, known for their monumentality, drama, and unity, symbolizing the city itself. When it comes to the monumentality and the representation of the public function, also the power of religion close to the public touch is Slavko Gjurikj's and Blagoja Micevski's Catholic Cathedral (1975). Dimitar Dimitrov's Residential Tower (1976) and Trajko Dimitrov's Museum of Natural History (1968) are also a remarkable piece of building that stands as an example of the later interest of brutalist buildings in Shkupi.

Biro71 gave his thought to combining function, geometry and white concrete in order to finish his project for the Macedonian Opera and Ballet House (1972-81). Even though only a part of the complex was finished, it challenged the bipolar conventions of the figure and the ground of the urban space and the project. The project anticipated landforms architecture offered alternatives to the concept of Banham's memorable image and marked the end of Brutalism in Shkupi.



**Figure 4.** Ž. Popovski's GTC, R. Lalovik's and O. Papeš's Bank Complex, N. Bogačev's and A. Smilevski's "Orce Nikolov" Gymnasium and S. Vrencoski's Macedonia Tabak. (Source: [www.marh.mk/betonsko-skopje/](http://www.marh.mk/betonsko-skopje/))



**Figure 5.** D. Dimitrov's Residential Tower, T. Dimitrov's Museum of Natural History, S. Gjurič & B. Micevski's Catholic Cathedral, and Biro71's Macedonian Opera and Ballet House. (Source: [www.marh.mk/betonsko-skopje/](http://www.marh.mk/betonsko-skopje/))

### Kenzo Tange and Japanese metabolism experiment in Shkupi

Kenzo Tange visited Dubrovnik on the occasion of CIAM X (1956) and was impressed by the clearly delineated city urban figure, defined by its well-preserved walls, punctuated by monumental gates, a fact that would decisively colour his partly realized project for the reconstruction of central Shkupi. Walls and gates found their way into his Shkupi project as its main motifs, yet filtered through a decisively futurist, super-urban lens of Japanese metabolism, resulting in the movement's first important international success and Tange's first Metabolist proposal that reached a realization. In Tange's interpretation, both the massive "city wall", surrounding the twentieth century downtown, and the "gate", building upon the new railway station, became Metabolist mega-structures that significantly increased the city's density, yet bearing no direct connection either with the actual city walls and gates or with the inherited ways of urban life. Both were, instead, metaphors, phantom echoes of the past serving as strong urban figures to organize a radically new kind of metropolitan fabric. If they established any continuity with history, that history was not even local but appropriated from another region - the Adriatic coast -

which may have been geographically close but was culturally rather distant.

The architectural past was taken into consideration by Tange and his collaborators during the master-plan experiment and the idea of Japanese metabolism involved in creating a new city in a relationship with past history.

That is why Shkupi, after Tange's intervention, shared a dichotomous relationship between the old Ottoman bazaar and the twentieth century attempts of westernisation. Tange's proposal transformed both 'idioms' into isolated islands surrounded by massive new pieces of urban infrastructure. It seems that Tange's bold projection into the future greatly overshadowed any hints at continuity. His solution was later criticized because it stripped the historic bazaar of all the vitality that had characterized it to this day. Tange's vision about Shkupi's urbanism was seen as a problematic one, if not so much for the deep discontinuity with local urban history and then for sure that it projected too far into the future. What the Metabolists of the time were imagining in their paper projects, Shkupi promised to realize. However, in its implementation, Tange's project not only remained unfinished—of the whole "city gate" only the railway was built- but it was almost completely stripped of its infrastructural characteristics.



**Figure 6.** K. Tange's "Train&Bus" Station and D. Pečkova Kostić's "Mavrovka" Shopping Mall. (Source: [www.marh.mk/betonsko-skopje/](http://www.marh.mk/betonsko-skopje/))

## The reversed path: Brutalism meets tradition

In the case of Macedonia, the questions of identity and the construction of national institutions were very pertinent because the nation was never recognized before the founding of socialist Yugoslavia. That is why both identity and national(ism) (in) architecture were in the early 1970s on the agenda of Macedonian architects and institutions. The vernacular again provided frequent motifs of national representation. A significant step further in this direction was the 'imaginary founding' of the so-called "The Ohri School" which was a tentative category proposed by the end of the 1970s to capture the architecture built in regional Macedonia.

New buildings should make a distinct break by referring to Ohri's unique architectural heritage. Ohri's house was taken for granted: it has completed the case. This idea points to the multiplicities of Modernism and their entangled histories with critical regionalism. Newly designed structures were about to articulate a different canonical question: at what point can a shift in architecture be identified collectively?



Figure 7. B. Čipán, MANU, P. Mulićkoski's Central Committee of the League of Communists, National and University Library, and B. Micevski Kapištec Tower. (Source: [www.marh.mk/betonsko-skopje/](http://www.marh.mk/betonsko-skopje/))

The Ohri School is signified through the cultural geography of Ohri, but it does not signify the Ohri region specifically. One of the most exclusive examples that present the 'school' instructions is a very expressionistic building from Boris Čipán, Macedonian Academy of Science and Arts (1973-76) in Shkupi [MANU]. With its corner porch, the exaggerated tectonics and cantilevered balconies, Čipán's MANU made apparent references to the wooden skeletons and glazed verandas of traditional Macedonian houses (Ohri's examples were brought to light); decorative cladding on the exterior columns and the abundant wood carvings inside further strengthened the message.

Čipán shared the idea in public: "all over the world, the craftsman's skills came to the surface for the last time in architectural history in the exposed concrete buildings and produced concrete ornaments". At the National and University Library (1967-72), Petar Mulićkoski went even further in a technological interpretation of tradition. He found the common architectural ground for a decent presentation of details from the soul of Ohri's houses and architectural ornaments, mostly carved in beton brut, in the interior and exterior part of the building.

Another building by the same author marked the point of bringing together national qualities in the architecture of the 1970s. His Central Committee of the League of Communists of Macedonia (1970) reinterpreted similar motifs in a much more abstract and technologically daring fashion, drawing the inspiration from the most picturesque and well preserved Ohri's multi-storey houses with progressively cantilevered floors. A picturesque conglomerate of six independent volumes of varying heights, the building features deeply cantilevered upper floors suspended from the concrete cores by steel cables enclosed within the roof.

Further traditional references include the abstracted ornament embedded in the aluminium curtain wall, concrete walls, and small mosaic tiles evocative Byzantine mosaics. Similar tendencies are to be followed at the Kapištec Tower (1976), designed by Blagoja Micevski. Few other architects were known as an activist leading the rediscovery of national elements in late Brutalist architecture. They used the same elements in order to confront modern architecture with old national elements. By coining the term, they challenged the practice to learn to read neglected sites and forgotten references.



**Figure 8.** T. Arsovski MOST- shopping mall, T. Georgievski Childrens clinic, Z. Štaklev Republic's dispatcher and Lj. Malenkova The Red towers. (Source: [www.marh.mk/betonsko-skopje/](http://www.marh.mk/betonsko-skopje/))

The building represented by Tihomir Arsovski MOST- shopping mall (1977), Todor Georgievski Children's clinic (1980-83), Zoran Štaklev Republic's dispatcher (1987-89), Ljubinka Malenkova The Red towers (1975) is the best examples that coined the collaboration between the tradition and the Brutalism.

## Conclusions

Going back to the Skopje experiment, due to the high standard of their conceptual agenda, design development and standard of execution, Skopje's Brutalist buildings are a distinctive story of both presence and presentation, providing Banham's key principles of New Brutalism on the significance of the image. Many buildings have been characterized as Brutalist, interpreted for their concrete and structural expression and their sophisticated conceptualization. The visual power of some of them exemplifies Banham's emphasis on the image as conceptual architecture. Another large number of Skopje's Brutalist buildings fit Banham's principle of "as-found" sense, and yet their presence and design are directed towards an objective of both ethic and aesthetic. The Skopje edifices can be interpreted as weight, presence, and brute defiance, with an architecture oscillating between matter and purpose. Nevertheless, these ethics meet the aesthetic characteristics of the object and concept headon, not as a style but as a material provocation. It seems that Brutalist architecture changed as others took it up, and what begun as ethics had deteriorated to aesthetics.

The escalation of travel and exchange of people print journals and goods was becoming a glacial force of a new era. The story of Brutalism in Shkupi is a product of this force. As a ready product, Brutalism in Skopje was imported from America through Konstantinovski and presented a compound between American ideas, Japanese Metabolism, and Le Corbusier's spirit. Architectural traditionalist elements are interlaced into Brutalists' bodies that seem to float weightlessly above the ground. In some cases, architects succeeded in making 'Brutalism' in architecture compatible with the Mac-

edonian architectural tradition and its symbols. At the beginning of reconstruction, Shkupi was called "The Brutalist Capital of the world" due to the quality of the buildings and the power of Brutalism as a style. After few decades, the nomination switched to "Brutal Monsters", "Ugly concrete and heavy weight Monsters", till the most unpleasant one "The most hated buildings of today". That raises the question, 'What went wrong with Shkupi's Brutalism?' Today many buildings are undergoing facade treatments to suit the aesthetic historicism of the new regime. Konstantinovski, as a pioneer of Brutalism in Shkupi, actively protests the erasure of this heritage.

## References

- (2018). *Atlas of Brutalist Architecture*. London: Phaidon.
- Banham, Reyner (1966). *The New Brutalism-Ethic or Aesthetic? London: The Architectural Press*.
- Banham, Reyner (1955). "The New Brutalism". *London: Architectural Review*, no.118, 1955.
- Deskovska, Ana (2015). *Архитектура од периодот на постземјотресната обнова на Скопје- вредности и состојба во рамки на современиот контекст (Doctoral Dissertation)*. Skopje: University SS. "Kiril i Metodij".
- Eisler, Oliver (2017). *SOS Brutalism- a global survey*. Zurich: Park Books.
- Grindrod, John (2018). *How To Love Brutalism*. London: Batsford.
- Lozanovska, Mirjana (2015). "Brutalism, Metabolism and its American Parallel Encounters in Skopje and in the - Architecture of Georgi Konstantinovski". *New Zealand: The Journal of the Society of Architectural Historians, Australia and New Zealand*, vol. 25, No.2, 149-151.
- Kulić, Vladmir, Mrduljaš, Maroje and Thaler, Wolfgang (2012). *Modernism in-between, the mediatory architectures of socialist Yugoslavia*. Berlin: Jovis Verlag GmbH.
- Rohan, M. Timothy (2000). "Rendering the surface: Paul Rudolph's Art and Architecture Building at Yale". *Cambridge, Mass: The MIT Press, JSTOR*, 84-107.



Llazar Kumaraku, Ermal Hoxha

### The destruction

Why write about destruction in architecture when these two words (destruction/architecture), at first glance, are considered dialectical? Firstly, as a concept, destruction has always been present in all steps in the history of architecture. In addition, the word 'destruction', from the Latin 'distruere', consists of the first part 'dis', which denotes the negative of the second part, the word 'struere'<sup>1</sup>, which expresses the making, the creation of something. 'Struere' is also the basis of the word 'co-struire', which refers to a joint action that brings together different building parts. Likewise, 'struere' is the basis of the word 'structure', which translated from Latin means 'lay-in/stratify', 'connect', 'bring together', and 'merge'. From this derives that if the word 'struere' indicates the creation, construction or erection of a building, its opposite, *distruere*, indicates the dismantling, destruction, collapse, the demolition of a building. So, this word expresses the loss of structure and, consequently, in the case of architectural objects, the loss of functionality, which, in architecture, represents two of the three main pillars of Vitruvio<sup>2</sup>. Thus, the words 'struere' and 'distruere' indicate two opposing actions, which are among the most vital activities for mankind and stands as foundations in his existence<sup>3</sup>.

In order to avoid misunderstandings, something else must be added. The action of structuring a space that will have a residential function does not necessarily end as an architectural outcome. Building and structuring a space without an aesthetic imprint is not architecture. Making architecture means elevating tectonics to an architectural level through a purely aesthetic gesture. However, many architects, such as Calatrava, have achieved through sophisticated structural constructions to give an architectural image, where the aesthetic gesture is fully expressed exclusively through the structure.

Nowadays, destructions and demolitions are increasingly part of the architecture of the city. It started from the controlled ones to the unexpected ones, to the ones that cause big debates and those that happen totally in silence. Not all destructions are necessary, but some must happen just to leave room for something new.

Although this new thing at first seems alien and is not accepted by society, since it seeks to change a conventional equilibrium created till that moment, it always remains a forerunner of the future.

The first act of the construction process is the demolition, deconstruction, or the destruction of something previous, of a precursor order or structure. At the first moment of the act of the construction, the natural order of a part of the territory, of a settlement or even nature itself, is destroyed and disrupted, even partially. The cover of *Essai sur l'Architecture*<sup>4</sup> shows the destruction of a natural order to build there a primitive hut.

Franco Purini's drawing, "*La solitudine e il ritirarsi preoccupato degli alberi all'apparizione della capanna rustica*"<sup>5</sup> (Fig. 1), features a drawing where trees show both the astonishment and the fear of nature at the moment that the first hut appears.

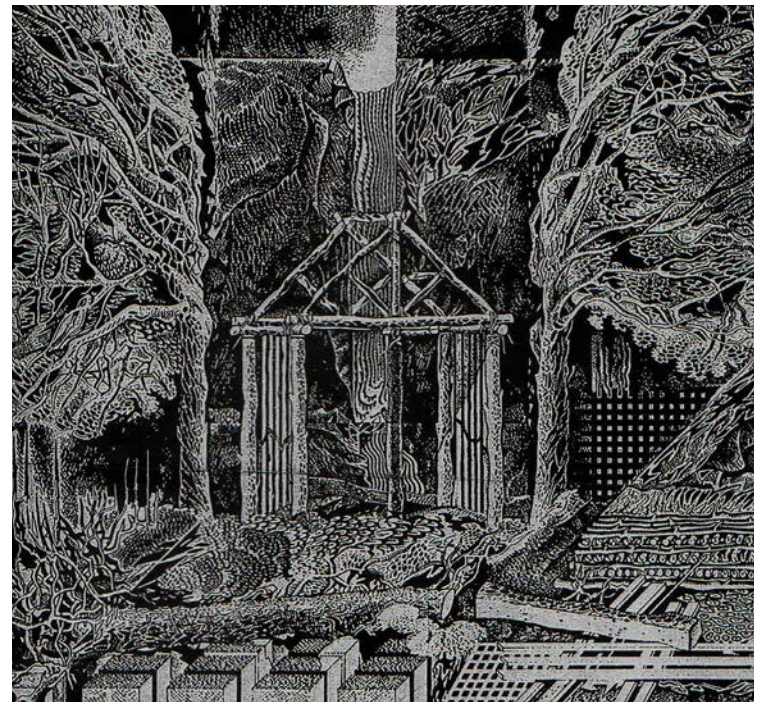


Figure 1. *The solitude and the worried retreat of the trees at the appearance of the rustic hut. China ink on cardboard, 40 x 40 cm. Source: Purini, Franco (1994).*

These cases show us that at the moment of the appearance of architectural work, a previous balance must necessarily be broken or destroyed. This balance, destroyed by architecture, she seeks to rebuild it by itself through its presence, with stronger connections, but not always this kind of result is achieved. There are many cases where the image or the balance has proved to be unstable after the process of building.

When architecture is destroyed, and the facts leading to that event do not matter here, in those moments, we feel as if something belonging to us, representing us, part of an image or a collective memory, has been taken away because that architecture, whether private or public, elementary or super-curated, was part of a collective image. For this motive, we all are sensitive to what is already gone. If we think of architecture, then it seems almost impossible to erase it easily without causing a violent act. When destruction happens, considering that buildings are almost like individuals in the urban community, several immaterial mechanisms arise, causing emotional movement. We can be indignant for another reason a swell. In our subconscious, the erected building represents the image of a hoped eternity, and the moment we see this eternity crumble right in front of our eyes, then automatically a sense of conservatism is represented in the preservation of what has been constructed, which we consider as the most approximate image of eternity.

The concept of destruction in the modern western world is largely revealed by the demolition of the walls of medieval cities. The world of architecture had known destruction even before. The one of the Paleo-Christian St. Peter, on which followed the project started by Bramante and continued by Michelangelo, Maderno and Bernini, is the most famous. Nevertheless, these destructions affected particular buildings and were not an integral part of the city. To continue, even all the ruins we will address later bear witness to the pre-modern demolitions in a period of peace, so not because of a war.

Destruction has always been associated with architecture, both with reconstruction and with new construction, and almost dramatically with ruin, which always emerged as a sublime entity due to its loss of stability.

Another way how destruction is presented in architecture is also "Destruction through Construction"<sup>6</sup>, emphasized in Sotir Dhamo's research, where the author states that many of our cities, beyond the destruction to build something new, also suffered loss and destruction of its "city image" through the act of building.

Avoiding possible misunderstandings that may arise read-

ing this article, it should be immediately noted that this text does not seek to have a positive or a negative attitude about the phenomenon of destruction but seeks to investigate aspects related to it, before and post destruction.

Degradation aspects will not be part of this article, although if one does not intervene to hold it back, it can put the stability of architecture seriously in crisis. Although it often leads in the same direction as destruction, Degradation is just a silent aspect that requires a long time and does not bring immediate destruction. Likewise, the consumption by time, which causes all the buildings loss of superficial material or damage in their content, is not subject to this article.

### **Violence, criticism, and ideological destruction in modern architecture**

As the architect Artan Raca write, it is clear that " *the destruction of an object is inextricably linked to what will be done next. It is the other side of the coin, and often the result that comes after it is the answer to destruction*"<sup>7</sup>. Based on this assertion, it should be noted that modern architecture came to the Western world in the name of rescuing society from the degraded spaces of the medieval industrial and polluted city. Typical of the beginning of Modern Architecture is the destructive interventions of Haussman to restructure Paris or even, as mentioned before, the destruction of the medieval walls where the most famous are those surrounding the city of Vienna, which raised a great debate that took place internationally. Modern architecture came west with a rescue purpose and justified all the violence and destruction it exerted on the pre modern city in the name of that rescue. This aspect of the violence of modernity since its inception is emphasized by Franco Purini in his book " *Comporre l'Architettura*" when he says " *Modernity was redundant as it is post-modernism it was redundant and cruel – cruel in the sense that Antonin Artaud gave to this term – as the work of many artists who are the ideal fathers of modernity itself, including Giovan Battista Piranesi, Marquis De Sade, poets such as Giacomo Leopardi, Charles Baudelaire, Arthur Rimbaud. It is a behaviour that modernity inherits from the extreme accuracy of the Enlightenment and from the momentum of romanticism*"<sup>8</sup>.

All the power and violence of modernity, supported by great architects<sup>9</sup> and often manifested in the great and oppressive interventions on human nature, had its response in the aftermath of World War II. The power and violence of modernity against the past and history had

catastrophic consequences for the human nature. These consequences of modernity based on Enlightenment resulted in the destruction of Hiroshima, the human violence of the Mauthausen camps and the social ones of communism<sup>10</sup> towards its end.

The social consequences of modernity were also reflected in architecture. The end of modernism comes with one of the most famous destruction of modern architecture, such as that of Pruitt-Igoe neighbourhood (Fig. 2), about which Jencks writes *"Modern architecture died in St. Louis, Missouri on July 15, 1972, at 3.32 p.m. (or thereabouts) when the infamous Pruitt-Igoe scheme, or rather several of its slab blocks, were given the final coup de grace by dynamite. Previously it had been vandalized, mutilated and defaced by its black inhabitants, and although millions of dollars were pumped back, trying to keep it alive (fixing the broken elevators, repairing smashed windows, repainting) it was finally put out of its misery"*<sup>11</sup>.

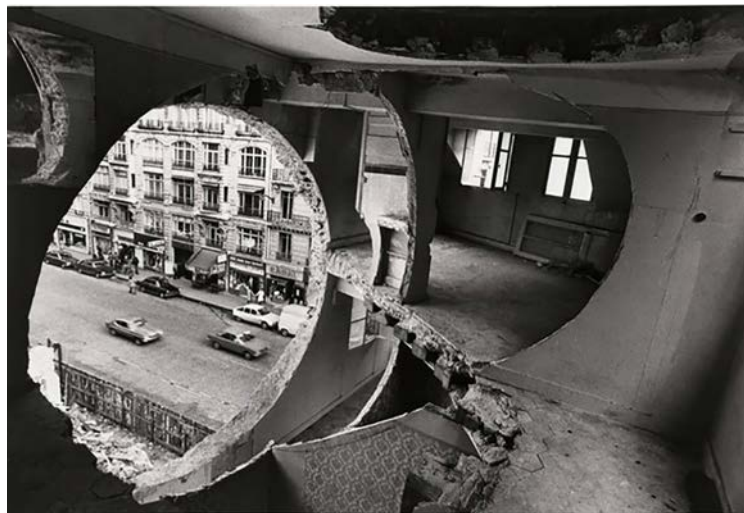


**Figure 2.** Destruction of Pruitt-Igoe - Source: Minoru Yamasaki.

According to Jencks, modernism in architecture falls here, but it must be emphasized that his teachings clearly influenced and are still a source of inspiration for young professionals who, having realized the mistakes of the modern era, such as indifference to places, fundamental approach to the project, ignorance of human phenomenology has attempted to correct them with greater sensitivity to these aspects directly involved in the sphere of residence. The demolitions that occurred during the modern period justified on an ideological basis their behaviour towards historic cities. The secession that modernism

demanded from the dark ages of the Middle Ages and a renaissance that was nothing but the germ of what was to come was manifested through barbaric violence against urban space or historic buildings. All the destruction of the past was justified by constructing the *New City* where the *New Man* of the future would live.

The first phase of modernism had a tragic end, as clearly shown by the *'investigated'* works in sections by Matta Clark, which beyond the cutting and the physical violation of the building, marks the end of a past world that was built on purity of image and form, on the stability of solid ideas and permanent security. Suddenly the artist or architect's cuts open to us a new world, new visions that make the past and the future dialogue between them, like in the case of *Conical Intersect* (Fig. 3) or the *Splitting* (Fig. 4), where the odd banality of the modernist box-building is enriched by the vertical cut, the segmented sign that marks the split. It is precisely this contradiction between anonymous normality and the extraordinariness of the artistic gesture, reduced to a simple and almost tragic decoration, that brings to collapse all of the securities that previously built the western social order, based on ideological absolutism<sup>2</sup>.



**Figure 3.** *Conical Intersect* – Gordon Matta Clark. Source: Lee. 2000.

The futuristic promise that each generation had to build their own city today seems exceeded, and the destruction of building something new in the same place seems far from the academic world. In reality, the disconnection between the real world and the academic world is evident in our country, perhaps because most of the large-scale constructions carried out today are more specula-

tive constructions built by investors rather than projects elaborated for the specific urban or architectural context. As mentioned above, these buildings can destroy a place rather than give it an identity.

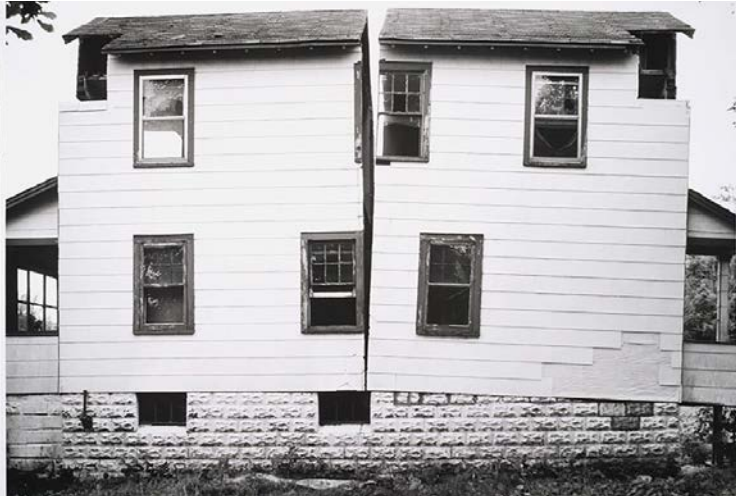


Figure 4. Split – Gordon Matta Clark. Source: Lee. 2000.

Lately, it seems the architecture itself should have a beginning and an end. At this point, architecture is in tune with all other consumer products that surround us in our lives. From this point of view, it is clear that beyond the act of creation and the lifetime of a building, there also lies the anticipation for its demolition. So, one of the architecture paradigms is clearly transformed here, the one of construction long life.

Many abandoned buildings reflect modernity nowadays because they require significant maintenance investments, although they are not old. Their abandonment for economic reasons leads to their degradation to ruin and final destruction.

### Destruction by war

The basic principle of war is to destroy the societies and the physical structures they have built over time. The destruction of the city, as one of these structures, seems to be the primary goal of wars because it follows not only the elimination of strategic military facilities but above all, the destruction of history, identity, social and cultural values of the enemy, which are inevitably unfolded in the urban space. Only in Germany, according to Winfried Sebald, the war caused unimaginable damages. According to him, six hundred thousand German civilians died in the bombing, another seven and a half million were

left homeless, one hundred and thirty-one cities were attacked, and most of the buildings were completely razed to the ground. To show the situation of the German cities torn by war, Sebald tells us about a smelly city, where teams searching for corpses are seeking amid the burned and the still not-rising smoke over the city, a smell that after some days would seem pretty normal<sup>13</sup>. Although the book denounces more the silence and amnesia of German society after World War II, which did not feel morally justified to speak of its pain, causing so much pain to other people, it nonetheless describes us a clear picture of the situation of cities after the bombing. It also shows that the Germans took great care to build a totally separate image from what had happened before World War II.

In fact, the rebuilding of Berlin, a city almost completely flattened by the bombs of the British air fleet, took place in a very short time. Dresden's (Fig. 5) reconstruction was also very quick. In this city, allied *airstrikes* destroyed, among some military targets, much of the old city and its monuments. Many of the city's important historic buildings were rebuilt, including the *Gottfried Semper Opera House*, but, to escape the city's past as the royal capital of Saxony, some of the church ruins, royal buildings and palaces, such as the Gothic *Sophienkirche*, *Alberttheater*



Figure 5. Destruction of Dresden - Richard Peter. Source: Deutsche Fotothek

and Wackerbarth - Palais, were flattened by Soviet and East German authorities during 1950-1960 rather than repaired. Very interesting is the reconstruction of the *Frauenkirche* baroque church (Fig. 6). It's a great example where reconstruction builds a bridge to the past. The rebuilding of the baroque church, which was left in ruins until 1991, was completed in 2005.



**Figure 6.** Frauenkirche Dresden – With dark colour we can clearly distinguish the stones reused from the destroyed church. Source: Llazar Kumaraku by Google 3D Map.

The church was completed by reusing the stones of the old building, clearly visible from the darker colours inside the present walls. This way, a symbol of continuity was created between the past and the present, while also maintaining a visible memory of the devastation caused by the war. *Frauenkirche* is a symbol that has a dual function: on the one hand, it reminds of the allied bombing that struck not only military targets but also civilian buildings,

and on the other, it remembers the German responsibility for World War II. After or during a war, social and architectural destruction is the first thing we see<sup>14</sup>. We have all lived close to the drama of Bosnia or Kosovo: we carved out in our memory the destruction of the Sarajevo Library or the Monstar Bridge, and even sadder for us is the destruction of the markets Gjakova and Peja, or some neighbourhoods of Prishtina. It was unbelievable to think why places could suddenly become ruins where we had lived for so many years. War tends to destroy buildings, places, monuments, elements, and symbolic spaces of a city. In this tendency appears the bloody horror of cancellation of architecture, as if it also wanted to destroy, before physically cancelling it, the efforts of the generations which raised it. Nowadays, the ravages of the historical monuments of Palmira or Aleppo are ruthless, where the level of the most imaginable brutal barbarism was manifested in the destroying of temples belonging to UNESCO archaeological sites.

These *Urbicide*<sup>15</sup> images, a sad, bloody and painful spectacle – as Tim Slade's film sequences in 'The Destruction of Memory' tell us – speak today the tragic language of the destruction of art and culture built on urban heritage, which is a shared worldly wealth, it must be preserved to pass it on to future generations. After the process of destruction by war, which, as mentioned above, targets the physical part of a city and what it represents, arises the problem of its reconstruction. Francesco Mazzucchelli, in his book "*Urbicidio. Il senso dei luoghi tra distruzione nella ex Jugoslavia*"<sup>6</sup>, describes the relationship between the war and the physical destruction of the city, with its memory and the reconstruction. In fact, Mazzucchelli says that memory is not only eliminated by the physical destruction of the city but also by its incorrect restoration or reconstruction.

The author also talks about demolitions and reconstructions in three important cities, such as Belgrade, Sarajevo and Mostar. The case of the rebuilding of Sarajevo, a city where various cultures, such as Muslim, Latin Catholic, Serbian Orthodox and Jewish, were struck before the destruction, is illuminating. During the rebuilding process, the Bosnians almost completely eliminated the Christian footprints in the city, especially the Orthodox ones, wiping out a significant part of the city's past.

It must be said that during a war, it is not only the physical destruction of the city that causes the elimination of other intangible values, such as culture, identity, memory, history, tradition, social tissue, but also the moment of rebuilding, as the case of East German cities that wanted

to leave behind the bourgeois matrix of the past, or the case of rebuilding Bosnian cities, which eliminated the orthodox spaces. In both cases we can have the same result, elimination of values that the urban space represents. So, we can easily deduce that incorrect reconstruction or restoration can be as destructive of the past as the act of destruction itself.

### ***Damnatio memoriae* – demolition of monuments/buildings**

The destruction of the past has been an ancient tradition, which continues even today. The destruction of the memory in the Roman civilization was manifested by the '*damnatio memoriae*', where they condemned the memory of the deposed emperors or traitors of the Roman Senate. The severe punishment included the cancellation of the name from the inscriptions of all public monuments, the demolition of statues and monuments erected in honour of the convict, and the alteration of portraits in coins. '*Damnatio memoriae*' can literally be translated as a *damnation of memory* that affects not only the convicted person but especially the spatial elements that evoke him or even the time when the character existed.

Of this category are, for example, the devastations of the 1990s in Albania, which affected both the demolition of monuments, statues or busts of the dictator, but also the destruction of many buildings that were symbols of that tragic period. In Italy, erasing or obscuring the symbols of fascism for nearly eighty years was nothing but a condemnation of the memory of the past. Also, according to the above mentioned Sebald, to this category belongs the silence of the German people or intellectuals after World War II, that remained silent about the destruction of their cities, as if they were quietly accepting the violence against their space due to pain and terror that had been planted all over Europe by them.

Within this '*damnatio memoriae*' strategy lies the hidden but constant desire of a certain political class in Albania to destroy the Pyramid building in Tirana, which was initially conceived as a museum of the figure of the dictator and the communist era. It almost never functioned in this role, but the mere association of that building with the dictator's name pushes the Albanian political class always to propose its demolition. A paradox desire that cannot be explained logically<sup>17</sup>. We hope that future generations, who do not appear to be ideologically influenced by the presence of this building, will restructure it by bringing it back to life and by removing it from the shadow of total

degradation or destruction. The hope for regenerating the Pyramid is based on the erection of a new historical balance from a generation that appears already detached from the dictatorial period.

In many cases, the destruction of memory lasts for a certain period of time, which over time is overcome as new historical balances are restored. The objective of '*damnatio memoriae*' is to erase history, but this is not always achieved. Many of the initially violated works may be revived by taking the same functions, such as the obelisk and Mussolini's pool in Foro Italico again. Undoubtedly the values of the Pyramid in Tirana, or of all the buildings still existing from that period, can be manifested largely by their architectural value. It would be best for all this evidence of the past to be preserved more for their architectural values than for others, which can become obscure or almost completely erased over time. When contemplating Campo dei Miracoli in Pisa or Piazza San Marco in Venezia, it is clear that we are admiring more the aesthetic and architectural values they convey than the story they carry, which is displayed to the casual observer only superficially.

### **Tirana: Destruction to build a new Image**

The urban history of the city of Tirana is traversed by a series of demolitions and constructions that have accompanied it throughout its history.

Among the major destructions of Tirana are the old City Hall, where the National Museum of History is built today, and the Old Bazaar that was destroyed to leave the place to the Palace of Culture. Both of these destructions during the dictatorship period have wiped out a significant part of the architecture of the city of Tirana. That kind of destruction happened not only to historical buildings of the capital but also to very important buildings of the cult. It is important to note that in the dictatorial period, especially in the second half of the 1960s, a wave of destruction swept through the buildings of all cults practised in Albania. While in the Vatican was held a '*meshë*' (Mass) in Albanian to celebrate the five hundredth anniversary of Skanderbeg's death, considered the guardian of the Christian religion in Europe, in our country, not only the churches but also mosques or synagogues were destroyed. There was never such violence of this kind against architecture in Albania. We recall that all the invaders have transformed religious buildings' function by adapting them to their religion. An emblematic example is the cases of all churches born and transformed into mosques

after the Islamic invasions. The most famous and important of all is certainly St. Sophia of Constantinople.

Destruction does not always exhibit a negative character. It is often necessary and should be used to erase from the sites those spaces or structures that parasitise on certain sites. To this category belongs for sure the demolitions of buildings that 'pollute' the natural space, such as the demolition of all buildings that had blocked the *Lana River* during the '90s or the kiosks that had occupied 'Rinia' Park during the same period.

In many cases, such as those just mentioned, the concept of destruction can be seen as a redefinition of a new urban order that reflects a different image confronting the past. Destruction defines a mutation of the old image, which creates a deficiency that waits for a new architecture. In this sense, destruction emerges as a transformation action against urban space.

During the recent period, other types of demolitions occur in different urban spaces to free space for new housing complexes. The destruction of the natural parts of the city has been another type of destruction that occurred recently, where large areas of Tirana that were formerly green are now being built.

In recent years, two historic buildings that were previously classified as first-class monuments, such as the 'Qemal Stafa' Stadium, designed by the Florentine architect Gerardo Bosio, and as expected with the National Theatre, after the law was approved, are being demolished.

In these cases, the destruction that is occurring, rather than in the name of economic progress or that of the capital itself, is fuelled by economic speculation over construction. It is no coincidence that the functional typologies represented in time by some of the consolidated formal typologies today appear hybridized by towers.

### The ruin

The ruin is the final state of the building, which has lost stability and consequently functionality. For this motive, as Franco Purini would say, we are in a state of isolated contemplation only the last aspect of the architectural triad, or more precisely, that of the *venustas*<sup>18</sup>. The final state of architecture mentioned above is nothing but the first moment of a return to nature of all the raw material or materials that were taken away from it. This moment becomes even more sublime because it is precisely in that moment that emotional characters are clashing with reflections on the life and "death" of the artefact, which may unconsciously convey to the observer the feeling of Kantian<sup>19</sup>

sublime.

The ruins have been the inspiration for great architects like Palladio, that after measuring and redraw the ruins of Rome, especially those of the Hestia Temple, from which he was inspired to design the *Rotonda*, or even Giovanni Battista Piranesi, who documented all pictures of the ruins of Rome again and resting on them raised the imaginary layout of *Ichnographiam Campi Martii Antiquae Urbis*.

The ruin, which appears as the final appearance of all the architectures, reveals the almost tragic fate of all the works and the final destruction of the architectural construction. The first pit that has been dug violating/excavating the land's surface from which ideally the material on which the building was 'erected', will eventually collect all the erected building/material. This quasi-biological cycle gives to the act of construction a mystical and transcendental character.

### Conclusions

At the end of this article, we can clearly say that the process of formation and transformation of the architectural or urban space is a continuous process in which construction and destruction, but also reconstruction, degradation, maintenance, are inextricably intertwined to each other. The destruction of man-made space has always been accomplished for multiple reasons. As described in the analysis above, it has always been a violent gesture that has consequences on settlements' image. Many times destruction in architecture has irreparably damaged the city. Other times, from ruins, cities of the same name have been built but with a new image containing the story, as the case of Dresden.

Of another nature are the demolitions in our country where at times, as in the case of constructions along the *Lana River* or those of the 'Rinia' Park, they have proved useful in creating an improved image for the city. However, other times they have been carried out, leaving urban gaps that are not yet resolved, such as the space behind the Opera and Ballet Theatre or the one that encloses the Museum of History.

The process of stratification tells us today that contemporary is not the destruction of the city and its construction on a *tabula rasa*, but the grafting of the new on the old and the creation of a new spatial reality created by the over-emphasis above the old. This approach should today lead to interventions in urban realities saturated with construction.

## Note

<sup>1</sup> Google (2018). "The etymology of the Latin words". Accessed November 2018, <http://www.etimo.it>

<sup>2</sup> Vitruvio, Marco Pollione (1960). *De Architettura; dai libri I-VII*, (review of the translation text and notes by Silvio Ferri), (in latin, *Haec autem ita fieri debent, ut habeatur ratio firmitatis, utilitatis, venustatis*) book 1, III, Pg. 60. Roma: Fratelli Palombi Editore.

<sup>3</sup> For the relationship between the act of construction and human existence see text I Martin Heidegger (2003), *Lectures and conferences*, 117-166. Tirana: Plejad.

<sup>4</sup> Laugier, Marc-Antoine (1972). *Essai sur l'Architecture: Nouvelle edition avec un Dictionnaire des termes, et de planches qui en facilitent l'explication. Reimpression de l'edition de Paris, 1755*. Here we refer to the second edition of the essay. Geneve: Minkoff.

<sup>5</sup> Purini, Franco (1994). *La solitudine e il ritirarsi preoccupato degli alberi all'apparizione della capanna rustica*. China ink on cardboard, 40 x 40 cm. Scheller.

<sup>6</sup> Dhamo, Sotir (2011). "Ndërtimi përmes shkatërrimit dhe shkatërrimi përmes ndërtimit", *Forum A+P*, no. 8, 9- 39. Tiranë: Co-PLAN.

<sup>7</sup> Raça, Artan (2011). "Shkatërrimi si simbol për një të ardhme më të mirë", *Forum A+P*, no. 8, 102. Tiranë: Co-PLAN.

<sup>8</sup> Purini, Franco (2018). *Të kompozosh arkitekturën*, 54. Tirana: Polis-Press.

<sup>9</sup> Except of the interventions that Le Corbusier proposed for the destruction of the center of Paris he always wrote in favor of the destruction of the past. If we consult *Vers un'Urbanisme* this approach is clearly stated in the lines "destruction of past neighborhoods motivated by loss of functionality".

<sup>10</sup> See François Lyotard Jean's book, *Il postmoderno spiegato ai bambini*, Feltrinelli, Milan 1986. In this book the author explains the consequences of Modernism and the end of three major metanarrations such as the Enlightenment that sought the mastery of nature through knowledge, but had its tragic end in the outbreaks of Hiroshima, Humanism seeking to improve human life and falling with concentration camps, and Communism seeking to bring about equality between people and having its tragic end in the Eastern bloc.

<sup>11</sup> Jencks, Charles (1977). *The Language of Post-Modern Architecture*, New York: Rizzoli. Pg. 9.

<sup>12</sup> Lee, Pamela M. (2000). *Object to be Destroyed: The Work of Gordon Matta-Clark*. Cambridge-London: MIT Press.

<sup>13</sup> Sebald, Winfried G. (2004). "Storia naturale della distruzione". Milano: Adelphi

<sup>14</sup> Barattin, Leonardo (2004). *La pratica dell'urbicidio e il caso della città di Vukovar*, 331-350. Koper: ACTA HISTRIAE.

<sup>15</sup> The word *urbicide* first used by Bogdan Bogdanovic to describe the destruction of the cities of the former Yugoslavia during the Balkan wars of the 1990s, tells us beyond the physical destruction of a city and its immaterial culture, identity, memory, history, tradition, social fabric etc.

<sup>16</sup> Mazzucchelli, Francesco (2010). *Urbicidio. Il senso dei luoghi tra distruzioni e ricostruzioni nella ex-Jugoslavia*. Bologna: Bologna University Press.

<sup>17</sup> The "Forum A+P 8" periodical, Co PLAN, Tirana 2011, can be consulted on the Pyramid destruction argument and on an international competition for the Pyramid.

<sup>18</sup> Purini, Franco (2019). *Të kompozosh arkitekturën*. Tirana: Polis-Press. P. 67

<sup>19</sup> Kant, Immanuel (2002). *Osservazioni sul sentimento del bello e del sublime*. Torino: BUR 2002.

## References

Barattin, Leonardo (2004). *La pratica dell'urbicidio e il caso della città di Vukovar*. Acta Histriae Koper: 12 (1).

Dhamo, Sotir (2011). "Ndërtimi përmes shkatërrimit dhe shkatërrimi përmes ndërtimit", *Forum A+P*, no. 8, 9- 39. Tiranë: Co-PLAN.

Jencks, Charles (1977). *The Language of Post-Modern Architecture*. New York: Rizzoli.

Kant, Immanuel (2002). *Osservazioni sul sentimento del bello e del sublime*. Torino: BUR.

Laugier, Marc-Antoine (1972). *Essai sur l'Architecture: Nouvelle edition avec un Dictionnaire des termes, et de planches qui en facilitent l'explication. Reimpression de l'edition de Paris, 1755*. Here we refer to the second edition of the essay. Geneve: Minkoff.

Lee, Pamela M. (2000). *Object to be Destroyed: The Work of Gordon Matta-Clark*. London: MIT Press.

Lyotard, François Jean (1986), *Il postmoderno spiegato ai bambini*, Milan, Feltrinelli.

Mazzucchelli, Francesco (2010). *Urbicidio. Il senso dei luoghi tra distruzioni e ricostruzioni nella ex Jugoslavia*. Bologna: Bologna University Press.

Purini, Franco (2019). *Të kompozosh arkitekturën*. Tirane: Polis-Press.

Raça, Artan (2011). "Shkatërrimi si simbol për një të ardhme më të mirë", *Forum A+P*, no. 8. Tiranë: Co-PLAN.

Sebald, Winfried G. (2004). "Storia naturale della distruzione". Milano: Adelphi

Vitruvio, Marco Pollione (1960). *De Architettura*. Roma: Fratelli Palombi Editore.



# 6

## MODERNISM AS THE UNCONSCIOUS OF GLOBALISM: MAPPING OF SUBJECTIVITIES IN SIGFRIED GIEDION'S HISTORIOGRAPHY

Skender Luarasi

### Introduction: Premises, hypotheses and definitions

*"Everyone is equal before the machine. I can use it, so can you".*

László Moholy-Nagy

Is Construction Something External?

*"We are being driven into an indivisible life process. We see life more and more as a moving yet indivisible whole. The boundaries of individual fields blur. Where does science end, where does art begin, what is applied technology, what belongs to pure knowledge? Fields permeate and fertilize each other as they overlap. It is hardly of interest to us today where the conceptual boundary between art and science is drawn. We value these fields not hierarchically but as equally justified emanations of the highest impulse: LIFE! To grasp life as a totality, to allow no divisions, is among the most important concerns of the age".<sup>1</sup>*

Sigfried Giedion, "Building in France, Building in Iron, Building in Ferroconcrete"

*"The problem ahead of us focuses on the question: Can the emotional apparatus of the average man be reached? Is he susceptible only to football games and horse races?"*

Sigfried Giedion, "Architecture You and Me: The Diary of a Development"

Sigfried Giedion's "Architecture You and Me – The Diary of a Development" was published in 1958. Here Giedion introduces his ideas on New Monumentality and Regionalism and argues that modern architecture should be responsive to a particular community, place, climate, and cultural context. Giedion invokes a dialogic relationship between one and the other, between people and the community. AYM is permeated by humanism and anthropomorphism that we do not find in the book "Building in France, Building in Iron, and Building in Ferroconcrete",

which was first published in 1928.<sup>2</sup> In BF Giedion outlines the spatial and technological conditions under which a new modern [post-bourgeois] subject may emerge. This subject 'emerges' from the vertiginous iron lattice-work of Eiffel Tower and the transparent cubes of air of Le Corbusier's houses...; as he experiences them through a technological eye, the camera equalizes YOU and ME.

The paper investigates these two subjectivity constellations, YOU=ME and YOU+ME, in relation to BF and AYM respectively. The shift from the former to the latter is indicative of the larger transition from the pre-war modern architecture, which was informed and inspired by the avant-garde movements of Dadaism, Constructivism and Cubism, to post-war culture, which was characterized by the global expansion and affirmation of international style on the one hand and the emergence of various 'styles' on the other, such as brutalism, phenomenology, and regionalism. How do these two books map the larger transition from pre-war to post-war architecture? The paper juxtaposes BF and AYM in terms of their formal structure and visual and textual content and situated them in their respective cultural and social milieus.

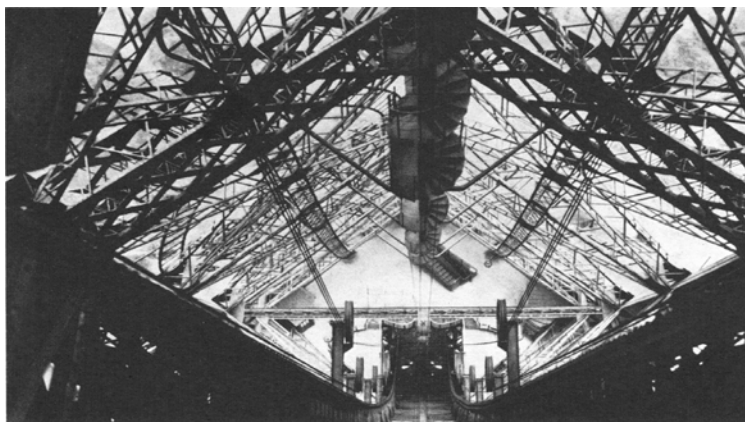
### The avant-garde and "Building in France, Building in Iron, Building in Ferroconcret"

*"The illiteracy of the future," someone has said, "will be ignorance not of reading or writing, but of photography." But must not a photographer who cannot read his own pictures be no less accounted an illiterate? Will not the caption become the most important part of the photograph?"*

Walter Benjamin "A Small History of Photography"

A cursory look at Building in France, Building in Iron, Building in Ferro-concrete shows that the book is about construction. Sigfried Giedion surveys the engineering feats of the Nineteenth and early Twentieth centuries and argues how these feats conditioned an irreversible change in modern architecture. Later, in "Space-Time and Architec-

ture," Giedion would call these feats "constituent facts," which, while latent in Nineteenth Century's unconscious and hidden under the eclectic facades, erupted with full force in the Twentieth Century architectural landscape. A close reading would reveal, however, that this book is not only about the constructions in iron and ferroconcrete but also about construction through photography. Giedion's photographs of the Eiffel Tower convey the feeling of a vertiginous and transparent space that has nothing to do with the customary depiction of an icon-building (Fig. 1). Similarly, Giedion's photographs of Le Corbusier's houses convey spatial interpenetration, boundlessness, expansion, transparency, blurred boundaries, spatial ambiguities, simultaneity, airy volumes and smooth surfaces (Fig. 2).



**Figure 1.** Eiffel Tower 1889, from *Building in France*



**Figure 2.** Le Corbusier: *La Roche House in Auteuil*

"Construction" is a key term and multivalent concept in BF, and it operates on two different levels. First, on the level of the book's content, "Construction" denotes a "thing," says, an actual building or construction made of iron or ferroconcrete. BF as a whole is an assemblage of visual and textual material that describes the new construction materials and technologies and their constituent role in the development of modern architecture. Second, on the level of the form of the photographic image: "Construction" denotes the construction of modern optical consciousness and subjectivity. Eiffel Tower is constructed twice, once by Gustave Eiffel, and then for the second time (or many times after...) by the viewer, the modern subject through the photographic camera. The medium of the construction is not only iron and ferroconcrete but also light and photographic celluloid. The constructor is not only Gustave Eiffel or Le Corbusier but also any modern subject with a camera. The constructor is Me as well as You....

BF is not a book with photographs but rather a photograph in a book format. It is not about the photograph of construction but rather construction as photography. In *A Small History of Photography*, written in 1931, Benjamin argues that the debate around the aesthetics of photography as art should be turned around its head; it should be dialectically reversed into art as photography.<sup>3</sup> The essay points directly to the avant-garde principle of construction as photography, particularly as it is embodied in the work of Moholy-Nagy, who co-authored many photographs of BF and designed its graphic layout. Moholy-Nagy painted like a photographer.<sup>4</sup> His photograms and photographs do away with the camera lens and the "mechanical" point of view. Instead, they are plastic manipulations, interpenetrations and modulations of light. The subject is not positioned on one side of the camera or the lens but rather entrenched in a cloud of photons variable intensities of light and shadow: a purely atmospheric reality. (Fig. 3) Andreas Haus has argued that Moholy-Nagy's work conflates the Dadaist and Constructivist principles. The former consisted in gathering fragments from the [bourgeois] world and reassembling them in a montage, with the intention to precisely undermine that very world; or in Haussmann words, "to destroy the morally pharisaic world of the bourgeoisie with its own means...the Dadaist uses bluff to leap beyond his own greed for sensation and meaning."<sup>6</sup> The Constructivist principle of form-creation (*Gestaltung*), on the other hand, was that of assembling minimal or elementary elements in a composition. The conflation of these two principles created the notion of Elemental Art.



**Figure 3.** Moholy-Nagy: *Photographs and Photographs*, from Andreas Haus, *MOHOLY-NAGY: Photographs and Photograms*, trans. Frederic Samson, Pantheon Books, New York, 1980,

The latter's method "was to aesthetically destroy the alienated complexity of the real moment of motion in order to gain from its elements for its sovereign presentation. The material was Dadaist, the montage Constructivist."<sup>7</sup>

The "Elemental" is both to the de-contextualized fragment from the "known" and "familiar" reality and the ability to construct another reality through the manipulation and modulation of these fragments. The "elemental" is the common denominator that relates and connects YOU and ME; or rather: You and Me are elementarily connected.... As Raoul Haussmann states, "only the 'elementary' equality of subject-perception and Object-qualities could bring about a situation in which man felt himself to be at the centre of all relationships in a world in motion and self-motivated agent of the 'synthesis'."<sup>8</sup> "Elementary," more than an object, is a relation or reciprocity between the subject and object, between the perception of an

object and the cognition of that object. Although YOU and ME have their own subjectivity, they both share the same elementary relation to the object or the basic image, and this relation is made possible through the technical medium of photography and the camera. In other words, although my subjectivity is different from yours, my relation to the elemental image is equal to your relation to that image. I am equal to you – ME=YOU - in so far as we share the same elementary relation to the object.

#### **You + Me and the eternal man**

In Giedion's historiography, the role of subjectivity changes from BF to AYM. This change happens on the level of both form and content. BF has 138 images, 96 of which are photographs, and the rest are drawings (plans and perspectives). Only 5 of the 138 images are birds-eye

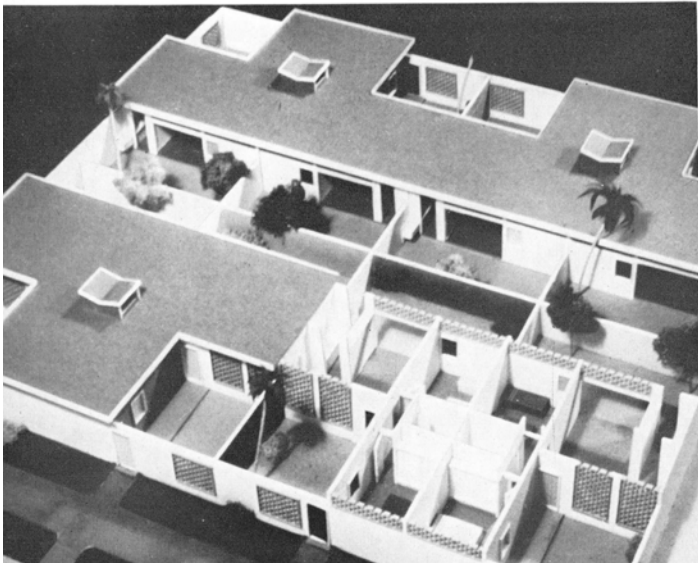
views. Out of 138 images only two are paintings: Edouard Manet's "Exhibition" and a purist still life of Édouard Jeanneret (Le Corbusier). The rests are photographs or drawings of iron and ferroconcrete constructions. The images and the text are intertwined and juxtaposed in every spread across the book. In AYM, there are 70 images, 9 of which are birds-eye views. Out of 70 images, 21 are photos of paintings and sculptures. Except for 12 sketch-like images that are distributed among the pages of the first and the last chapter, all the other 70 images are organized into three stand-alone sections: between p. 40 - p. 41, Different from BF, in AYM, the observer is not "invited" to construct the image but rather presented with a "construction." The images are already constructed and "complete", like archival facts that the subject is expected to recognize.

40. Tel el Amarna, Egypt: Standardized worker's housing, about 1400 B.C. Every dwelling has its own private patio.



41. J. L. Sert and P. L. Wiener: Housing project for Cuba, 1952.

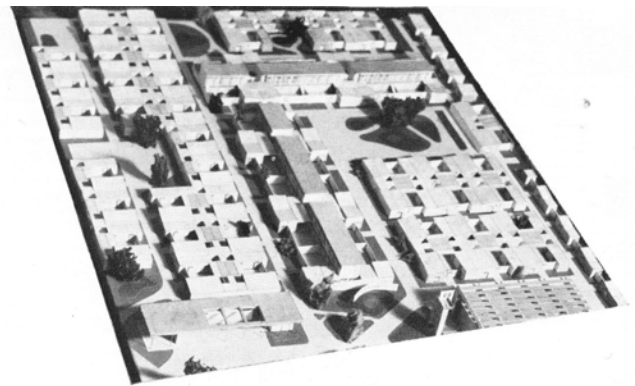
#### THE NEW REGIONALISM AND AGE-OLD TRADITION



Many images in AYM are birds-eye views. They are not distorted or foreshortened perspective; they are just as they could have always been... (Fig. 4).

The subject is presented with an overall completed pattern, whether looking at an aerial view of Piazza del Campo or Gropius's Boston Back Bay Commercial and Community Centre. If in BF the subject is the image, or as Raoul Haussmann says, the subject-perception is equal to the Object-quality, in AYM, the subject is with the image.

In AYM, the subject identifies with the "eternal spirit" of humanity. This "eternal spirit" undergoes a series of substitutions, such as the "core," "feeling," "place," or "regionalism." Its content is not as important as the fact that it is "far away," deep into the strata of history.



42. J. L. Sert and P. L. Wiener: Housing project for Cuba, 1952.

43. André Studer: Pyramidal apartment block in Morocco, 1955. The pyramidal organization of this structure has a reason: it is to permit not only the sun but also the rain to penetrate every dwelling and so carry out their hygienic functions. This certainly also gives the structure a pleasing aesthetic appearance.



Figure 4. Spread from "Architecture You and Me"

Indeed its content is precisely this distance.... Architecture ought to embody this distance in/through the aesthetics of monumentality.

Giedion, together with Sert and Léger, provide us with nine points of monumentality, whose manifesto-like formatting in terms of “points” suggests a relationship with the early days of avant-garde art and architecture. These points are:

1. Monuments as human landmarks;
2. Monuments as the expression of man’s highest cultural needs;
3. Monuments as representative of a unifying consciousness and culture;
4. In order to build monuments, we need to look at the past;
5. Monumentality is not a building but an attitude that addresses both the individual building and town planning;
6. Monumentality is essential for the organization of community life;
7. Monumentality represents the social and community life and the average man’s aspiration for joy, pride and excitement;
8. The monument creates the need to plan the site or the space of the monument;
9. The monument itself is a “site” of integration of modern technologies, art, and natural and man-made landscapes. “Monumental architecture will be something more than strictly functional. It will have regained its lyrical value. In such monumental layouts, architecture and city planning could attain new freedom and develop new creative possibilities, such as those that have begun to be felt in the last decades in the fields of painting, sculpture, music, and poetry.”<sup>9</sup>

The language of this aesthetics of monumentality consists of the plane, cluster of solids and voids, the wall and the vault. Le Corbusier’s “cubes of air” have become heavy.... If in BF technology (the iron and ferroconcrete construction and the camera) serves as a mediator between the modern subjectivity and the mechanized life of the modern metropolis, in AYM, this role is taken by the monument. The monument becomes a teleological site where “modern technologies, art, and natural and man-made landscapes” are integrated and bound together. Technology is important as it helps this monumentality be realized (vaulting and other structural engineering feats). Technology is substituted by the monumental symbol and subsumed by it; the camera is substituted by history.

However, this history is not the same as the historicism of Nineteenth that Giedion vehemently criticized in BF and continued to do so in AYM. This other history has nothing to do with an eclectic use of styles and forms but rather with a typological approach to architecture. Typology serves as a regulative principle that guards both the historian and the architect/artist from elaborating a “false continuity from the Stone Age to the Twentieth Century, through an oversimplification and a purely formal description of various periods” and helps them “concentrate on the vertical lines going through history”<sup>10</sup> (Fig. 8). Giedion states: “History teaching is ever tied to the fragment. But these fragments have to be chosen in such a way that new constellations will arise in the minds of the students. History can only be taught in this sense by people who have an intimate understanding of the architectural and planning problems of the present, of their emotional as well as of their social aspects”.<sup>11</sup>

Proportion, like typology, is another regulative principle through which the architect regulates the composition of the historical fragments. Giedion states:

“The whole development of architecture today leads us toward greater attention to the long-neglected study of proportions. We know, of course, that knowledge of proportions alone can no more produce a good architect that the rules of the sonnet- writing can produce a poet such as Petrarch; but in a period like our own, which is slowly beginning to demand a coherence of parts in relation to the whole, whether, in a single building or a larger complex, the study of proportions can provide a necessary backbone”.<sup>12</sup>

### **Compare this almost apologetic statement from AYM with another one on proportion in BF**

“In his theory, Corbusier is often less daring than in his design. In *Vers une architecture* there is a chapter on *tracés régulateurs* – Hildebrandt translated it [into German] as *Aufrißregler* [regulators of the elevation], that is, the attempt to overlay similar triangles on the façade. Berlage was perhaps the last – 1907 – to be allowed to do that. That is permissible for a uniformly elaborated, anthropomorphic architecture. Nevertheless, in the case of Corbusier, it is absurd. The old formulae no longer restrict the proportions that will result from standardization, but apart from this, these proportional formulae are invalid today because a BUILDING is no longer a closed-form like a Renaissance palace but demands CONNECTION TO THINGS NEXT TO IT.

Perhaps Corbusier himself negated this method in the LA Roche house; there, the proportional formula is inscribed in the façade, whereas the functionally projecting wing for the art collection naturally refuses to be restricted by a schema of similar triangulation".<sup>13</sup>

BF proposes a post-anthropomorphic conception of architecture. The aesthetics of this architecture does not originate from an eternal conception of the human body but rather is contingent on the new "technologies of vision and standardization."<sup>14</sup> The building is not a coherent and "self-sufficient" "beautiful" whole from which nothing can be added or subtracted, but rather a relational fragment that responds "to things next to it."<sup>15</sup> In AYM, however, Giedion attempts to seek and recover the anthropomorphic proportion. While no more than a rule, the proportion can bring coherence between the part and the whole, a coherence that is much needed "in a period like our own," a period of unbridled growth and technology that runs amuck.<sup>16</sup> Proportion is a regulative principle that both controls "uncustomary" creativity and provides an anthropological basis for recognition. BF seeks the NEW, while AYM seeks to RENEW.... BF responds to a post-bourgeois subject that is yet to come, while AYM seeks to recover an eternal subject. BF suggests an architecture that goes away from "the determinate presentations of a self-positing consciousness towards indeterminate constructions – historical and concrete, yet virtual and ineffable – hovering contingently above the ground;" <sup>17</sup> AYM, on the other hand, considers the subject's consciousness as already constructed, as already there....

In AYM, Architecture and Me stand for the creator-architect, painter, sculptor, and the historian; YOU, on the other hand, stand for a generalized yet ambiguous anthropological figure: the man in the Street. This Man in the Street is universal and eternal, in so far as all people under this category, despite their individual differences - whether one is a maid or football fan... - have a universal and eternal need: feeling. The task of the creator of the artist is precisely to create works of art and architecture that will help YOU get in touch with this eternal nature, a nature that is supposedly there, inside YOU, yet a nature that is eclipsed by rationality and mechanization, and that only the artist-creator is capable of revealing. The creator can perform this task through the aesthetics of monumentality. This monumentality is more than just a building; it is a space-time condition that, like a deep well, feeds off different strata of history. The term "Man in the Street" is part of the larger context of the development of post-war architecture and the influence of CIAM on this development.

The term was first coined by James Maude Richards since 1940. Richards, the editor of the British Architectural Review and a speaker at CIAM 6 in 1947, raised the issue of modern architecture's lack of appeal to the "Man in the Street." Richard wrote that modern architecture did not offer this person "any suitable alternative to the Olde Worlde styles that for many years have at least offered him the solace of suggestiveness."<sup>18</sup> In CIAM's post-war architectural discourse, the term "Man in the Street", is a ruse that stands for a variety of aesthetic and ideological positions in architecture. These positions oscillate between two extremes: avant-garde and kitsch. The first position is that of Clement Greenberg that vehemently rejected any compromise between art and "mass tastes;" the second position is that socialist realism is the official style of the Soviet Union. The in-between positions were many, such as New Empiricism, Scandinavian Modern, and Latin American Architecture, to mention only a few. While different in their agenda, what they had in common was a "softening" of Modern Architecture so that it responded to the aesthetic and practical "needs" of the people, and a distancing from a political position, which in turn was manifested by a return to "eternal values," such as place, neighbourhood, community and regionalism.

### **Conclusions: Between the man in the street and the post-modern man**

Giedion occupied precisely such an in-between position. He attempted to reconcile the two extremes of avant-garde and kitsch through the "synthesis of the arts" and the "New Monumentality." Indeed, in the post-war CIAM meetings in general and those of Bridgewater (CIAM 6) and Bergamo (CIAM 7) in particular, aesthetics is the preferred theme of Giedion.<sup>19</sup> Giedion believed that the architectural and urban problems should be approached aesthetically by integrating or synthesizing architecture with painting and sculpture. The aesthetics of new monumentality serves as a universal platform from and according to which the individual building, the urban problem of housing, and the civic centre ought to be conceptualized. The purpose of this new aesthetics is to keep the kitsch and "mass tastes" at bay while at the same "touch" the "common man." In order to do this, it must necessarily reach deep down into the layers of history, to search for something that is "common" to all, to both YOU and ME. Painting is the medium par excellence of this search and in rare cases architecture too...<sup>20</sup>

His work anticipates both the affirmation and globalization of modern architecture at the very moment of the explosion of multiple narratives, that moment that would be later known as post-modernity. Giedion stands at the threshold of post-modernity without crossing it.

## Notes

<sup>1</sup> "Building in France, Building in Iron, Building in Ferroconcrete," *Ibid.*, p. 87

<sup>2</sup> Sigfried Giedion, "Building in France, Building in Iron, Building in Ferroconcrete," ed. Harry F. Mallgrave, trans. J. Duncan Berry, intro. Sokratis Georgiadis, *The Getty Center for the History of Art and the Humanities, Santa Monica, CA.*, 1995

<sup>3</sup> *Ibid.*, p. 114.

<sup>4</sup> See Andreas Haus, "MOHOLY-NAGY: Photographs and Photograms," trans. Frederic Samson, Pantheon Books, New York, 1980, p. 7.

<sup>5</sup> *Ibid.*, p. 9

<sup>6</sup> *Ibid.*

<sup>7</sup> *Ibid.*, p. 7

<sup>8</sup> *Ibid.*, p. 10.

<sup>9</sup> Sigfried Giedion, "Architecture, You and Me: The Diary of a Development," Harvard University Press, Cambridge, 1958 p. 48-51

<sup>10</sup> *Ibid.*, p. 140.

<sup>11</sup> *Ibid.*

<sup>12</sup> *Ibid.*, p. 118

<sup>13</sup> *Building in France, Ibid.*, p. 176

<sup>14</sup> "Anything but Literal," *Ibid.*, p. 59

<sup>15</sup> *Building in France, Ibid.*, p. 176

<sup>16</sup> *Architecture You and Me, Ibid.*, p. 118

<sup>17</sup> "Anything but Literal," *Ibid.*, p. 60

<sup>18</sup> Eric Mumford, *The CIAM Discourse on Urbanism, 1928-1960*, MIT Press, Cambridge, 2000, p. 163 19 See the sections "CIAM 1946," "The New Empiricism," and "CIAM 7, Bergamo, Italy, 1949," in *The CIAM Discourse, Ibid.*, p. 159-200.

<sup>20</sup> See "Some Words on Fernand Léger," in "Architecture You and Me," *Ibid.*, p. 52-55

## References

Haus, Andreas (1980). *Moholy-Nagy: Photographs and Photograms*, trans. Frederic Samson. New York: Pantheon Books.

Christopher Kul-Want, ed. "Philosophers on Art from Kant to the Postmodernists: A Critical Reader," Columbia Uni-

versity Press, 2010.

Detlef Mertins, "Modernity Unbound," *Architecture Words 7*, Architectural Association, London 2011. Eric Mumford, "The CIAM Discourse on Urbanism, 1928-1960," MIT Press, Cambridge, 2000.

Harry F. Mallgrave, Ed., "Empathy, Form and Space," Intro. and Trans. Harry F. Mallgrave and Eleftherios Ikononou, The Getty Center, Santa Monica, 1994.

Manfredo Tafuri, "Theories and History of Architecture," trans. Giorgio Verrecchia, Harper & Row Publishers, NY, 1980

Sigfried Giedion, "Building in France, Building in Iron, Building in Ferro-Concrete," trans. J. Duncan Berry, The Getty Center Publication Programs, Santa Monica, CA. 1995.

Sigfried Giedion, "Space, Time and Architecture: The Growth of a New Tradition," Fifth Edition, Harvard University Press, Cambridge, Massachusetts, 2008.

Sigfried Giedion, "Architecture, You and Me: The Diary of a Development," Harvard University Press, Cambridge, Massachusetts, 1958.

Sigfried Giedion, "The Beginnings of Architecture," Princeton University Press, New Jersey, 1964

Walter Benjamin, "The Arcades Project," trans. Howard Eiland and Kevin McLaughlin, The Belknap Press of Harvard University Press, Cambridge, MA, 1999.

## Abbreviations

BF - *Building in France, Building in Iron, Building in Ferroconcrete*

AYM - *Architecture You and Me: The Diary of a Development*

*Eled Fagu, Florian Nepravishta*

### **Definitions and terminology**

According to Jurgen Habermas<sup>1</sup>, 'modern' was first used in the late 5th century to distinguish the Christian present from the pagan and Roman past. Habermas states that the term 'modern' can be used widely and has no definitive time period because its concept is based on an era's perception. Specifically, the idea of being 'modern' changed with the belief, inspired by modern science, in the infinite progress of knowledge and advancement towards social and moral betterment (Habermas, 1981; p. 4). Habermas suggests a definition of 'Modernity', which mainly has a socio-economical perspective, thus a relation between social modernisation and capitalism; between the world's institutions and autonomous economic and administrative systems. Whereas Foucault<sup>2</sup> takes an approach in which he explains how vital the scientific aspect of modernity is and how it has affected life as a whole. He claims 'Modernity' as something, which is characterised by a combination of power and knowledge around the subject of life that is possible to master through science.

Modernisation has emerged as a critical concept in Western social science after World War I. It refers to a long-term change process by which traditional or agrarian Western societies were transformed into the complex systems of industrial societies of the XIX and XX centuries. As a result of the modernisation process, societies and cultures developed a typical set of characteristics in personality's structure, organisations and institutions, a system of belief and symbolic expression that differentiated them from older socio-cultural systems. For many centuries, scholars have described and tried to explain the process of modernisation in terms of concepts such as social differentiation, rationalisation or economic development (Nolte, 2001).

'Political modernisation' may be used to refer to a successful and enduring adaptation of a non-traditional political system to societal change (Schmidt, 2001). The defining characteristics of political modernisation support the rationalisation of authority, differentiation of new political functions, and development of specialised structures

to perform these functions while having mass participation. In sociology, modernisation refers to the transformation from a traditional, rural, agrarian society to a secular, urban, industrial society (Inglehart, 2001). The rise of modern society has been linked and associated with the new need for the industrialisation of the city and its society. According to this, there is a need for more than economic and technological components that make up their core. 'Industrialisation' is a way of life that encompasses profound economic, social, political and cultural changes (Krishan, 2016). Societies become modern by undergoing industrialisation transformation as well as significant social changes.

Historically, the period over which modernisation has occurred is measured in centuries, although there were periods that were considered as peaks. In different countries, the modernisation process was applied in different periods, and it took different times for each of them to fulfil the same achievements. Many things are relative to the geographical and sociological conditions of each country. However, modernisation is a continuous, open-ended process and not a once-and-for-all-time achievement.

### **Modernism in Western and Eastern countries**

While defining '*Modernisation*', it is widespread to associate this term with '*Modernism*'. In order to distinguish the differences between them, the article is presented a brief history of the beginning of the '*Modernism*' movement and how it affected different spheres of social life, architecture and arts in general. Architecture is a continuous dialogue between time and place. It has always been a representation of society, as it would reflect the values, achievements and downfalls of the world's civilisation history. By studying the built environment in an interdisciplinary spectrum, with the help of both social sciences and scientific approaches regarding the effects of architecture on people, the conclusion is much accurate concerning the cultural, political, economic, moral and social value of the time.



The mentality of aesthetic modernity began to take shape with Baudelaire<sup>3</sup> and his theory of art influenced by Edgar Allan Poe<sup>4</sup>. It then unfolded in the avant-garde artistic movements and finally attained its peak with Surrealism and the Dadaists of the Café Voltaire<sup>5</sup> (Habermas, 1981; p. 40). During the 20th century, some avant-garde movements had their expression in architecture, influenced by the Bauhaus, the architectural style during the '20s and '30s in Germany. Bauhaus was like a unification of industrial design, arts and crafts with architecture. Their avant-garde ideas were initially linked to Futurism, Russian Constructivism and De Stijl just after World War I, suggesting a need for understanding, unity and peace. The artists' works evolved into geometric compositions rendered in primary colours, giving attention to characteristics like function, mass, space, time, light or material to suggest a rational architecture. This gave way to the desire of the Modern movement to create architecture for the people through means of production, rational expression and pure universal principles, rather than by just being guided by aesthetic concerns.

In urban planning, modernism supports the mechanisation of the city, the functionality and the division of it in zones according to functions and orders. The principles of standardisation and unification of the building industry came after the fourth CIAM congress, held in 1933 under the title "The Functional City". Amazed by the machines and industry of that time, their idea was to bring order to the city and to conceive it as a machine that worked according to specific rules. These principles can be found present in many works of Le Corbusier, one of the father figures of Modernist architecture. Therefore, in the modern city, everything can be easily distinguished based on human's primary activities. This theory succeeded worldwide during the modernisation processes. However, soon it was realised that progress was made only in defining the minimum standards, whereas the specific needs of the individuals were never taken into consideration. This makes 'Modernism' not an elite movement rather a general minimum requirement for all. Meanwhile, in the Eastern front, after Stalin came into power, he cut wires with the Constructivists and every kind of experimentation in arts and architecture was gradually banned. Stalin himself theorised a new national style and named it 'socialist realism' instead of the globalist tendencies towards the Modernist movement. 'Socialist realism' began to be officially applied after the competition for The Palace of the Soviets<sup>6</sup> in Moscow in 1933.

This competition marks the first, strong defeat of the Modernist movement in the Soviet Union and later for the whole Eastern Front. 'Soc-realism' in the mid - 20th century was considered old-fashioned and not responding to the rate of reforms in the country. However, at that time, the Soviet Union was building a national identity based on Stalin's cult of personality that influenced the whole itinerary of arts and culture. In the Soviet Union (as well as in the Western world), 'technological innovation' became the keyword of the beginning of the 20th century. 'Socialist realism' in arts and culture, with the use of the borrowed ornamentation of Hellenic architecture and models of the 19th eclectic architecture, tried to create a pan - Slavic Orthodoxic architecture which, rather than a technology-based idea (like modernism), was more a politically driven movement that should affect the emancipation of 'proletariat', competing firstly with Tsarist regime and later with Western architecture. Societal-realism was considered cultural modernisation for the Russian society of that time, and ironically, it included an international meaning being exported all over the communist world.

### **The beginning of modernism and modernisation in Albania**

Back in 1939, the journalist and later famous Italian historian Indro Montanelli<sup>7</sup>, despite his fascist tone, would write: "[...] the Albanians inherited their country less than thirty years ago from the Turkish invader. [...] For thirty years, [...] they have done as much as they could do, perhaps even more than they could do." (Montanelli, 1939, p. 40). The statements bring in mind the emergent needs and the substantial development differences between Albania and the Western countries as consequences of the Ottoman invader. However, after the announcement of Tirana as the capital of Albania, the city entered a phase of a series of political and cultural transformations. The authoritarian regime of Ahmet Zogu, initially as a Prime Minister and later as King Zog I, was not unified with the oriental urban area but sought to develop and transform Albania according to the modern Western world. During the '20s and '30s, the quality and productivity of urban development, new buildings, and city planning are remarkable. The modernisation and westernisation processes started with the architecture of the capital, Tirana. To create a modern city, King Zog I invited well-known architects from Austria and Italy and enabled the collaborations between native and well-known architects of that time (Fig. 1, 2).



**Figure 1.** The Building of the Albanian Parliament. Source: G. A. Bakiu - *Political Albania*, 2010.



**Figure 2.** The Palace of Princess Senije, 1930. Source: G. A. Bakiu - *Political Albania*, 2010.

Back then, 'Modernism' referred to the architecture produced by the Albanian architects who studied abroad or by the foreign architects who were invited by the government or individuals who wanted to build their own private, modern villas. As Montanelli writes: "the Orientalisation of the city is in full conversion - to make it more beautiful [...]. Introduced on the way of becoming a Western capital, it still has to try with all its forces to succeed - and so everything on the expenses on energy and money is fully vindicated.

Nevertheless, it seems that there is also an imbalance that can become dangerous tomorrow, between the flawed modernity of this city and the archaism of its hinterland, which is the whole Albania" (Montanelli, 1939, p. 49).

In this period, among other architects, Florestano di Fausto can be mentioned, a professional architect from Florence who promoted an architecture in the style of "Novecento", a pre-modern architecture that also included some national references from the traditional and geographic context. According to the instructions of King Zog I in Di Fausto's works, cultural and traditional elements can be found, especially in the facades of the buildings, which stressed the connection between the new monumental space of the square and the tradition the time. The Albanian architect Kolevica states: "In the period of the first Albanian state, especially in the years 1930-1940, constructions were carried out in our main cities in the spirit of postmodern architecture which had begun to spread in Europe. It could be mentioned the Bank of Korça, Bank of Tirana and Dajti Hotel buildings. It is worth mentioning the architect Qemal Butka, who designed the Municipality of Korça, a kindergarten in Tirana, which unfortunately was later demolished, as well as his apartment where he first introduced elements of national architecture in the cultivated one" (Kolevica, 2004; p.39) (Fig. 3, 4). Parallel to the strategies for Western urban planning, another significant step towards the consolidation of the state was setting the first democratic laws and orders. The legislation of the time was conceived following Western democratic laws. During 1932-36, the Parliament enriched the Albanian legislation with essential laws to improve the finances and the economy, expropriations for the public interest, health and the Red Cross, gendarmerie, unification of civil and military pensions. Later in 1937, the deputies approved laws to prohibit the women's face covering, the prohibition of the marriage of public servants with foreign women, the facilitation of the payments, etc. (Bakiu, 2010).



**Figure 3.** Girls Institute "Mother Queen". Source: G. A. Bakiu - *Political Albania*, (2010).



**Figure 4.** *Bashkia Korce, Ark. Qemal Butka. Source: Discover Korce.*

There were specific laws introduced regarding the administrative working-class's dressing code and actions taken for women's emancipation.

Albania was experiencing significant changes, and the country was heading towards modernisation and modernism. Not only was the whole country slowly being transformed, but also the society was being cultivated, educated, civilised and modernised. As Kolevica states about the society's taste concerning architecture: "Although the government buildings constructed during the occupation were in the spirit of the 'Piacentini-style' fascist architecture, they were generally beautifully constructed, with modern architecture, cladding materials, and high-quality workmanship. [...] Thus, the year 1945 found the Albanian civil population, especially the educated ones, with a taste in favour of modern, rational and functional architecture" (Kolevica, 2004; p. 40).

In conclusion, the first transformations of Tirana as European capital also as the main cities of Albania took place in two main phases: initially during the monarchy of King Zog I and after that during the actual annexation of Albania by Italy when the country was put under the Italian Fascist rule (from 1939 to 1943). Thus, this three-decade relationship between Albania and Italy, which was transformed from a pact between the two countries into the conquest of Albania by Italy during World War II, is reflected in the Italian architecture of Tirana. There are visible differences between the 'romantic architecture' of the Square of the Ministries, the building of ex- Skanderbeg cultural circle during the monarchy of King Zog I and the Italian protectorate, in comparison with the 'classical rationalism of the fascist architecture' on the Fascist headquarters (today "Nënë Tereza" square). The architecture of the Ministries buildings is evidence of King Zog I, who will build a national identity and consolidate the Albanian administration by modernising the country and its architecture.

That is why national symbols of Albania like Alexander the Great, the helmet of Skanderbeg or the far Illyrian origin are found on the bas-relief of the façades (Fig. 5). On the other hand, the parallel city planned as the Fascist Headquarters, which was being developed in the Southern part of Tirana historic centre, despite being proclaimed as traditional modernism, seems to cover more the expressions of totalitarian fascist architecture, which focused more on brutal monumentality, rather than communication with the human scale.



**Figure 5.** *Albanian elements in the façades of the Ministries. Source: G. A. Bakiu - Political Albania, (2010).*

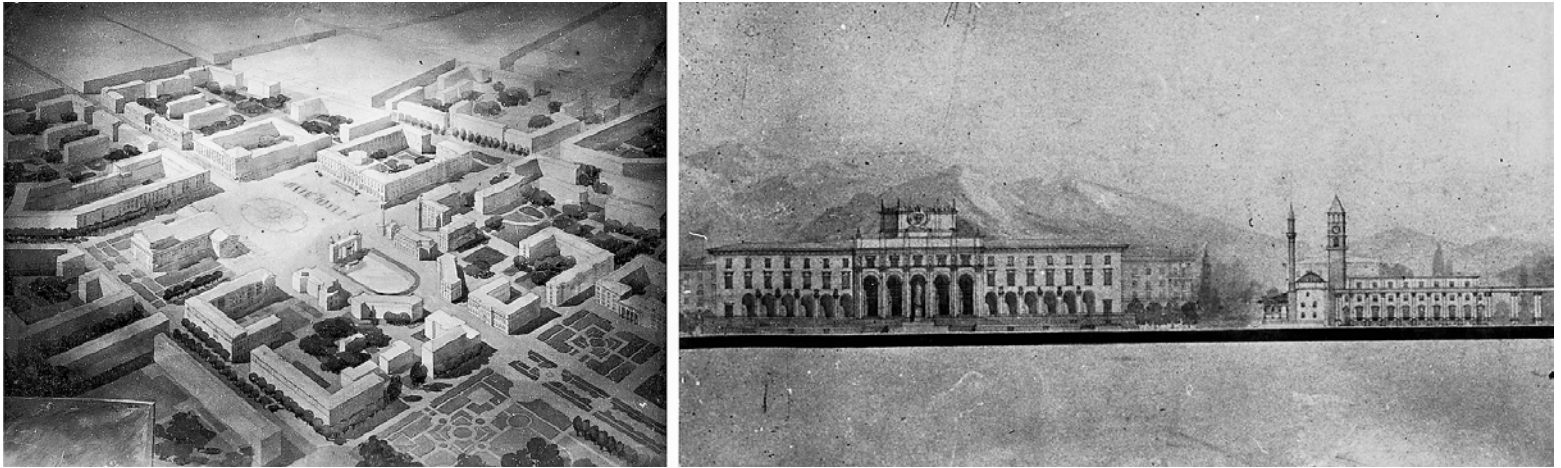


Figure 6. Plan of Gani Strazimiri for the centre of Tirana, 1956. Source: AQTN.

### Unfinished modernisation In Albania

After 1945, with the coming to power of the communists and the confiscation of private property, the whole country experienced drastic political and social changes. Albania became connected to the Soviet Union ideologically, politically, and economically, transforming Albania into a socialist state ruled by Marxism-Leninism theories and politics.

Initially, the Soviet influence in the planning and architecture of the city according to 'social realism' better known as 'Stalinist style' came in Tirana through the experience of Albanian students who studied in Moscow. As Kolevica admits, "the main figure of this period is Gani Strazimiri, who graduated on architecture in Moscow and knew the Stalinist architecture perfectly" (Kolevica, 2004; p. 39).

In his thesis about new urban planning for Tirana, Strazimiri challenged the Italian city plan by integrating the concept of space organisation concerning the plan of Greater Moscow, which was characterised by monumental axes, regular rectangular geometry and the composition of urban texture with "super-blocks". In this plan, it is clear the optimisation of the new order to transform the old reality entirely through a new urban concept following with precision the principles of the 'socialist realism' (Fig. 6).

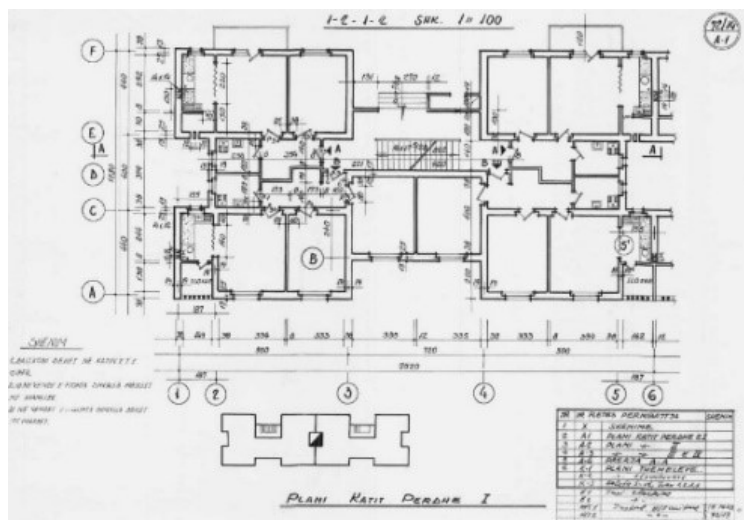
However, engineers and specialists were stopped from studying abroad during the Cold War, especially in Western countries. Thus, they fell behind the techniques and styles that were elaborated and applied worldwide at that time. Kolevica refers to his university days: "during my university days, the only allowed architectural magazine in Albania was "SSSR Architecture" (Soviet Union Architecture). [...]"



Figure 7 and 8. Durrës Street, Tirana, 1960-1965. Source: AQTN.

The only book on the history of architecture referred to the Soviet Union by praising the *butaphoric* architecture that flourished after World War II. At the same time, it harshly denounced the beginnings of Modern architecture in the Soviet Union in the '30s. The Soviet Union Agricultural Exhibition that was recently promoted as an architectural folly" (Kolevica, 2004; p. 38-39). When it comes to the importance of the aesthetics of the new buildings, Kolevica states: "[...] together with some Russian professors and Albanian engineers, who had completed their studies three or four years ago in the Soviet Union, we developed a host of technical subjects, where architecture had the least importance" (Fig. 7, 8).

The necessary preconditions for building socialism were transforming from a rural to urban industrial society and empowering the urban proletariat. Thus, the phases of 'socialist urbanism' were conditioned by ideological and pragmatic objectives.



**Figure 9.** Standardisation of Architecture. Standard building types. Source: Kadare Museum.



**Figure 10.** Prefabricated Camus system, built-in Albania from 1971. Source: Wikipedia.

City planning was firmly based on administrative norms and instructions from the supervising authority and the communist party. Architects, engineers, and specialists were grouped into Design Institutes, which were politically driven, and the staff would get instructions for every single project. Initially, Soviet norms were taken as references, and they later became instruments for town planning.

They would predefine the access to the workplaces, services, facilities, and the distribution of funds for construction, leading to a standardisation and unification process. According to Faja<sup>8</sup>, "in the whole country, in villages and cities, dwellings made of one type of apartment with the same kind of architecture and urban planning prevailed, the extreme prefabrication industrialisation brought to our cities the fatal monotony and suppressed the freedom of every creator of architecture" (Fig. 9,10).

The interrelationship of architecture and ideology was evident on many levels through the architectural discourse in socialist Albania, starting with the polemics about the "official architectural style" suitable for the development of the new society, the attempts of evoking the traditional national heritage while trying to develop the country.

According to Marxism - Leninism, the only way to develop a country was industrialisation, as the theory connected the origin of art with productive activity and its needs. This theory was used by the Soviet Union, while actually, they were getting ready in case of another war. Wanting to impose the indoctrination, the Soviet Union announced 'Socialist Realism', which was spread in all fields of culture, based on the formula "realistic representation plus a celebration of socialism." According to Lenin: "art belongs to the people". It should be understandable and express the will of the masses." The 'socialist realism' suggested that art should reflect the everyday life of the workers, and this culture became dominant in society and the general method of artists and writers' creativity (Uci, 1970; p 295). The roller of 'socialist realism' went over literature and arts in all the Eastern countries, part of which was also Albania. Therefore, while in the Western countries, arts celebrated the freedom of expression by experimenting with different forms of it and sometimes opposing the political system, in the Eastern countries, art was put under the tutelage of the political system and was used as pure propaganda. The beauty was seen in the socialist everyday life, which was being established, in people's "selfless and transformation work and high moral virtues". The "realism" in the artworks of the time would express random everyday working activities and glorified happy people, while the actual economic reality and the workers' conditions were much different.



**Figure 11.** Drawings in "New Albanian Magazine" 1972. Source: Kadare Museum.

The life of Albanians was marked by megalomaniac, almost utopian industrial projects, energetics and town planning (Fig. 11, 12). On the other hand, today, this socialist utopianism is often a synonym for the "original sin" of unsuitable economic structures, ecological problems and social conflicts.

## Conclusions

Modernisation is a multiple and fragmented process as the history of a country, just like has happened with Albania, is made up of interruption, attempts at establishing continuity and repeated revisions of the concepts and standing towards modernisation. The development and emancipation of the whole country are linked both politically and architecturally. However, it is considered an open-ended and continuous process.

According to the Theory of Modernisation<sup>9</sup>, there are two aspects of modernisation: The institutional (or organisational aspect) and the cultural aspect. The first aspect of the approach stresses ways of organising and doing, whereas the second assigns primacy to ways of thinking and feeling. The first approach is mainly sociological and political, and the second one is sociological and psychological. The socio-psychological approach considers modernisation mainly as a process of change in perceiving, expressing and valuing.

**Figure 12.** Building through "voluntary" work. Source: Kadare Museum.

There is a never-ending debate on what constitutes development, but the general thought usually describes it as economic growth, technological advances and social transformation from traditionalism. There is a linear path that all societies should take to achieve a state of modernity. Rostow illustrated this in his theory on the five stages of growth. Here he argued that it is possible to identify all societies in their economic dimensions, as lying within one of five categories: the traditional society, the preconditions for take-off, the take-off, the drive to maturity and the age of high mass consumption.

In Albania, at the beginning of the 20th century, there were taken serious steps towards developing the country and the emancipation of society. In contrast, the dictatorial regime seems to have left it broken and unfinished. Albania seems that has experienced a fake 'Modernism', as it also happened in the other Eastern countries. However, socialism in Albania was not a constant and homogeneous regime based only on Marxist principles. Instead, it was politically characterised by phases, which mostly had to do with the conditions of the authority of the leading bureau, involved different perceptions and consideration for the same phenomena. Therefore, unlike the Marxist origin of the socialist system, there was never achieved a scientific approach to industrial development. Instead, propaganda covered all the deficiencies that authoritarian politics produced.

Lacking the freedom of speech, art, and lifestyle, it seems that even human nature experienced negative changes, which probably need time for betterment. The strategy of complete industrialisation of the country resulted in a failure, considering that a small country like Albania could not catch up with the needs of the people because of being utterly closed from any other influence. These factors led to an obsolescence technology, economic poverty, and malfunctions of industrialisation. As soon as the dictatorial regime collapsed, the fabrics and socialist heritage were stolen and destroyed in conditions of extreme penury and greed.

However, in the fragile democracy that developed during the last 30 years in Albania, there were taken actions towards the development and modernisation and the emancipation of society. Significant changes can be noticed. Although not in the most mature form, modernisation is a continuous and open-ended process that was more effective in democratic societies and applied in a broad consensus with the living society.

## Notes

<sup>1</sup> Jürgen Habermas (1929) – German philosopher and sociologist in the tradition of critical theory and pragmatism.

<sup>2</sup> Paul-Michel Foucault (1926 –1984) – French philosopher, historian of ideas, social theorist, and literary critic.

<sup>3</sup> Charles Pierre Baudelaire (1821–1867) – French poet who also produced notable work as an essayist and art critic, who through his work expressed the changing nature of beauty in the industrialising Paris during the mid-19th century.

<sup>4</sup> Edgar Allan Poe (1809–1849) – American writer, poet, editor and literary critic.

<sup>5</sup> Café Voltaire – Hugo Ball (a German actor) and his fellow artists announced the Cabaret Voltaire as a group of young artists and writers has formed to become a centre for artistic entertainment and politics, which was later known as Dadaism.

<sup>6</sup> The palace of the Soviets – The architectural contest for the Palace of the Soviets (1931–1933) was won by Boris Iofan's neoclassical concept.

<sup>7</sup> Indro Montanelli (1909 – 2001) was an Italian journalist and historian.

<sup>8</sup> The palace of the Soviets – The architectural contest for the Palace of the Soviets (1931–1933) was won by Boris Iofan's neoclassical concept.

<sup>9</sup> Indro Montanelli (1909 – 2001) was an Italian journalist and historian.

<sup>10</sup> Faja, Enver (2004). "The rebel of the uniform architecture", Tirana: Journal "Albania".

<sup>11</sup> Theory of Modernisation – used to explain the process of modernisation within societies and originated from German sociologist Max Weber (1864–1920).

<sup>12</sup> Walt Whitman Rostow (1916 – 2003) – American economist, professor and political theorist.

<sup>13</sup> The Stages of Economic Growth (1960) – One of the major historical models of economic growth by the economist Rostow.

## References

Bakiu, Gazmend A. (2010) "Shqipëria Politike" ("Political Albania"), Tirana: Pegi.

Ching, D.K.F., Jarzombek, M. & Prakash, V. (2011). "A global history of architecture". New Jersey: John Wiley & Sons, Inc.

Dube SC (1998). "Modernisation and Development: The Search for Alternative Paradigms". London and New Jersey: Zen Books, 1988.

Eisenstadt, S. N. (1974). "Cultural Models and Political Systems", European Journal of Political Research, 1974 - Wiley Online Library. Faja, Enver (2004). "The rebel of the uniform architecture", Tirana: Journal "Albania".

Habermas, Jürgen (1981) – "Modernity, an unfinished project", MIT Press, Cambridge, Mass, pp. 38-55.

Inglehart, R. (2001). "Modernisation, Sociological Theories"; International Encyclopedia of the Social & Behavioral Sciences, Elsevier Ltd.

Kolevica, Petraq (2004). "Arkitektura dhe Diktatura" ("Architecture and dictatorship"), Tirana: Logoreci.

Kumar, Krishan (2016). "Modernisation", Encyclopedia Britannica (Britannica.com).

M. G. Schmidt (2001). "Modernisation, Political: Alternate Paths"; International Encyclopedia of the Social & Behavioral Sciences, Elsevier Ltd.

Montanelli, Indro (1939). "Shqipëria një dhe njëmijë" ("Albania una e mille"), Tirana 2005: Botimet 55.

Nolte, P. (2001). "Modernisation and Modernity in History", International Encyclopedia of the Social & Behavioral Sciences, Elsevier Ltd.

Uci, Alfred (1970). "Estetika, Jeta, Arti", ("The esthetics, life, art") Tirana: Publishing house of the political books.

Velo, Maks (2013) "Betonzimi i demokracisë" ("Cemented Democracy"). Tirana: UET Press.

### Introduction - "modern" not "modernist"

As I was interviewing the well-known painter, Sali Shijaku, around ten years ago, I still recall that the artist, speaking about the modern tendencies of the Albanian painting during the years of the so-called "liberalisation in our country", would emphasise: "We were modern, but not modernists... So, we were modern on our behalf, not modernists as were the artists in the West, during the turn of the 19<sup>th</sup> – 20<sup>th</sup> centuries." This definition, which is one of the most interesting descriptions regarding the meaning of the relationship that existed between the Albanian artists and the liberal spirit of the 60-70s in Albania, was offered to me at that time as one of the most intriguing invitations for a more detailed observation of this dichotomy.

### Photography and architecture as the first signs of modernism in the Albanian oriental reality at the turn of the 19<sup>th</sup> – 20<sup>th</sup> centuries.

The 19<sup>th</sup> century was the century of the Industrial Revolution's triumph – the century of important inventions such as the telephone, the dynamite, the Mors code, the photography and the motion picture. More than this alone, it was the century of the revolutions and the nation states' formation. It was the time when the European citizens were looking for a new national identity, and along with that, they were seeking a state/nation to represent their political interests, which would be above the absolute one of the old European monarchies. Out of such reality would depart the Italian artist, Pietro Marubbi (1834–1903), a follower of Garibaldi, born in Piacenza, who, at only 22 years of age, in 1856, would come to Albania and would open his photographic studio in Shkodra "Foto-Studio Marubbi", being this the first one on the Albanian soil. By making the first photos, Marubbi, apart from creating the professions' definition in Albania, the building up of the studio, the ritual and the product's typology, was the first one to propose the real image through the photography and the painting (until that time, this image in our country was only a religious one). This was achieved in a reality where the works of art would either be made by the so-called "zografi" painters, artisan masters or imported from abroad. Marubbi's impact, as both a realist

painter and a photographer, in the same space, would give a new dimension to the function of the art and that of the artist in Albania. As a clear sign of modernity, the contribution of Marubbi, aided by the new bourgeois class, would be an utmost important tool for the modernism of the society in Shkodra's district. In contrast, its documentary values, the passing of the mastery to the new generations, and the physiognomy of his work are considered very important, both for the time he lived and the new dimension of life in the city.

At the end of the 19<sup>th</sup> century, this social class would be the motor of the economy, not only for Shkodra but also for Korça, a city in the southeast of Albania. By financing either private or public buildings, the new bourgeoisie was being clearly distanced from the Albanian heritage of the "çardak" edifices, and in this way, they would develop a new and more modern architecture. Together with the new spirit, along came the change in the format of the builder's authorship. The anonymous builders, being them either from Dibra or Shkodra, military designers or engineers, native or foreign ones, were leaving the Albanian scene, and more and more clearly, now would enter into it some creative personalities, such as Kolë Idromeno (1860-1939). Idromeno was educated as a professional painter and photographer and seemed to have inherited the space left open by his father, Arsen<sup>2</sup>, and his early teacher, Pietro Marubbi, both autodidacts who had worked as building designers and engineers<sup>3</sup>. At the end of his career (by the year 1930), Idromeno had built about 100 edifices by exerting his influence over the anew urban and architectonic conception of the entire city of Shkodra. His multifaceted position as a designer, a building engineer, an ironworker, a stone crafter and often a painter and a sculptor would make him a very influential personality in the city, a leading master to the other builders.

On the other side of the country, Korça would demand improved conditions for hygiene (by draining the adjacent Maliqi swamp and building its sewage system) and for an urban plan to modernise civic life. Being the most important cultural and economic centre in the southeast of Albania, Korça was characterised by a civil consciousness, which quickly would bring to life the raising up of buildings with a social character, based mainly on private financing.



They didn't have structural changes in the interiors and were often surrounded by bannisters and well-ordered gardens, elements that were transformed into a symbol of pride for its inhabitants, along with the main street that was transformed into a boulevard. As a clear element of the social status, they would "persistently" add the decorative elements in the frontal views of the houses, aiming for a personal stylistic expression. By being eclectically displayed with elements such as the brick, the crafted stone, the worked upon iron, the framing of the many windows, and they draw from the neoclassical elements or the formal ones, such as the vault and the small house-top.

Being modern in architecture and the new realist image, the Albanian reality at the turn of the 19th – 20th centuries was, in its essence, the overlaying of the new western format upon the old oriental one.

### **The modernism on the native art before and after WWII**

We arrive now in the 1930s, a time when the native reality had changed a lot. After the opening of the new artistic institutions on a national level, such as the "Miqhtë e Artit" (Friends of Art) Association and the Drawing School, the Albanian students began to be enrolled in the Western Academies, in which few of them also experimented with the movements of modern art, as were the Post-Impressionism and the Expressionism. A special case among them is the one of Sadik Kaceli, who, before being a student of the Ecole Des Beaux-Arts in Paris, persistently demanded to participate in the Fauvism movement by writing directly to Henry Matisse. Kaceli was not accepted as a student by Matisse, but he would often try his aesthetical "imprint" in the student's etudes he made<sup>4</sup>. Still, today we may see some of his artistic interpretations in some works that have survived. We would analyse them, and it is clear that he was influenced by the Expressionist tendency, in which movement the French painter has seen as a point of reference.

By having utterly expressive colours in his beginnings, the young painter from Gjakova, Abdurrahim Buza, seems to be on the same journey. At the start of the 1930s, having just returned from his studies in Florence, Buza proposes his first portraits, permeated by the quick touches and an expressive colour range. These portraits are small in their dimensions, often full-face or three-quarter views, calm, and are offered as a tribute to the modern movements at the turn of the 19th century. For most of them, the themes and artistic approaches during this period are still traditional, whereas they belong to the realist style. After all, this art was offered to a reality that was quite a conservatory and had just knocked on the doors

of the European culture<sup>5</sup>.

In the meantime, all this research was developed amidst a new urban reality, which had started some decades ago with the Neo-Renaissance echoes of Idromeno's Shkodra and the Western spirit of the multi-styled Korça. During the '30s, this tendency would be proposed anew, incorporated in the Roman Classicism schemes, as Brasini suggested some projects in the new capital city, Tirana, but they remained only on paper due to their costs. Only some years later, architects such as Di Fausto, Morpurgo and Berte would lay the stylistic foundations in the centre of the new capital. During this time, the ministerial complex in Tirana was raised, and the first national bank in Durrës where would dominate the Neo-Renaissance and the Mannerist styles. These elements would be forcefully surpassed only after the Italian invasion by the language of the monumental rationalism imposed by Bosio.

The modern and the modernist tendencies, during the first half of the 20th century, were occasionally interlaced by reinforcing even more the idea that the modernity in the 20th century was destined to be superposed upon the traditional strata, by force, as the only matrix – this was done as the situation would allow, whenever there existed the space and the favourable conditions to do so...

After World War II, the terms "modern" and "modernism" would take new connotations. As the Communist Party came into power, the implementation of the Socialist Realism method would be preached upon the native reality; this was the official image of the state's ideology, and it was going to stay so until the overthrow of the regime in 1991.

At first glance, this artistic method would offer a euphoric, optimistic and beautiful image, whereas, in its essence, it would sermonise a New World, a world that was raised upon the rubbles of the old one; a world without the exertion and the use of one human being by another one, a world without social classes and in which the income would be divided equally to all of its members. As such, communism was utterly modern because it demanded the overthrow of everything and the renewal of all the elements of the past in the name of a glorious future, an optimistic and prosperous one. O. Lelaj would put it in this way: "From an anthropological point of view, the Communism, especially for the Albanian society, is displayed and articulated as a systematic endeavour and it was oriented towards the modernity. It was an authentic project of "social engineering", which either would embody or aim to produce some emancipation, both in quantity and in quality, both for society and the individual<sup>6</sup>."

In its essence, every element of the Communist society would have to be new (modern). It was new in the recently creat-

ed social structures, which were forcefully superposed upon the old ones, with the New Man, the old one, which used to be patriarchal and short-sighted. It was new with the current family: the equality in the couple, being it with a few members, away from the traditional ones where the husband was all-powerful and a despot to it. It was new in the urbanistic area, music, architecture, literature, cinematography, and message and function. This was achieved in some areas since the 50s, a period when the triumph of the state's will was imposed on the entire artistic and cultural sphere in the country. Starting from 1949, when the League of the Albanian Artists was created, the state would consider the artists as just some other state's workers<sup>7</sup> who had to put their artistic talent in the service of the state's ideology and policies.

The state was interested in creating as much as possible functional, cultural structures, a controlling filter (censure) and a prolific artistic climate. The state would spend considerable sums on raising a real propaganda machine, which had to blossom and work wherever and whenever the state desired. This came to be materialised fully in the 60s, during the Cultural Revolution that was imposed upon the country.

During this decade, the new forms and themes were clarified. These were: The Leader's Portrait, The New Man, The Historical Painting, The Socialist Life or the Industrial Landscape. These themes were materialised in thousands and thousands of paintings, posters and monuments, under the severe watch of the propaganda machine, in all the countries that were in the Soviet orbit. They were imported into Albanian reality at the beginning of the 60s when the return of the students from the East offered de facto the knowledge of the form and the standard of the typical Socialist Realism. Some of these students, such as Guri Madhi, Sali Shijaku, Vilson Kilica, Kristaq Rama, Zef Shoshi, or Mumtaz Dhrami, would give the shape (with the state's blessing) to the sanctioned principles of the Socialist Realism, and quickly these examples would become the model to be followed. Together with them, is presented their product, which was fulfilled during and after their studies – what at first glance seems to be the parenthesis of an artistic "spring" that would fully blossom during the beginning of the 70s.

Significant changes were to happen also in architecture. The style, structure, and function achieved during the 30s were to be "denied" in the name of the Soviet brotherhood, whose political imposing brought some edifices with "illusions of grandeur" during the 50s.

This would be bypassed only a decade later when the new personalities of the Albanian architecture (students from the East and students who graduated in the native university) would propose a new functional rationalist language.

As the country came out of the Eastern Block (in 1961), according to E. Faja<sup>8</sup>, the Albanian architects profited from departing for good from this foreign, intangible and incomprehensible form. It was replaced by a new and modern urban architectural language, which drew its inspiration from the western developments that happened between the two World Wars. Inspired by solid personalities of the field like Gropius, Le Corbusier and Van De Rohe, these architects aimed towards a style that created a new world, a new architecture, an architecture that drew its inspiration from the sun, the light, fresh air and greenness ... and (since it was a time of economic shortage), why not for it to be an economic architecture, a rational, simple and functional one<sup>9</sup>...". The architects were mainly prepared in the Central Europe universities, during the years' 53-'60: Koço Miho, Eqerem Dobi, Sokrat Mosko, Besim Daja, Enver Faja, V. Cisko, Koço Çomi. They were part of the group of the students sent by the state's platform, and they imported the principles of rationalism and functionality in the country by establishing what is now considered: "The school of the modern Albanian architecture<sup>10</sup>". Their edifice, different from the previous typical buildings of the 50s, tries to achieve modern architecture principles, in harmony with the urban infrastructure, by proposing social, elegant, light and functional units.

At the same time, during the end of the 60s, also in visual art would be felt "a strange wind" of freshness. It is a time in which the Albanian youth, searching for its identity, found the bell-bottoms pants, the long hair and the "rampant" sound of the jazz music, even in the state's television station festival. During this period, the country (dependent by the humour of the geopolitics in the ally China) was living the liberalisation of the youth – this was diffused as a thunderbolt in the entire Albanian society, indeed echoing the developments that were happening in the world.

The developments were significant in visual art (especially in the painting). They influenced more or less all the artists, although the most mentioned were the new generation of artists such as Edison Gjergo and Edi Hila. By being officially promoted in a series of expositions organised with various themes (we may mention here the exposition titled "Rinia" [youth] in 1971 and the one titled "Pranvera" [Spring] in 1972), they were amid a lot of discussions in the press among the artists, which were echoing these activities. These expositions would convey a new spirit, new perspectives and emotions, having enriched the expressional means which without any doubt were "in the function of the content".

The majority of the artists would defend these novelties openly, protecting them from the dangerous labels: "formalist", "aesthetician", "it has colouristic solicitations", and "it is detached from the reality".

After this period of "triumph", the state's voice was thrown precisely upon the victims, sanctioned in the 4th Plenum (1973). Many artists, writers, singers and cinematographers, being labelled as followers "of the liberal, revisionist and bourgeois viewpoints", were defined as enemies of the correct line of Marxism-Leninism and the Socialist Realism method. This was accompanied later by massive imprisonments, deportations and transfers. This reaction knocked out definitively the ambitions of all the creative spirit for another art. On the historical aspect, the period of 1969-1973 is undoubtedly the most interesting one in Albanian Art. It is at first the laxity and later on the great clash of the state with the intellectuals in all the fields and levels. It is the clear demonstration that the Stalinist state of Enver Hoxha would not allow deviations, not because it was not in comfort with them, and neither because it could not manage them, but because in its logic of the *status quo*, the continuity would mean an eternal power. This "eternal" power, especially in periods of power crisis, pushed by external factors and internal ones, is consolidated so that it is to be considered invulnerable. This blow, inevitably signed by the 4th Plenum (summer, 1973) ended the Spring of the need for a much different Albania.

In a decade of terror at all levels, starting from the simple workers and reaching high to top ranks of the power, the blow made sure that the terms "modern" and "modernist" would be pronounced again only at the end of the '80s. During this period, as an antidote, the state would demand the artists a greater engagement to search for new forms of expression by not being divided from the national traditions or the "healthy ones" in the world. So, the artists started gradually, after the "blessing of the state", proposing a new art form that would search more and more new expressive territories, without "offending" the subject, the theme and let alone the message. One part of the artists took again the dialogue they had interrupted during the beginning of the 70s, by using a vitalised visual language, drawing upon the modernism of the '20s, whereas a younger generation until the end of the falling of the system, feeling more and more the change that was coming, was slowly defining the personal esthetic perceptions, for an art that was departing from the politics and going closer to an existential language.

During the years of Socialist Realism, the terms "modern" and "modernist" would imply two very different notion. The "modern" would imply the esthetic re-conception of the self, and thus, a positive note in the artistic research (the expression in the Albanian language of that time would be "modern in the good sense of the word", the term "modernist" would label every Western modern artistic movement at the turn of the 19th - 20th century.

We recall the expression of Sali Shijaku: "We were modern, not modernists". While the first one would always be promoted with great care so that it was not abused with the term, the second one would be condemned with an entire ritual, starting from the meetings at the workplace place, the surveillance everywhere, the calling to the interrogator, the arrest and the imprisonment. Indeed, during the alertness periods, the abuse, the misunderstandings and the misuseage with them were only in the service of the state's cause to exert the violence. However, the modernism of the beginning of the 20th century remained the farthest island and the aesthetic destination for the major part of the Albanian artists, by which they defined the apex of the aesthetic research of the artists in the West.

### **The terms "modern" and "modernist" in the last decade of the 20th century**

During the end of the '80s, being favoured by the concessions of the system and the international movements in all the Eastern Camp, in response, the Albanian artists would re-flame once more the dialogue with the "classics" of modernism as it had happened in the '70s. In parallel, these discussions hecatically started at the ateliers of the "Instituti i Lartë i Arteve" (University of Arts) - wherein the '70s were organised open lectures on the modernism - and they would rediscover the "old love" about the avant-garde movements in the dialogues that would happen with the most liberal pedagogues. In the beginning, they were only encouraging the liberal spirit, but later on, in the Institute, small groups of students started to give "half-hidden" lectures about modern artists such as Kandinsky and Paul Klee.

The end of the '80s would define the artistic aspirations of a nation on the verge of its bearing's limit; a nation that was tired from the extra-long years of the state's violence, of the dictations that were imposed on the theme, on the message, on the subject and on the form. Its linguistic multi-formation explains once more that the extreme isolation of the country brought inevitably also the isolation from the artistic developments in the world. A fact favouring this view is the native meaning of "modernity" defined by the cubist or expressionist forms. The signs of more conceptual art or a universal metaphysical language were so rare that it is not worth mentioning to generalise all the artistic products of the end-years of the '80s. In conclusion, it was self-defined as a transitive product, a temporary bridge towards the works that at last would be free from the state's political pressure. Since the "isms" were absent, they vacillated towards borrowing without diffidence the aesthetic of the "heroes" of modernism.

Their themes would be emphasised by the destruction or the denial of the human figure, abstract expressionism, laconic sexuality, or an existential symbolism with religious notes. While they would hurry to build a personal aesthetic physiognomy, the first years were accompanied by the lack of a dictated hierarchical system, putting almost all the artists at the same start line, despite their age, their academic background or the privileges they had gained in the previous regime. Along with it, their existence was pervaded by the daily exodus of the people going abroad, the migration dilemma, the need to survive and the dream to be confronted in the big scene of world art.

After the hectic "start" of the beginning of the '90s, as they would borrow without any hesitation the "isms" of the 20th-century modernisms, the artists tried to find their personal voices and at the same time tried to understand what they had lost from the world art starting from the middle of the 20th century. As they slowly left their early heroes in the quest for an artistic individuality, starting from the middle of the '90s, they realised that the history of art, which until yesterday belonged to a province, today had become a globalism history, with other actors and other rules. As an old painter said: "During the Socialist Realism, the Albanian painters would see each other, whereas now they see the world"<sup>11</sup>, and accordingly they proposed another format, at times more formal and at times more conceptual, with various themes defined both from the personal experience and the time. They would develop formal experiments that were in the trend of the time, coming in the forms of installations, realised in mixed media and extra-pictorial materials, which would be superposed upon the canvas or outside it (and later on also in video-art), as a testimony of the research for another receptive language. These works were often started at the Art Academy, being it the first experimental laboratory, to be "served" later on at the halls of the Albanian Art Gallery or in exterior environments. Although for the main part of the works, this period is considered unclear and utterly experimental, in its dynamism, it defines the first stage of a quest to find the artistic format for each of the artists.

## Conclusions

Modernism in the West was born as a philosophical and cultural movement, which would oppose every cultural, social and traditional form during that time, but in oriental Albania, this reality was as far as the mountains of Tibet.

According to its own terms and conditions, the Albanian reality would know "the modern" and "the modernity". At first, "the modern", in relation to this reality, would be the romantic realism and the photography, but in a few decades, these me-

diams were formatted, transitioning in their status, from being an actuality into being a tradition. This concept would also be seen in the Western tastes of the new bourgeois architecture. All this confirmed the idea that the modernity in the Albanian reality during the first half of the 20th century expressed only an immediate need: the need to be detached from the medieval oriental past.

Full social modernism would forcefully happen after WWII, in all its tonalities, but as it was developed within the borders of Albania, it brought with it some epochal aspirations and misunderstandings. The modernism in visual art was borrowed firstly during the period of '60s-'70s, and without major changes, it continued during the end of the '80s, but in essence, it was developed as a monotonous refrain - as one of the artists would put it: "(At that time) we would go on speaking endlessly for the masters of modernity ... (without knowing that) beyond the borders of Albania, ... the world would consider them as "archaeology"<sup>12</sup>.

Beyond all this, it seems that "the traditional" and "the modern" involuntarily would define the most durable mirror of the Albanian reality. When talking about visual art, the realism (meaning, the understandable figurative image, in its theme and image) survived longer than all the other aesthetic approaches that were borrowed from the West, whereas the modernism was called into question each time the young artists wanted to replace the traditional realism. However, in a typical generational war, "the Modernism" never managed to resist the time (sons against fathers). Realist art (figurative and understandable), in the best case with clear conceptual metaphors, still dominates the native artistic scene. In contrast, the abstract image and the new mediums (the installation art and the typical video-art of the Post-Modernist language) are still developed in the margins of the Albanian scene, without dominating it, neither in its form nor in its expressive power.

It is a different discussion when it comes to the architecture in Albania. Following the first modernist examples of the '60s, in an open market of architects (often foreigners), the Albanian architecture offers examples of typical spaces and buildings that belong to the contemporary language, where the Post-Modernism as an aesthetic language finds a full manifestation space, without being harmed by the traditional one.

## Notes

<sup>1</sup>All of this, inevitably, seems to create a new social ritual, which, according to Z. Paci: "... starts from the desire (the invitation) and continues with the preparation (the dressing, the combing of the hair, the going at the place of the photo-shoot, the setting up, the posing) and was concluded with the execu-

tion of the photo, starting from its shooting until its printing. As we all know, every one of these processes would require its time (at first, a long time). Marubbi began with this ritual, and consequently, we learn today about the people, their dresses, their ceremonies, the vigils and the important moments, the psychology of the characters". Paci, Zef (2012). *Marubi, Photography as Ritual*. Tirana: Prince.

<sup>2</sup> We are informed by M. Prenushi, at his biography on Idromeno, that Arsen Idromeno, Kola's father, had built a series of edifices: "Among the many works designed and built by him, today we may see the "Lukej" house, in the ex-neighbourhood "Arra e Madhe", in our city, the house of Rrakacolla family, the ex-building of the Red Cross, the gymnasium "Illyricum", the house of Idromeno family at Branko Kadia street, and some more buildings." Prenushi, Mikel (1984). *Kolë Idromeno (1860-1939), Life and Work*. Tirana, 8 Nëntori.

<sup>3</sup> According to Luzati: "Idromeno points his attention further, step by step towards the designing of the general traits of an alley, the road, the ensemble of the city in its architectural-urbanistic entirety, until the composing of a regulatory plan for the city of Shkodra, as the greatest achievement of the time." Luzati, Skender (2013). *Idromeno street architect*. Tirana, Kumi.

<sup>4</sup> Kaceli recalls of this experience: "I went to the Louvre and would stay for hours in front of the works by the authors I loved so much: Rubens, Rembrandt, Velasquez, etc. ... I am sorry I forgot to tell you about Matisse, Cezanne, Van Gogh, Vlaminck, Utrillo, Gauguin, Signac, Seurat, etc. ... whom I admire as much as the older ones..." Xoxa, Eli (2007). *Kaceli 1914-200*. Tirana: Art Gallery Kaceli.

<sup>5</sup> On this argument, K. Dilo recalls on an interview to have asked himself Paskali: "How was it possible for these artists who had studied in places like Italy, where there were the Futurism movement and the modern art, not to have embraced any of these movements." Paskali would respond: "At those times, we would stay at the "Kursal" Coffee Shop, where poker was being played, and music was heard, and we would get up surprised when we would see the female students of the "Nëna Mbretëreshë" Institute walking on the street in line, without the burqa; this would impress us, the intellectuals... To whom would I talk to at that time by making art that would not be understood in its form... an unassimilable art?" An interview with Ksenofon Dilo: was taken on the 15th of November 2010.

<sup>6</sup> Lelaj, Olsi (2015). *Under the Sign of Modernity*. Tirana: No Surfaces.

<sup>7</sup> The position of the state's work was to be fulfilled in parallel with the main duty of the artist. M. Treska would say about this: "Our artists have not forgotten their main duty, although they do not have all of their time in their disposition to be dedicated to the artistic creation, being them working for the state and

different institutions..." Treska, Milto (1951) "Exhibition of Cultural Arts for 1950", *Our Literature*, No.1 (November): 67.

<sup>8</sup> Faja, Enver (2008). *Who directs Albanian urban planning*. Tirana: UFO Press.

<sup>9</sup> Idem, 14.

<sup>10</sup> The different definition as "The Polish School" also belongs to Enver Faja. He sees the principles of the Albanian architecture of the period 1960-1975, easily identifiable at the works of Simon and Helena Sirkus, key figures of Polish architecture until the '70s.

<sup>11</sup> Muka, Gazmend (1998). "Equivocals and Values in Onufrin '97", *Pamor Art*, no. 1 (March): 7.

<sup>12</sup> Edi Rama in the introduction *Cadri Forever*, in Kandinski, Vasili (1997). *On Spirituality in Art*. Tirana: Attempting Publications.

## References

Faja, Enver (2008). *Who directs Albanian urban planning*. Tirana: UFO Press.

Kandinski, Vasili (1997). *On Spirituality in Art*. Tirana: Attempting Publications.

Lelaj, Olsi (2015). *Under the Sign of Modernity*. Tirana: No Surfaces.

Luzati, Skender (2013). *Idromeno street architect*. Tirana, Kumi.

Paci, Zef (2012). *Marubi, Photography as Ritual*. Tirana: Prince.

Prenushi, Mikel (1984). *Kolë Idromeno (1860-1939), Life and Work*. Tirana, 8 Nëntori.

Xoxa, Eli (2007). *Kaceli 1914-200*. Tirana: Art Gallery Kaceli.

Muka, Gazmend (1998). "Equivocals and Values in Onufrin '97", *Pamor Art*, no. 1 (March): 7.

Treska, Milto (1951) "Exhibition of Cultural Arts for 1950", *Our Literature*, No.1 (November): 67.

*Gjergji Islami, Andronira Burda*

## Introduction

City planning and Architecture have been a concern for major dictatorships in 20th century Europe (Hitler, Mussolini, Stalin) not only as a means to bring hope amongst people after the Great Depression or to face rapid industrialisation but also because it was a strong tool to mediate power and ideology and to persuade masses. Enver Hoxha followed the same "totalitarian logic" in post-war Albania. [Re] Building the [socialist] city is a theme widely present throughout his oeuvres, embedding urban principals that reflected those that were already researched and discussed by the urbanism schools of thought after the 30s in the Soviet Union, when large theoretical discussions on "What a socialist city should be?", took place. (A. Kopp, 1967, p 183)

The rhetorical textual language used by Hoxha while addressing the urban issues is characterised mainly by ordering requests and an imposing rhythm of speech. His discourses often represent unstructured and disorganised thoughts transmitting patterns of losing of association. This type of a synthetic thinking, which is clearly perceived throughout his written discourse, in various cases provides a route to a chaotic narrative, which displays correlations with the chaotic urban planning process that Hoxha dictates and supervises throughout his regime, using communication.

Hoxha's oeuvres had a major role in defining the pillars of the system, philosophy, ideological approach, economic and social order, and cultural model. These writings, often transcriptions of his discourses, inspired by Marxism-Leninism, served as the key reference in translating socialism in simple words and making Hoxha's vision clear, understandable and applicable to everyone, from the proletariat to the politburo. Subjects related to architecture and urbanism are continuously present in the 70 oeuvres. A series of thoughts, discussions, advice and concerns extracted from 21 of Hoxha's oeuvres will be presented in this article as his manifesto on architecture which proved to be the base of all the major developments of the field.

## The approach to architecture and urbanism

While offering many discourses related to architecture and urbanism, Hoxha is personally involved with the topics, having his perspective formed mainly from the places he has visited and his intuition. Starting from the late '40s, he thinks and builds a socialist city, an environment serving and representing the socialist ideology and society. Initially based on the Soviet model and Socialist Realism, during the rule of Enver Hoxha, architecture in Albania will follow a particular and auto referential path that still needs to be studied and evaluated (Islami et al., 2018).

In 1960, influenced by Khrushchev policies in the Soviet Union, Hoxha seemed to focus mainly on industrialisation and construction optimisation. In the closing speech of the 16th Plenum of the Central Committee of the Party of Labour of Albania, he declares: "In the future, we should build faster, cheaper, better ... in construction, we cannot advance with primitive techniques...". By introducing a 15-20-year housing plan, Hoxha discusses the need for qualitative building materials and new brick, cement, and prefabrication factories supporting the construction sector (Hoxha, Vepra 18 p. 241, 244-246). It seems that Hoxha is more sensible to construction costs than aesthetics when sustaining that beauty in architecture should be considered together with other factors, such as the economy (Hoxha, Vepra 48). Hoxha is much concerned about urban planning also. Although he expresses this in different forms, often banal, he believes that territorial and city planning are major instruments to control and boost development. Envisioning Tirana, he sees the city as a well-structured entity, divided into functional zones where the areas for the development of industry, infrastructure, housing, culture and recreation are previously thought and well defined (Hoxha, Vepra 4). According to Hoxha, mobility within the city should be based on public transport, bicycle or pedestrian movement (Hoxha, Vepra 48), rejecting the car-centric model of the western cities. The planning process is understood as the result of a scientific analysis based on territory, demography and development scenarios related mainly to industry and agriculture (Hoxha, Vepra 48).

Different from how it could be presumed today, demographic phenomena were a planning output in a centralised state ruled by a totalitarian regime. They were controlled and pre-determined in order to serve the pre-set industrialisation goals.

On the ideological level, especially after 1975, Hoxha emphasises the national character of architecture, referring to the principles of Socialist Realism (Hoxha, Vepra 54). He pushes architects to interpret their new designs inspired by the national tradition in art and architecture, which often resulted in unclear or produced very artificial responses in design terms (Islami et al., 2018). The tendency for nationalist architecture becomes more evident when Hoxha gets personally involved with the argument and discusses that in detail, particularly for the Skanderbeg Museum in Kruja and the National History Museum in Tirana (Hoxha, Vepra 56 and Vepra 63).

### The socialist city: between rhetorical language and reality

Based on Marxist-Leninist ideology, the people is the keyword used throughout Hoxha's textual language while addressing urban issues "... for this important problem, people's ideas have to be taken: what do the people think about urbanisation in cities and villages...". (Hoxha, Vepra 4, p. 457) Despite placing the people in the centre of his textual language, he gave proper instructions as to how [socialist] cities have to develop. The speech held by Hoxha in 1948 to the appointed Ministerial Committee of Urbanism marks the cornerstone of socialist urban planning principles that build the image and the imprint of Albanian cities.

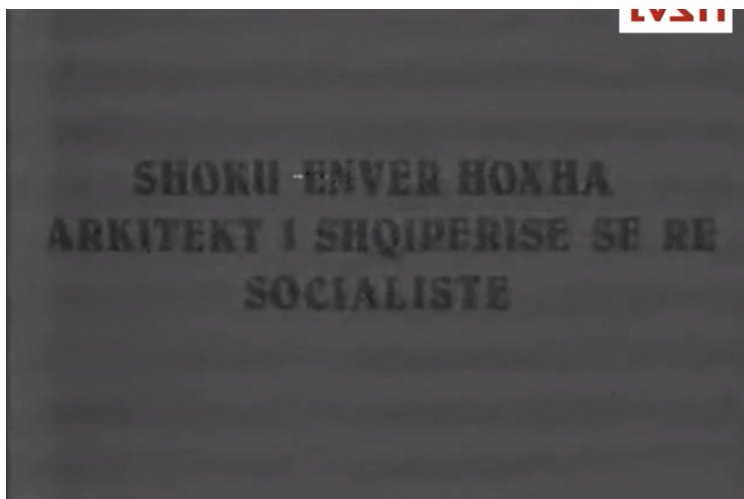


Figure 1. The opening image of the documentary "Enver Hoxha: the architect of the new socialist Albania", broadcasted by TVSH (Albanian State Television) after Hoxha's death.

Tirana, like Moscow, became the priority for visualising the image of the socialist city, while "... all the others had to follow its [Tirana's] example."

(Hoxha, Vepra 4, p. 451). The socialist city envisioned by Hoxha's rhetoric was characterised by a duality: an industrially developed city, and at the same time, a walkable garden city. They were conceived as separate centres in the territorial spatiality but interlinked with a well-developed infrastructure. Prioritising the development of the industrial city, Hoxha himself appoints Yzberisht as one of the future industrial poles of Tirana. "The industrial area I think to be placed on the direction of the barracks along the hills of Yzberisht." (Hoxha, Vepra 4, p. 454). The construction of the future soviet project of Textile Factory at the same place marked the starting process of industrialisation of Albanian cities.

To juxtapose the industrialisation impact on the quality of life of cities, Hoxha, who studied in Western countries and approached the Eastern Bloc ideology, disseminates in his speeches the vision of a garden city, with parks and green spaces: "The capital must be entire as a garden, planted with trees for shade and fruits." (Hoxha, Vepra 4, p. 455).

Although post-war Albania had mainly rural ottoman characteristics, which represented the concepts of 'neither village nor city, that Engels aimed for the Socialist society (A. Kopp, 1967, p. 189), Hoxha's vision "to construct the new Albania", as a developed industrial country, required the future [re] building process, to oppose the Western capitalist city and embrace the ideology of the new socialist society "Everything that will be built, will adapt to our proletariat regime". (Hoxha, Vepra 4, p. 455).

On the other hand, the constant necessity for housing and the lack of economic development and technology dictated Hoxha to emphasise the approach towards collective housing and low-rise buildings. The concepts of concentration and collectivisation are widely used not only in terms of efficiency but also from the ideological point of view: "The houses must be concentrated because in collectivism we go faster towards socialism."

However, he emphasises that houses must benefit from the air, the sun and light, giving specific recommendations that buildings must be linear and not high. (Hoxha, Vepra 4, p. 455). Throughout his textual language, the constant use of keywords like green spaces, collectivisation, and low-rise buildings, which reflected the urban principals of the Eastern Bloc ideology, conceived the skyline and the urban morphology of the low rise - low, dense Albanian [socialist] city.

## The socialist village: An orderly rural cluster

The settings of the new socialist society would not be all-embracing without rural settlements. In such a framework, the rhetorical language of Hoxha underpins the spatial development and the image of the socialist village too. He articulates a hybrid development model of rural-urban partnerships based mainly on tourism. Through the example of Tirana and its surrounding villages, like Mëzez, Hoxha visualises a central urban node and peripheral rural tourist destinations which sustain each other. This suburban village will absorb the flow of citizens during the weekends, and thus, development from the industrialised city, while the latter would benefit recreation and healthy destinations (Hoxha, Vepra 4). A spatial development concept that remained isolated throughout his rhetoric and not even materialised, but a quite coherent today when discussing rural development.

Concepts of collectivisation and standardisation delineate the [re] building of rural areas like happened with cities and, therefore, influence their image. Agricultural land is considered "gold" and protected from construction (Hoxha, Vepra 18, p. 251), thus discouraging the expansion of cities or villages. Following this strategy, in 1965, Hoxha discussed the principles of concentration of villages. A national requirement envisioned a monocentric settlement, well-structured around an administrative and cultural nucleus where spatial order is implied in the typical irregular urban form of vernacularism (Hoxha, Vepra 28).

This national directive of providing order and concentration in the planning principles of the villages identified the differences between the compact rural settlements of South Albania compared with the scattered one of the North. Although Hoxha accepts these differences as part of the traditional culture, he sets the concentration strategy as a long-term process, which will finalise itself with the new villages as monocentric settlements clustered in the rural landscape (Hoxha, Vepra 28). A necessity to sustain better management and the preservation of agricultural land and to guarantee control and authority.

## Towards the image of the [socialist] city

The process of re-reading the written discourse of Hoxha regarding urbanism pinpoints conceiving the [socialist] city based on Marxism-Leninism, as one of his concerns, while the other one relates with building its image. It is a priority for dictatorships to transmit the achievements of their regimes and, at the same time to persuade the masses with their ideological symbols and styles.

Thus, architectural propaganda becomes a one-way medium of communication between the people and the dictatorship. In this context, in Hoxha's rhetoric, the central square emerges as the venue *Urbis*, where authority is legitimised through urban design. In his 70 books, he includes the discussions for re-designing the central squares of Tirana, Korça, Vlora and Lezha as a set of ontological principles towards building the centres of the political power of the [socialist] Albanian cities.

The horizontal expansion of the central square is Hoxha's keyword while discussing the future of these centres of ideological power. He needs to provide the proper urban choreography for the political rituals; therefore, he constantly searches for the square of socialist rallies and celebratory parades (Hoxha, Vepra 55 and Vepra 70). It is a discourse that mediates towards the colossal and scattered open space, since it needs to correlate the political transformation with those of the urban form (Burda, 2017). This necessity to reorganise the composition of the squares towards the new centre of power identifies Hoxha as a key figure when it comes to discussing street vistas, form-giving, shape and relationships with the surrounding buildings. His authoritative orientation to conceive the central square of Korça with orderly curves and hierarchical formal buildings compositions finds full materialisation in the preliminary design concept approved in 1976 (Hoxha, Vepra 55; Burda, 2017).

Beyond shape, his textual language delineates even the political choreography of the city, identifying the presence and position of the structure of the institutional authority of Communism, as defining the place for the buildings of Palace of Congresses and the People's Assembly in Tirana (Hoxha, Vepra 57).



Figure 2. Enver Hoxha during the presentation of the proposals for the centre of Tirana.





**Figure 3.** The mosaic of the National History Museum. Source: Islami et al., *Under Pressure. Facts of socialist architecture in Albania.*

Furthermore, he is in constant search of quasi naïve approaches of urban symbolism to glorify the National Liberation Antifascist War generating ideological narratives to embed in the existing urban patterns and requiring to expand the square even vertically through large scale landmarks (Hoxha, Vepra 55, Vepra 57 and Vepra 70). Thus, acknowledging the power of urban design to induce the people and to legitimate authority.

Source: Private collection Hoxha reorganises even the hierarchical epistemology of the traditional Albanian urban square by appropriating the soviet notion of the Palace/House of Culture introduced in the '30s as a concept inspired by the theoretical framework of Engels. This typology substitutes the role of the religious building as a focal element for the composition of the square and at the same time its influencing authority in society. According to Hoxha "... the Palace/House of Culture must be placed in every city and village in order to ideologically educate the people." (Hoxha, Vepra 4, p. 456-457).

To achieve the socialist image of the city, Hoxha also articulates the character of the space and the style of the buildings. He repeatedly states that "...architects must have in consideration the style of the people." (Hoxha,

Vepra 4, p. 455). This undefined notion, present throughout his textual language, 'requires' Hoxha himself to deliver orientations and principles of urban design. In such a context, in 1978, when he discusses the design proposals for the National History Museum, he emphasises that no other building defining the central square of Tirana represents the national character; thus, "...the facade of the new museum must transmit these characteristics of our national architecture and art visually." (Hoxha, Vepra 63, p. 339). Hoxha continued to supervise this important topic, conceiving the iconic mosaic that today partakes in the layered image of the city in Skanderbeg square.

## The designer

The involvement of Hoxha in architecture also influenced the professional figure of the architect. An architect in socialist Albania certainly had to face complex challenges different from those of the typical professional figure that we know today (Islami & Veizaj, 2019). Expected to obey political decisions and apply the official ideology, the architect lost the charm of the mastermind of the built environment, often acquiring the status of a mere technician and getting transformed into a political engineer (Islami et al., 2018).

From 1948 till 1960, Hoxha was concerned about the country's limited human and professional resources in architecture. To compensate for this lack, he encourages geometers, skilled workers, and practised people to undertake tasks related to design or construction works (Hoxha, Vepra 4 and Vepra 18).

When referring to important designs, architecture is seen as a product of collective multidisciplinary teams, where the role of the lead architect is somehow lost. Hoxha is paying attention to discuss the role of different specialists such as sociologists, economists, engineers, simple workers etc., while he declares that architects should not be the ones deciding on everything (Hoxha, Vepra 48 and Vepra 56). So far, he rarely mentions the importance of creativity or individualism in an architect's work. Furthermore, he states that "Architects, by becoming part of the League of Writers and Artists, should in no case consider themselves detached from the construction workers and other workers" (Hoxha, Vepra 48, p. 278).

At the same time, Hoxha is doubtful about the professional level of the local architects. In 1972, he admitted that it is better to keep the centre of Tirana unbuilt, considering the scarce financial resources and the low technical and professional skills of the available specialists (Hoxha, Vepra 48). It seems that Hoxha cannot find the ideal figure of the architect, that except professionalism, should fully be aware of the "Party's course on architecture" (Hoxha, Vepra 56, p.145), should be "eminent from the ideological perspective" (Hoxha, Vepra 57, p. 251), and should apply the "Marxist Leninist taste provided by the Party and the people" (Hoxha, Vepra 41, p. 193).

The design activity was centralised in the state design offices and institutes, which were the official medium for producing and controlling architecture during socialism. Hoxha focuses on the need for a central institute on architecture and urbanism in 1972 while also proposing an ur-

banism office for each city (Hoxha, Vepra 48). During the following years, he seemed concerned about how these structures are organised and the efficiency of their work. He is especially focused on the financial and operative issues rather than the qualitative output in architectural terms (Hoxha, Vepra 56).

Within a sophisticated, centralised, and ideology-driven mechanism, personally ideated and oriented from the dictator, architects and their work lost significance and vanished their personality.

## Conclusions

Enver Hoxha's manifesto on architecture, which was delivered through his oeuvre, proved to be the base of all the major developments of the field. The process of re-reading and researching the rhetorical perspective of his textual language identifies Hoxha as the key figure in defining the principles of city planning and even technical decision-making that influenced the imprint and the image of low rise - low, dense [socialist] city in Albania. Within his rhetoric, two milestones are evident: the speeches held by Enver Hoxha in 1948 and 1972. In the documents following these dates, a constant will to control architecture, both disciplinary and ideological, can be noticed.

In 1948, while addressing the Ministerial Committee of Urbanism, he defined a milestone in Albania's history of urban planning and established the pillars of the socialist urban theory that followed. While in 1972, in his speech delivered to the Central Committee of the Party, Hoxha devaluates the architect's role as a mastermind within the design process, converting him into a mere technician while establishing a centralised system self-dominated self-controlled. In such a context, the architects could not produce any school of thought either in architecture or city planning to confront and/or advance concepts, but they had to operate within a hierarchical and indoctrinated mechanism driven by Hoxha himself.

## References

Burda, Andronira. (2017). "Evolution of the central square of Korça: The impact of 3 different political systems". In *International Forum on Architecture and Urbanism*, 337-342.

Hoxha, Enver (1970). "Nga fjala e mbajtur ne komisionin e ngritur për çështje të urbanizimit të qytetit të Tiranës dhe qyteteve të tjera." In *Vepra 4*, edited by Instituti i studimeve Marksiste-Leniniste, 453-458. Tirane: 8 Nëntori.

Hoxha, Enver (1975). "Ndërtimet kërkojnë një drejtim dhe

organizim më të përsosur." In *Vepra 18*, edited by Instituti i studimeve Marksiste-Leniniste, 239-255. Tirane: 8 Nëntori.

Hoxha, Enver (1978). "Fshatin e ri ta ndërtojme në vend të përshtatshëm, ekzistuesin ta zbukurojmë." In *Vepra 28*, edited by Instituti i studimeve Marksiste-Leniniste, 430-437. Tirane: 8 Nëntori.

Hoxha, Enver (1985). "Problemet e arkitekturës dhe urbanistikës mund të zgjidhen drejt nëse trajtohen në mënyrë shkencore." In *Vepra 48*, edited by Instituti i studimeve Marksiste-Leniniste, 278-294. Tirane: 8 Nëntori.

Hoxha, Enver (1987). "Ndërtimeve tona t'u japim tipare me të vertetë socialiste." In *Vepra 54*, edited by Instituti i studimeve Marksiste-Leniniste, 245-251. Tirane: 8 Nëntori.

Hoxha, Enver (1987). "Ta doni qytetin tuaj e ta ndërtoni çdo gjë me shije." In *Vepra 55*, edited by Instituti i studimeve Marksiste-Leniniste, 315-326. Tirane: 8 Nëntori.

Hoxha, Enver (1987). "Organizimi dhe kontrolli të jenë në një shkallë të lartë në ndërtim." In *Vepra 56*, edited by Instituti i studimeve Marksiste-Leniniste, 145-150. Tirane: 8 Nëntori.

Hoxha, Enver (1987). "Ngritja e muzeut të Skenderbeut është ndermarrje delikate dhe komplekse." In *Vepra 56*, edited by Instituti i studimeve Marksiste-Leniniste, 448-466. Tirane: 8 Nëntori.

Hoxha, Enver (1987). "Ndërtimet që bëjmë tani do të trashëgojnë dhe brezat e ardhshëm." In *Vepra 57*, edited by Instituti i studimeve Marksiste-Leniniste, 249-253. Tirane: 8 Nëntori.

Hoxha, Enver (1987). "Muzeu duhet të ketë tërësisht karakteri kombëtar." In *Vepra 63*, edited by Instituti i studimeve Marksiste-Leniniste, 338-341. Tirane: 8 Nëntori.

Hoxha, Enver (1990). "Objektet me vlerë historike të ruhet e të restaurohen." In *Vepra 70*, edited by Instituti i studimeve Marksiste-Leniniste, 440-442. Tirane: 8 Nëntori.

Islami, Gjergji and Veizaj, Denada and Thomai, Gjergj and Fontanari, Enrico (2018). *Under Pressure. Facts of socialist architecture in Albania*. Tirana: FLESH

Islami, Gjergji and Veizaj, Denada (2019). "Und welche Rolle spielen albanische Architekten?" *Bauwelt*, no. 3 (February): 40-43

Kopp, Anatole (1970). *City and Revolution Soviet Architecture and City Planning, 1917-1935*. (Burton, E. Thomas, Trans.). New York, NY: George Braziller. (Original work published 1967)

*Fiona Nepravishta*

## Introduction

Being acknowledged as one of Europe's most altered and vibrant cities within the rapid globalisation of the last decades, the city of Tirana has witnessed the phenomenon of modernisation embracing changes in almost all segments of life. The credit for establishing the contemporary metropolitan capital that we know today is attributed to its turbulent past with unprecedented development patterns. These stages of transformation are reflected not only in the city's social and political dynamics, but also in its urban and architectural alterations. The historical-urban evolution of the city can be better perceived as a stratification of distinct layers of history and cultural influences over time, all of which have contributed to composing the urban fabric without any unity. For a better understanding of the original composition of the city and the new spatial paradigm, we must grasp the different stages of its evolution, including the period of the Kingdom, the Italian occupation, the communist regime, as well as the transition phase which is still ongoing. Knowing the progression of historical events, architecture tendencies, and political influences assists in having a better understanding of the present and gaining a greater sense of responsibility for the country's future development.

This article discusses the city's development since its origins at the turn of the last century by emphasising the significant transformations, the new metropolitan improvement patterns and actors who have shaped it. Furthermore, the article highlights and depicts some of the city's most noteworthy contemporary projects, mostly designed by international architects and planners. Tirana is not only the nation's metropolis and capital, but it is also unquestionably a true and irrepressible European centre looking through the twenty-first century.

## The early history of the city: an interaction of influences

An interplay of diverse cultural forces originating in Islamic and European Christian communities enriches the city's early history, contributing to the urban genetics of

Albania's capital. The city itself is relatively new, having been founded around the 17th century when the country was part of the Ottoman Empire. The starting point of construction in this oriental-style town was carried out by Sulejman Pashë Bargjini, an ethnic Albanian general who formed the city's nucleus by building a mosque, a bakery and a hamam in the plain topography of Tirana. Being located at a junction of roads, the town grew gradually into a trading centre and flourished later as a centre of Albanian art, culture and religion. Until the beginning of the 20th century, Tirana was an organic town with narrow curvy streets and low-rise buildings. The town had two main functions which were sharply divided spatially, the centre was the socio-economic hub with the mosque and the bazaar whereas the rest of the built form consisted of purely residential units (detached houses). (Aliaj, 2003). Tirana remained a minor city until 1920 when the Lushnjë Congress marked one of the most important events in national history by designating it as the country's capital. Over time, it has become clear that this election justified the numerous obstacles that Tirana would face as a rapidly expanding capital. Its favourable climatic conditions and geographical location, between mountains and sea and the rich physical geography features determined the city's development, making Tirana more appealing to all people and encouraging them to relocate there.

The city's urban structure was organic and spontaneous, with medieval features and was later transformed into a planned city based on the professional help of foreign influences. Starting from 1917 and 1918 we see the first attempts to map Tirana and its road structure by Austrian researchers. (Dhamo et al. 2016) On this foundation, Austrian engineers and architects designed the First Regulatory Plan of the City in 1923. The plan's goal was to correct and arrange Tirana's road system into a rectangular shape that preserved the city's primary radials' directions by overlaying a clean, orthogonal street network onto the existing one. This led to creating the city's initial main roads and streets opening and expansion, such as Durres Street, Kavaja Street and Barricade Street.

Following a period of tremendous social and religious shifts

and a chaotic political situation, a Muslim army official named Ahmet Zog gained control and declared himself King of Albania in 1926. He is regarded as a pivotal figure in Albanian history, as King Zog continuously struggled to bring stability and prosperity to the country, making significant accomplishments in a short period of time. During his reign, the first attempts to modernise Tirana were marked, which had absorbed Ottoman culture through five centuries of Ottoman dominance. King Zog set out to create the image of a modern capital with a clear Western orientation, based on the expertise of Italian architects, urbanists and engineers. Tirana was introduced with new European architectural and urban development models different from the Ottoman one.

The origins of architecture in the city have long been linked to the works coming from "Italian rationalism", with distinct architects such as Armando Brasini, Florestano Di Fausto, Giulio Bertè, Gherardo Bosio, Fernando Poggi, Vittorio Morpurgo-Ballio and others, who undoubtedly left a fragile trace of the Italian influence by incorporating their architectural and urban traditions into the city's core. The new urban structure was formulated by the roman architect Armando Brasini in 1925, who worked on the first project for the reconception of the centre of Albanian's capital and laid the foundations for the modernisation and arrangement of the ministerial buildings later constructed by the Roman architect Florestano Di Fausto. The primary idea behind the Italian plans was to create a central axis based on the Roman models of "Cardo - Decimanus", as well as a group of monumental buildings along with it, that would introduce a completely different European trace into Tirana's oriental structure. The new model of urbanisation would take root in this central axis-oriented Nord-East, which separated the existing city from its suburbs and created a monumental and governmental centre in the heart of the new reborn city. The plan was later reviewed in 1928. Three authors contributed to this plan; Albanian engineer Eshref Frashëri, Italian engineer Castellani and Austrian engineer Weiss (Aliaj, et al. 2003, fq.34). Gherardo Bosio, a Tuscan architect, was later commissioned to elaborate the previous plans and finalised the plan afterwards. He was in charge of refining Tirana's master plan and designing several buildings that made an indelible impact on the city. As Aliaj, 2003 describes, contemporary features such as: wide boulevards, new square in the centre of the city, orthogonal road system with orthogonal neighbourhoods, wide streets lined with buildings of contemporary architecture and ring radial road network were implemented in the city's new configuration.

In this period, the capital's main square, the buildings of the ministries, the national bank, and a part of the Palace of Brigades were built. The Square of Ministries, designed in 1931 by the roman architect Florestano Di Fausto, is one of the most significant interventions not only in urban planning but also in the architecture it represents. This architectural complex gave Tirana a new sense of scale and left one of the essential traces of reference for future development. Another emblematic building in Tirana's centre was the national Bank of Tirana, designed in 1936 by Vittorio Morpurgo-Ballio, a rationalist Italian architect. The building's monumentality, which was emphasised through large volumes and linearity, was employed to symbolise the government's power and strength.

Tirana was totally reorganised by moving from a completely organic city to a planned city with the help of a foreign western orientation. The city's development can also be reviewed in the spectrum of the population distribution and urban space it occupied. According to the documents of the time, the whole city covered an area of 8 kilometres, compared to 1912 when it was only 3 square kilometres.

The Italian cooperation and participation in the development of Tirana will be active in this period. After repeated attempts to force King Zog and the government to submit, in April 1939, Mussolini's fascist forces decided to invade and occupy Albania. Suddenly, the urban projects of Tirana and other important cities in the country had to fit the ideas of an empire far larger than Albania. The Italian government now aimed to transform Tirana into a colonial urban centre, with the first use of European urban planning legislation, and the same restrictions that were in place in Italy would now be implemented.

In the following years, through the earlier part of the Second World War, a new master plan for Tirana was drafted. It addressed not only the center, modeled after Brasini's plan, but also included new residential, military, and industrial zones. It was prepared by two Florentine architects Gherardo Bosio and Fernando Poggi (Aliaj et al. 2003; Qyqja 2009). This period was quite intense in terms of laying the foundations of planning and ended with the capitulation of fascist Italy in September 1943 when the nazi german forces took over the situation. From 1926 until 1944, Italian influence on Tirana's planning was so powerful that the city's present configuration bears witness to that architectural period. Only a few years after World War II ended, planning would restart, this time under a new authority, the communist dictatorship.

## Towards modernisation: communist and post-communist development

The end of World War II was followed by a whole new totalitarian regime that came into rule in Albania, ushering in nearly five decades of true Soviet-style socialism. The rise of the communist regime, led by the local dictator Enver Hoxha, came from a combination of external circumstances generated by the Second World War and internal tensions and contradictions within the country. The installation of the socialist-communist system dictated a new urban and architectural approach based on the centralised ideology, which frequently resulted in the eradication of a significant part of the city's history.

Following a series of historical events that profoundly influenced the country's architecture and urban planning, such as the reign of the monarchy, which used the strong influence of Austrian and Italian architects, as well as the period of Italian occupation, during which Italian architecture and urban planning dominated, we now see the influence of the school of the eastern bloc countries. Albania sought help from the communist world for economic, political, and military partnering with countries such as Yugoslavia (1944–48), the Soviet Union (1948–61), and China (1961–78). The city subsequently expanded considerably with Soviet and Chinese assistance and built the foundations of modern industrialisation. The 1957 Urban Plan marked the Soviet impact on architecture in Tirana, and it directed the construction of new industrial firms, factories and residential units that integrated a distinctive Soviet style of design. An example of these postwar construction initiatives is the "Stalin" Textiles Factory, the so-called Kombinat, a typical socialist working-class neighbourhood built in the early 1950s. The Palace of Culture, the Palace of Congresses, the Tirana Pyramid, and numerous housing units were also built during the communist dictatorship.

During the communist rule, Hoxha drove the country into complete isolation from the rest of the world and created an oppressive climate against the population by banning freedom of voice, press, religion, private property and other liberties. Albania became an isolated bastion of Stalinism after being alienated from both the East and the West. Hoxha's modernisation program attempted to turn Albania from a backward agrarian community to a modern industrial one, while cities went through an ordered development and the architectural quality deteriorated. The dictatorial communist system was highly centralised with harsh isolationist and self-reliant policies that produced standardised typologies of buildings and primitive archi-

tectural prototypes by ignoring private ownership. Albanian architects, guided by the ideology of socialist realism, were very rigid in the development of modern ideas. Starting with the alienation of Tirana's historical core to mass interventions for building new residential and working zones such as industrial regions outside the city, the dictatorship gave Tirana a new dimension and image. The city's centre had the most distinguishing features, serving as the focal point for all political, administrative, educational, and recreational activities, whereas the urban borders were made up of agricultural lands and industrial sites. Massive socialist-style apartment complexes, wide roads, and factories were built, while town squares were renovated and many historic buildings were demolished. In fact, Tirana's development during the 50 years of the centralised design system produced no conceptual changes, which was due to the time's ideological and economic limits and a lack of inherited knowledge in this field.

After Hoxha's death in 1985 and the fall of the Berlin Wall in 1989, the country's political and economic atmosphere gradually improved, leading to the first democratic elections in 1991. The need to alter the system in Albania arose from an overall evaluation of the country's actual situation and as a necessity to rise above the political power and local leaders. Thus ended a long and complex period of changes which led the country towards a new millennium of growth and transformation not only in architecture and urban planning but also in economic and social terms. Following the breakdown of socialism in the early 1990s, the architecture in the country marked an identity crisis, resulting in a anarchy-fuelled growth and chaotic architecture fed by a context lacking laws or urban plans. The shift from a single-party dictatorship to pluralism and the integration of a liberal economic system did not happen so smoothly, as it witnessed an explosion in the urban form by returning to spontaneity with significant disruptions. As an uncontrolled demographic process, migration influenced the development of the urban space by accidental and rapid construction, disregarding the urban rules, reducing public spaces and increasing transportation problems. Architecture ended up in the hands of ordinary people who tried to resolve their problems with low cost developments, ignored the profession of architect, becoming the initiators of "informal eclectic architecture" without identity (Nepravishta, 2016). Privatisation and the occupation of land and buildings opened the city to rapid development which was mainly reflected in: heavy traffic, construction of shops (kiosks), houses and squatter settlements (Felstehausen, 1999).

From 2000, the city development was focused on the rehabilitating and renewing process promoted by Major Edi Rama. The uncontrolled building expansion, in all its spontaneous spatial voracity, has changed the meaning of the urban context. (Bulleri, 2013). Rama suggested that the city should regain its public spaces and re-establish its identity, which had been lost during the transitional period, through the 'Return to Identity' urban renovation initiative. The interventions included the preservation and promotion of the historic centre, the renovation of inter-war public buildings and major Boulevard, the demolition of illegal kiosks and the famous facade-coloring. During this period, Tirana gained the reputation of a colorful city for its painted buildings, which is an approach that continues to this day as part of city's modernization.

The architecture in the country transcended the cultural and conceptual ideology inherited from the communist regime and successfully focused on a new practice of modernism, by consolidating innovative ideas of architects coming into contact with Western cultural trends. Young professionals and private design studios in Tirana executed contemporary projects with complete professional freedom, as had not happened before. International architects and world-renowned studios are now paying attention to Tirana, which has experienced a number of widely-discussed developments.

### Contemporary architecture in the city

In the recent decade, Tirana has been adjusting to globalisation's urban regulations in its distinctive way. Its prior identity mirrored Albania's status as a Balkan state that had remained in a state of silence, isolated and inaccessible with no tangible ties to the rest of the world. Regardless, the present and future appear to be different, as Albanian people have pledged to make up for the delay that their society accumulated over time. As a result, there is rising interest in starting a new urban season in which the Albanian capital joins the global cities circuit. As the city's spirit of rebuilding continues to this day, the Municipality invited foreign and international studios to participate in the city's design as part of the improvements done to transform the city's urban and architectural image. Foreign architects have played and continue to play an essential role, introducing new evolved standards of design and integrating innovative and modern architecture that differs significantly from the preceding.

Many international competitions were hosted in Tirana. Some of the winning ideas that were implemented can

be highlighted such as TID Tower and 4Evergreen Tower, as two of the constructed high rise-buildings taking part in Tirana's urban requalification plan. TID Tower / Plaza Hotel is an 85-meter-high tower built by 51N4E architects, designed to perceive a three-dimensional, circular and square base at maximum height, with slab facade motif and alternating glass (Fig. 1). On the other hand, 4Evergreen Tower, designed by Archea Associati, represents a context-inspired tower divided into four sections to replicate Armando Brasini's urban planning from the 1920s (Fig. 2). Residential, commercial, service, and business facilities are housed in the towers, which are portrayed as tall vertical structures highly recognisable due to their modern architecture, distinctive shape and volume, the technology utilised, and the urban impact in the city.



Figure 1. TID Tower. Source: Author



Figure 2. 4Evergreen Tower. Source: Author

Other notable buildings that are still under construction as part of the city's modernisation framework can be easily identified in the skyline of Tirana. The construction of the towers has sparked a lot of debate, despite being justified as a necessary development for the city. They are envisioned as a manifestation of the city's progress, bringing a modernist vision and positive energy to the capital, particularly to the centre of Tirana. By proposing future prototypes, these initiatives provide an opportunity to engage in an open debate about visualising the densification of the city's core. A model of a skyscraper being built in the city's heart, directly on the Western side of the main

square, is Eyes of Tirana, one of the most ambitious projects in the master plan of Tirana conceived in the style of the Danish architect Henning Larsen. The multi-story tower, which stands out among Tirana's traditional constructions, appears to be looking forward in the future and will most certainly dominate the city's centre (Fig. 3). The Book Building is a multipurpose development on the edge of Skanderbeg Square, near the mosque and the clock tower, designed by the Belgian architecture firm 51N4E, which also designed the new project of Skanderbeg Square and The Plaza Hotel. It is part of the Municipality's redevelopment initiative merging both the city's small human scale and the future metropolis's big scale. The project comprises three detached buildings that will create 40,000 m<sup>2</sup> of high-quality commercial, business, and residential space, giving the city centre a new look and feel (Fig. 4).



**Figure 3.** Eyes of Tirana, Source: X-Plan Studio



**Figure 4.** Book Building, Source: Invest Society

The Dutch studio MVRDV, one of the most well-known architectural firms in the industry, has participated in many competitions organised by the Municipality of Tirana with distinctive projects for the capital. Two of their vertically extended buildings Downtown One Tirana and Tirana's Rock, are currently under construction, having a "concealed" symbolism in the entirety as a general concept. Tirana's Rock, is another multi-story building that will be erected near the Skanderbeg square, in the centre of the capital, with several business and residential units and five subterranean parking levels. The building is not that simple, while the upper floors of the tower will take the shape of the head of Skanderbeg, the national hero of the Albanian people (Fig.5). Downtown One Tirana is a 140-metre-tall mixed-use tower being built in the area just to the southwest of the Elbasan Street that represents the highest building in the country. Its symbolism consists of the relief of cantilevered houses and offices, which form a pixelated abstraction of Albania's map. This is the most prominent feature of the 37-story tower, turning it into a landmark in the heart of the city (Fig. 6).



**Figure 5.** Tirana's Rock, Source: acp.al



**Figure 6.** Downtown One Tirana, Source: MVRDV

A completely different approach is seen to be born in the capital, generating a sense of proximity between the man-made and natural environments, thus completing the city's new skyline with unique landscapes. Integrating vegetation into the architectural design can be a very efficient method to address many issues that plague modern cities and buildings by mitigating the adverse effects of urbanisation sustainably. Vegetative elements in cities and buildings not only produce a qualitatively superior microclimate, but they also provide tangible health and comfort benefits for the people who live there. Tirana Vertical Forest, designed by Stefano Boeri Architetti, is one of the examples belonging to a new generation of buildings dedicated to environmental regeneration and quality improvement in the contemporary city (Fig. 8). Being located in the urban centre, near the Great Park of Tirana, the tower represents a model of high-density urban forestation, becoming the bearer of a strategy and image of a concept that opens up towards the city and the surrounding spaces. The project aligns with the new Master-plan designed in 2016, bringing a prototype of new biodiversity and eco-friendly architecture in the capital.

Within the scope of sustainable architectural design, Mario Cucinella Architects presents two highly fascinating buildings such as MET Tirana Building and Ekspozita Building. These are projects that contribute to urban regeneration and social transformation that will result in a positive chain reaction that helps to improve daily living in today's metropolis. In the framework of the urban requalification itinerary that is still in process, MET Tirana Building represents a new multifunctional building in Tirana taking place 12 levels above ground and four underground (Fig.9). The building is designed in an oval shape to propose a structure that stands out in terms of ar-

chitectural design aspects such as the theme of the “excavated” building, materiality, and green terraces, which is the project’s most important feature. These terraces are meant to ensure high-quality outdoor spaces for each lodging and a high level of natural light and elegance to the entirety of the building. Following the same logic of integrated sustainable design, Ekspozita Building is a new mixed-use complex composed of commercial, residential and public amenity spaces (Fig.7). The building’s distinctive shape allows it to partially enclose an ample new green space, which is valuable in a densely populated capital where open spaces are scarce. The design aims to create a welcoming ‘green oasis’ in the heart of Tirana, whereas the structure’s rear elevation peak gives it a shape that mimics adjacent mountain Dajti. The lush landscaping on the residential top floors adds to the idea of the green oasis, while the inward-facing balconies provide a sense of safety from the bustling city.



**Figure 7.** Ekspozita Building, Source: Mario Cucinella Architects



**Figure 8.** Tirana Vertical Forest, Source: Stefano Boeri Architetti  
**Figure 9.** MET Building Tirana, Source: Mario Cucinella Architects

### Urban visions for the capital of Albania

The urban scenario in Tirana has been filled with heavy concrete and brick constructions built quickly to accommodate the expanding population for years, but the future appears to be different. In this situation, urban regeneration was considered a critical component of upgrading the life quality of the citizens and increasing the city’s appeal. Albania is now under the watchful eye of international urban development, with several initiatives and projects being implemented as part of the city’s modernisation scheme.

A new masterplan for Albania’s capital has been developed by Stefano Boeri Architetti, nearly a century after Armando Brasini’s Master Plan was set up in 1925. The General Local Plan, or TR030, establishes broad objectives intending to usher in a new era in the city’s growth by presenting a vision for the future from the present to 2030, proposing necessary interventions such as the containment of land use, the search for urban fabric discontinuity, a fragmentation of the building tissue, and possibly the use of a certain verticality to further free the land. It is divided into three primary sections, each of which corresponds to one of the three drafting phases of the Regulatory Plan: the “metropolitan fresco” based on ten major themes (biodiversity, polycentrism, widespread knowledge, mobility, water, geopolitics, tourism, accessibility, agriculture, energy) (Stefano Boeri Architetti, 2017); an atlas made up of thirteen strategic projects located in the territory; as well as a rule card based on five existing metabolic systems (nature, the infrastructure, city, agriculture, water). Fueled



by a desire for green spaces and in the sake of functional plurality, Tirana 2030 cuts the projection for urban area demographic development by two-thirds in favour of a green metropolis accessible to everybody (Fig. 10). Significant interventions, like the 51N4E proposal for Skanderbeg Square, the reconstruction of the new Bazaar of Tirana completed by Atelier4 or Grimshaw Architects' extension of the boulevard, have already influenced the



Figure 10. Tirana 2030 Masterplan, Source: Stefano Boeri Architetti

city's layout. In addition, new green areas have been created, as well as partial pedestrianisation projects and other new initiatives. The renovation of Skanderbeg Square, carried out in 2018, is among the most worthwhile projects of the capital. The proposed modern square intends to mediate between the past and the future. It serves as a connection between different époque buildings of the square (Nepravishta, 2020). This intervention produced a vast public space that was exclusively accessible by pedestrians, thereby eliminating traffic in the city's centre and creating an underground parking lot. It gave the square a European look. Another significant project is the reconstruction of the new Bazaar in 2016, which has undergone positive transformations, turning it from a neglected historical area for years to a symbol of urban life and a destination of commercial and cultural value. In reality, the new Bazaar was an investment for the city because it is one of the few authentically local sites that truly expresses the city's spirit, respecting history and restoring the city's beauty and authenticity. Another international competition selected Grimshaw Architects to implement

the plan for the extension of Albania's central Boulevard. The design aims to give the existing street network a new hierarchy, transforming the current layout of the informal settlements into a structured element of the city. The idea builds on the city's historic north-south axis by extending the existing boulevard for another three kilometres and connecting the two large lakes. The project envisions a robust sequence of vast public spaces along the boulevard, transforming the city's perspective by making it more open and accessible. All the projects mentioned above embody the aspirations of Tirana citizens for a higher quality of life and sustainable long-term development.

## Modernisation reflections

Equal to many other cities around the world, Tirana is facing modernisation at a fast pace, passing through a period of severe transformation. The transition from a picturesque city characterised by beautiful mosques and lush gardens to today's overcrowded metropolis serves as evidence for this dramatic makeover.

At the intersection of the challenges that the capital is now facing, we see Tirana's ongoing struggle to imitate global cities in an attempt to give birth to a new metropolis worthy of international attention. In reality, the new Tirana simply grows on the previous city, adding multiple layers over time. Within the city's urban fabric history coexists with modernity, as does cultural heritage with contemporary urban development tendencies, forming a constructive dialogue between old and new, past and present. As a result, it is fairly difficult to transform, and much more difficult to distinguish and assign an identity to a place like Tirana, which in fact, has a mixture of identities in its entirety. The diversity of the different influences and architectural phases may be a source of inconsistencies in constructing a unified vision of the city. Undertaking different linguistic contexts, Tirana, in many cases, has followed the path of denying the past, like it is a useless memory and a paradigm to overcome. From the destruction of many pieces of the urban fabric and the alteration or cancellation of works by Italian architects, such as various fine villas from the 1930s, a portion of the Florestano di Fausto square, Gherardo Bosio's Qemal Stafa Stadium, and more, until the fateful ruin of the National Theater, we see more and more an attempt to erase the earliest evidence of Tirana's urban history. In truth, a city's past cannot be ignored or erased since it bears on the place's identity or at least it can be the subject of new uses and interpretations that will maintain the core value of the place or historical peri-

ods, such as in the projects or urban reconstruction mentioned of the Skanderbeg square or the new Bazaar.

The number and complexity of open questions and unresolved issues for the capital are apparent, such as the mobility and traffic problems, the enormous cost of land and land rent, poor service quality, architectural quality of projects, or the uncontrolled urban growth, which was one of the most pressing issues. In reality, Tirana is one of Europe's densest cities, with very condensed open areas. Thus, the Municipality's goal of fostering a new image of Tirana through aggressive multi-storey buildings with modern shapes and novel materials is projected to significantly impact the new city's image. The towers offer a new architectural typology of building to the city among the low-rise building types that characterise Tirana, and most of the critics argue that they would look alien. From another perspective, the power of innovative design of the towers enhances Tirana's new character, making it recognised as an attractive European city with its distinct personality, entering the circuit of global cities.

## Conclusions

The article emphasises that the change of the systems that affected Albania over the years has been reflected in the country's rapid development of architecture and urbanisation. The transition period has influenced and continues to affect quality, shape, size, quantity of construction as well as functionality and aesthetics. As a result of coming into contact with Western cultural trends and other imitations of modernism and internationalisation that came from abroad, modern architecture began to consolidate innovative ideas of the future.

From this article, we develop a more comprehensive idea of Tirana, the capital that never fails to astonish with its ability to adapt and change between order and chaos. Although this investment boom has been accompanied by advances in terms of construction, architectural style, building material techniques, and so on, it emphasises that Albanian architecture, particularly that seen in Tirana, is still far from establishing a distinct identity or style but is rather perceived as a mixture of different cultures merged in the contemporary image of today's city. The future of Tirana is a challenge that will be determined by the contributions of its citizens, the involvement of communities, private enterprise, and public administration management. The political system has always had a significant influence on shaping the cities, and Tirana is a city where politics has demonstrated and continues to demonstrate its strength

by erecting buildings in various styles matching various historical periods. The unique character of Tirana's urban place evolution piqued international interest, while the city stands a good chance of becoming a competitive European metropolis.

## References

- Aliaj, B. (2003). A Short History of Housing and Urban Development Models during 1945-1990: Tirana
- Aliaj, B., Lulo, K., Myftiu, G. (2003). Tirana the Challenge of Urban Development, Tirana: Co-PLAN.
- Bulleri, A., (2012). Tirana Contemporaneità sospesa / Suspended Contemporaneity, Quodlibet, 2012.
- Dhamo, S., Thomai, Gj., Aliaj, B., (2016). Tirana, Qyteti i Munguar, Tirana: Polis Press.
- Felstehausen, H. (1999). Urban growth and land use changes in Tirana, Albania: with cases describing urban land claims. Land Tenure Center, University of Wisconsin-Madison.
- Nepravishta, F. (2016). Contemporary Architecture in Tirana during the Transition Period. South East European Journal of Architecture and Design (SEEJAD).
- Nepravishta, Florian (2020). The fragility of cultural heritage in the era of globalization. Skanderbeg Square modernization. In "Territori fragili. Saggi ed approfondimenti dopo IFAU 2018" a cura di Lorenzo Pignatti. Publisher: Gangemi Editore.
- Qyqja, H. (2009). Tirana, la Nuova Capitale da Brasini a Morpurgo. Forum A+P. Vol. 1, pp. 92-97.
- Stefano Boeri Architetti, (2017). Tirana 2030. Retrieved from: <https://www.stefanoboeriarchitetti.net/en/project/tirana-030-2/>

The background features a complex, abstract geometric pattern. It consists of numerous overlapping hexagons of varying sizes and orientations. Some hexagons are solid light gray, while others are defined by dashed white lines. The overall effect is a dense, interconnected network of shapes against a dark gray background.

# Chapter 2

## Modernism and cultural heritage



*Caroline Jaeger-Klein*

## Introduction

After the first siege of Vienna by the Ottoman forces in 1529, the Habsburg emperor Ferdinand I established his residence in Vienna. From then until 1918, Vienna flourished as the Austrian capital—and after 1866, the Austro-Hungarian-empire. This guaranteed its constant growth into one of the most important cities of Europe. First, the urban baroque palaces at Herrengasse were built using the money of the defeated protestant Bohemian nobility after 1620. After another successful rout, this time of the Ottomans in 1683, Vienna reached its peak as the biggest German-speaking city, counting 150,000 inhabitants. In 1815, Vienna hosted European ambassadors to decide about restructuring Europe after the Napoleonic wars. Hence, until 1848, the Austrian regime remained quite repressive towards its own citizens. This led to a bourgeois revolution in 1848, in which the bourgeois, the farmers and the students finally gained suffrage. These guaranteed rights for everybody led to an enormous increase in Vienna's urban population during the so-called "Gründerzeit". This great time of the entrepreneurs and the banking business ended with World War I. In 1840, Vienna had approximately 400,000 inhabitants. By 1910, the population had grown to 2 million inhabitants. With World War I, Vienna lost its hinterland, the empire, and some 40 million people. In 1919, the peace treaty of St. Germain-en-Laye shrank Austria to a republic which was a fraction of the former empire, with about 8 million inhabitants – more or less still its current population. During the course of the 20th century, Vienna shrunk to 1,5 million inhabitants. Recently, population numbers increased to approximately 1,8 million people and there is a constant growth, although this is still moderate compared with other metropolitan cities.

When it comes to the protection of its glorious urban and architectural heritage, the unusual shrinking process during the 20th century turned out to be a great blessing. Thus, the World-Heritage inscription file of 2001 proudly stated that Vienna had been able to keep its characteristic urban fabric, both in terms of footprint and its historic skyline, over the course of the centuries. All the attributes that

support its Outstanding Universal Value illustrate the three major phases of Vienna's development – Medieval, Baroque and Gründerzeit. They symbolise Austrian and central European history: as shown by the following statement: "The property has to a remarkable degree retained the architectural elements that demonstrate its continuous interchange of values through authentic examples from the above mentioned three key periods of European cultural and political development."<sup>1</sup>

Currently, Vienna is again growing. Recent developments and investments have put its historic city centre UNESCO World Heritage site under heavy pressure. This article will attempt to describe in detail the nature of this pressure through the example of one single, heavily criticised project, the Heumarkt project – which in 2017 resulted in Vienna being put on the Red List of UNESCO's endangered World Heritage Sites. The article will explain why the sophisticated protection mechanisms which the Austrian monument protection system has in place, which were considered to be quite well developed, failed in this particular case. For the time being, the issue serves as an international test case for avoiding similar cases in the future. Luckily, in this particular case, the court's ruling means that the Austrian government and the Viennese authorities two years in which to find a sustainable solution to the complex case.

## World heritage inscription of the historic city centre of Vienna 2001 and initial effects

At the 25th session of the World Heritage Committee in Helsinki in 2001, the "Historic Centre of Vienna" was inscribed on the World Heritage List under the following criteria:

criterion (ii) "to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design," criterion (iv) "to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(es) in

human history,” and criterion (vi) “to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance.” The WHC-session was satisfied that “the urban and architectural qualities of the Historic Centre of Vienna bear outstanding witness to a continuing interchange of values throughout the second millennium” (criterion ii), that “three key periods of European cultural and political development – the Middle Ages, the Baroque period, and the Gründerzeit – are exceptionally well illustrated by the urban and architectural heritage of the Historic Centre of Vienna” (criterion iv), and that “since the 16<sup>th</sup> century Vienna has been universally acknowledged to be the musical capital of Europe” (criterion vi).

The evaluation of the advisory bodies of UNESCO, in this case, ICOMOS (International Council on Monuments and Sites), stated for the integrity of the site that “all the attributes that sustain its Outstanding Universal Value, including its architectural and urban qualities and layout” are located within the marked boundaries of the 37<sup>1</sup> ha Historic City Centre of Vienna, and that a buffer zone of 462 ha protects the immediate setting of this inscribed core zone.

They explicitly stated that “the Historic Centre of Vienna has also maintained its characteristic skyline,” which is of major relevance for the Heumarkt project, the focus of this article. In terms of authenticity, they declared that “the property is substantially authentic in terms of its location, its forms and designs, and its substance and materials. This authenticity resides largely in the overlapping and multi-layered interweaving of urban buildings, structures, and spaces ... The historic urban fabric of the Historic Centre of Vienna is thus informed by this ongoing interchange, which has caused the urban landscape to evolve and grow over time, reflected in the new, emerging skyline outside the buffer zone.

Vienna’s continuing development requires a very sensitive approach that takes into account the attributes that sustain the Outstanding Universal Value of the property, including its visual qualities, particularly regarding new high-rise constructions.” This Retrospective Statement of Outstanding Universal Value, which the 40th session of the World Heritage Committee adopted in Istanbul in 2016, very clearly expresses its fears about the new, emerging skyline outside the buffer zone, mentioning that the skyline is threatening the historic centre’s visual qualities and asking definitely for a very sensitive approach, particularly with regard to the construction of high-rises.”<sup>2</sup>

## The Wien-Mitte project and its consequences for the inscription

The concern expressed in 2016 about the high-rise development in and around the world heritage site was already the second warning to the Austrian and Viennese authorities by UNESCO and its advisory bodies. At the time of the inscription on the World Heritage List, the first expression of concern was made and focused on the size and height of the Wien-Mitte urban development project.

At the time, the World Heritage Committee decided to award the inscription with the “recommendation that the project be evaluated in terms of its compatibility with the visual integrity of the historic city”. While recognising the “need for development and revitalisation in the area above the Wien-Mitte train station”, deep concern was expressed about the project, located within the buffer zone of the listed site. The World Heritage Committee recommended that “special attention be paid to observing all changes in the morphology of the existing historical buildings” and emphatically recommended the “reduction of all larger revitalisation projects within the buffer zone in future.”<sup>3</sup>

Wien-Mitte is located roughly 300 metres from the Ringstrasse and 800m from St. Stephen’s. The development followed the strategic plan’s goal to pursue city development along the main public transportation axes and focus on public transportation as the basis for urban construction and development. Planning had begun 15 years earlier and “was characterised by an intensive information and discussion process from the very beginning”, involving residents as well as experts in various areas, including an experts’ evaluation in 1991 and preliminary studies. At first, a design from the internationally-renowned architects Ortner & Ortner (Berlin, Zurich, Vienna) was selected and consisted of a mix of uses, including commercial spaces, apartments and offices as well as cultural and social facilities in addition to the improvement of the existing communication between the train station and metro stations. The zoning process for the definition of the construction plan, which included 100,000 m<sup>2</sup> of usable floor space, began in 1992, based on the winning proposal. The project realisation was delayed by several complex circumstances, including protests against high-rise and urban density aspects, which led the average height of the proposed four towers (originally six) to be reduced from 120 metres to 90 metres”.<sup>4</sup> During the world heritage inscription process, Austria complied with the demands of the World Heritage Committee.



**Figure 1.** The Wien-Mitte project. First version, before 2001 (left) and improved version: the 2003 winning project, Henke & Schreieck (right) – Sources: *Perspektiven* (2002) p.48 (left); *Wehdorn* (2004) p.105 (right)

In parallel, “the City of Vienna made a considerable effort to improve the site’s management together with the magistrate departments, the Landmark Preservation Office and university experts. This measure addressed individual critical statements made by ICOMOS. It was ultimately decided that the project would not be built in its present form despite an existing legal permit for the project. The Mayor of the City of Vienna personally suggested that the new project be adjusted to suit Vienna’s status as a World Heritage Site and demanded that a solution be found quickly to solve the problems in the area. Acclaimed international and Austrian experts were invited to participate in the competition.”<sup>5</sup>

### **The phase of good behaviour: from 2001 to 2006**

Based on the concerns expressed by the World Heritage Committee regarding the Wien-Mitte project, the City of Vienna carried out a study on its visual impact based on a computerised 3D city model. The visualisations and the discussions around them likely triggered a process of sensitisation which led to new solutions for the projects as well as new approaches in general. Most importantly, the following zones were created where high-rise constructions were now forbidden: a) within all the established protected zones according to the Vienna Building Code, b) in all the established and proposed protected landscape areas in compliance with the Vienna Nature protection Law, c) in all visual axes and d) in all World Heritage sites in Vienna.<sup>6</sup>

In May 2005, an international conference entitled “World Heritage and Contemporary Architecture, Managing the Historic Urban Landscape” was held in Vienna under the auspices of the UNESCO World Heritage Committee. The conference generated the “Viennese Memorandum” from 2005, still critically discussed among renowned experts. Among the merits of the memorandum is the definition of the term “Historic Urban Landscape”, including the description of its essence and characteristic attributes<sup>7</sup>. International criticism targets its inconsistent interpretation of the terms “authenticity” and “integrity” and changes to the Overall Universal Value. In 2008, the UNESCO World Heritage Committee decided to prepare new recommendations on “Historic Urban Landscapes” by 2011 to avoid contradictory evaluations in future. In 2011, those recommendations were completed and adopted by the UNESCO World Heritage Committee as planned.

### **The proposed project on the Heumarkt Grounds and its effects on the world heritage site**

In 2012, the WERTINVEST group bought a prominent property within the core zone of the world heritage site, the “Heumarkt area” within the Viennese Ringstrasse, an integral part of the core zone of the world heritage site “Historic City Centre of Vienna, Austria [1033]” and not far from the above-discussed Wien-Mitte project. “This boulevard replaced the city walls in the former Glacis zone and today is key to defining the visual identity of Vienna. The first development phase of the Glacis began around 1870

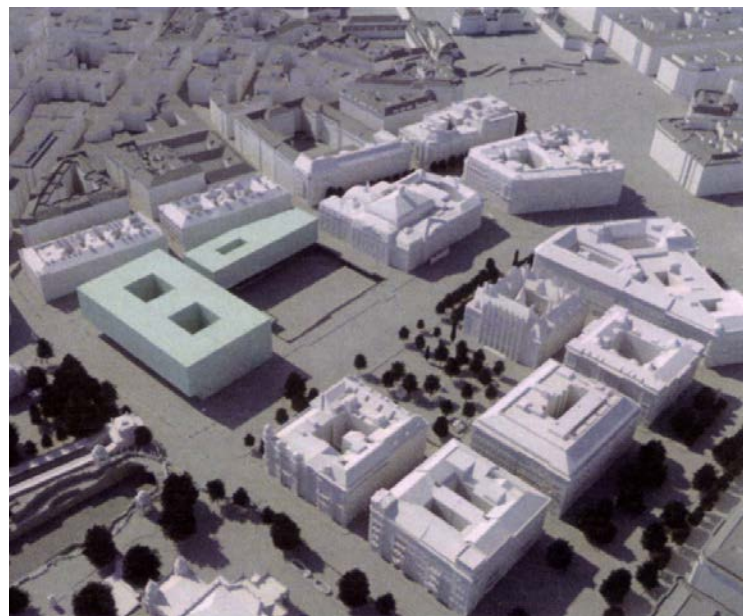
and lasted until 1914. ... The InterContinental Hotel, which was built several decades later [than the neighbouring cultural complex of Konzerthaus and Akademietheater, constructed in 1910-13 based on designs by Ludwig Baumann, Ferdinand Fellner and Hermann Helmer and financed through the City Expansion Fund] between 1959 and 1964, is situated in the north-eastern part of the block and was designed by Holabid & Root [from Chicago], Carl Appel and Walter Jaksch [from Vienna]. The dominant hotel room wing is a high-rise slab with a north-western/southern orientation and a height of approximately 44 m [including the service floor]. Together with another wing containing rooms and access/circulation spaces, the high-rise assumes a T-shaped layout. The base, along with Johannesgasse, houses premises for a purpose related to hotel utilisation. The 6,000-square-metre ice rink operated by Wiener Eislaufverein is situated between the hotel and the Konzerthaus. ...

The current structural condition of the hotel and the ice rink, their urbanistic integration into the cityscape, and the urban utilisation quality are unsatisfactory. The area's potential to add to the urban space is not exhaustively exploited and does not correspond to this prominent inner-city location. It is the aim of the project to develop the properties of the InterContinental Hotel and the adjacent surface occupied by the Wiener Eislaufverein .... jointly and synergetically."<sup>8</sup>

This is the published introduction to an expert-led preparation phase for an international planning tender. A sounding board had to "clarify the roles of the City of Vienna (frame conditions), of the World Heritage Site and the Viennese institutions involved (Wiener Eislaufverein, Konzerthaus) as well as the concerns of the private investor."<sup>9</sup>

The different "planning groups" involved in this process discussed various possible scenarios. One was to preserve the hotel, and another was to demolish it and replace it with a so-called "Viennese duplex block", a rather dense double-block around two courtyards with the usual height of the buildings within the Ringstrasse zone (about 25 metres).

Both of those scenarios would have been fully acceptable had it not been for the additional recommendation to add, in either case, "a slender tower of moderate height in an urbanistically suitable location"<sup>10</sup>. It was not only the World heritage protection experts who had requested a solution without the high-rise structures – the city's own legislation, too, did not permit a tower, since the zone was part of a zone where high-rise constructions were forbidden, in accordance with the reaction to the Wien-Mitte issue described above, and legally binding until 2014.



**Figure 2.** The Heumarkt area with the existing InterContinental hotel and the Wiener Eislaufverein the ice-rink of in a historical aerial photograph (right) and cultural-heritage compatible project base in the form of a "Viennese duplex"-block (left); Source: Bernard/Tabor, *Tor Zur Welt*, 2014, p.33 (right) and MA21 (2013) p.96 (left)



## World heritage status endangered

Finally, the jury of the international competition picked a design with a tower that was neither modest in height nor slender. Undeterred by the strong and ongoing protests of civil society and the resounding “no” from the majority of the Green Party (the junior partner of the ruling socialists) on June 1st, 2017, Vienna City Council changed the zoning law, thus allowing the proposal to comply with building regulations. At the end of June 2017, the 41st session of the World Heritage Committee meeting in Krakow decided to inscribe the Historic City Centre of Vienna on the List of World Heritage in Danger (the “Red List”) mainly because this particular project proposal had not complied with the Committee’s previous requests, resulting from the numerous State of Conservation Reports and emphasised especially by the joint UNESCO-ICOMOS Reactive Monitoring Mission in 2012 and an ICOMOS Reactive Monitoring Mission in 2015.



**Figure 3.** Project Heumarkt Neu and its location within the UNESCO World Heritage Site “Historic Centre of Vienna” – Sources: v-cube / Philipp Tebart / Michael Kloos planning and heritage consultancy

The mission reports clearly requested that a further-revised project design be provided to the World Heritage Centre – as well as the preparation of revised planning rules and guidelines from the State Party, which should “a) establish parameters for the urban density as well as specific standards for building height and volume for the property and buffer zone; b) safeguard the urban morphology as an essential attribute of the property; c) encourage sustainable development in the property and its buffer zone in harmony with its OUV; d) require that all high-rise projects are evaluated through a comprehensive Heritage Impact Assessment (HIA), prepared with the ICOMOS Guidance on

HIAs for Cultural Heritage properties, including reference to 3D visual simulations so that the effects of the proposed development on the OUV of the property can be properly considered.”<sup>11</sup>

In March 2018, the Federal Republic of Austria organised an international experts’ workshop to assess the UNESCO/ICOMOS positions. In short, all experts were of the opinion that the Heumarkt Neu, a slightly modified version of the winning project of the above-mentioned competition, was in need of intervention and that such an intervention could in principle support the OUV of the property, but that the current proposal was so unsuitable that it would seriously threaten the Viennese Heritage property.”<sup>12</sup> Additionally, in the Fall of 2018, the proposed HIA was conducted, and again, the results were fully aligned with the World Heritage Committee’s position. During 2018, ICOMOS Austria focused on rebuilding an atmosphere of trust with the City of Vienna, which had once before ceased consulting the Advisory Body of UNESCO completely.



ICOMOS Austria finally convinced the city representatives of the urgent necessity to commission a high-quality management plan by Viennese university experts.

### Further arguments of civil society representatives against the project

Besides ICOMOS, several civil society representatives and NGOs protested against the proposed project from various motivations. Docomomo Austria and the organisation “building-in-need” together with ICOMOS Austria questioned why the existing hotel InterContinental need-

ed to be demolished and why it was not a listed monument in the first place. The building is a witness of the past, of the cold-war period and the political fight on spheres of influence between East and West. It was the second InterContinental hotel in Europe (belonging to the PanAm group) and brought a touch of Hollywood glamour to this then 'remote' part of Europe. Additionally, the building substance is still largely in its original condition, and it is of good quality, suitable for adapting for further use. It is a fairly authentic example of the typical international hotel type of the time. Its artificial stone façade is the last remaining example of a system developed by the architect Carl Appel (1911-1997), who had a certain reputation as a high-quality planner of office and industrial buildings. Moreover, it is not clear (has not yet been verified) how much of its authentic interior design is behind the current claddings. Another interesting aspect was brought into the public discussion by representatives of the Austrian society of architecture (Österreichische Gesellschaft für Architektur - ÖGFA) and representatives of the Austrian society for ensemble protection (Österreichische Gesellschaft für Denkmal- und Ortsbildpflege), again, together with ICOMOS Austria. They argued that if the new high-rise at Heumarkt were allowed to be built, this would break a traditional social contract. For example, although the Ringstrasse boulevard was built in a very capitalistic, economically liberal period yet, even the new rich strata of society, settling and representing themselves along the boulevard in opulent palaces, would not have dared to break the existing traditional codex which stated that only the official buildings of the empire and the city or sacral buildings of the official religion (Catholicism) were allowed to make use of the highest representative "tower" and "cupola" forms. A high-rise is a tower, and it would irrevocably damage the traditional skyline of Vienna's historic city centre, the reason it was inscribed into the World Heritage List. The Heumarkt-project is a commercial investment and does therefore not have the social status that would allow its proposed height – which, in any case, would double the height of the existing hotel InterContinental and be triple the usual building height of the other private buildings along Ringstrasse. To justify the high-rise as well as the breaking of this social codex, the City of Vienna authorities argue that there is a kind of social benefit for the public. The Academic Gymnasium next to it would gain additional gym halls, the adjacent Konzerthaus would gain a new entrance, the Wiener Eislaufverein would benefit from new facilities, and finally, the 3rd district would have direct access to the 1st dis-

trict. However, in order to gain this additional space for the project's common-use assets, in its current status, the major road in front of it, the Lothringer Strasse or Federal Road No 1, would need to be shifted on top of the brick tunnel from the 19th century around the Wien-Fluss (Wien River). Quite aside from the unknown construction problems, this would involve, this would "upgrade" the project from a "normal" building site to a significant infrastructural project. Consequently, according to both Austrian and European Law, it would require a holistic environmental assessment. In the meantime, the Austrian courts have reinforced this position quite clearly.

## Conclusions

The whole story about high-rises in the World Heritage Vienna Historic City Centre holds several lessons for us. For example, Austria considers itself one of the oldest and most advanced countries in terms of monument protection. As a result, it was lazy in ensuring that national legislation safely embedded the World Heritage Sites.

So it is clear that it urgently has to include categories of built cultural heritage such as cultural or historic urban landscapes in its legislation and establish firm guidelines for its administration. Additionally, it needs to be clearly stated that monument protection has turned into integrated conservation, which means its legal basis has shifted from monument protection acts to zoning laws and building codes. Thus, the really threatening cases are failures in spatial planning.

Therefore now, more than ever, political and administrative authorities need the support of independent advisory bodies they can trust – such as ICOMOS (International Council on Monuments and Sites), ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property) or IUCN (International Union for Conservation of Nature). They urgently need advice on how to embed international recommendations and guidelines into national law and building codes. In addition, the actual implementation of these laws and codes also requires high-quality management plans, which clearly define the complex roles of all the stakeholders.

Only this will ensure and safeguard a balanced, fair and sustainable development for society and the environment. Finally, the interaction between civil society representatives, experts, and authorities is the heart of successful cultural heritage protection on an equal footing and a mutually respectful basis.

## Notes

- <sup>1</sup>Unesco/Icomos Mission Report 2019, P.4  
<sup>2</sup> Unesco/Icomos Mission Report (2019) Pp.2-4  
<sup>3</sup> Wehdorn (2004) p.25  
<sup>4</sup> Wehdorn (2004) P.101F.  
<sup>5</sup> Wehdorn (2004) P.25  
<sup>6</sup> Wehdorn (2004) P.106  
<sup>7</sup> Caviezel (2015) P.44  
<sup>8</sup> Ma21(2013) P.13  
<sup>9</sup> Ma21 (2013) P.15  
<sup>10</sup> Ma21 (2013) P.17  
<sup>11</sup> Unesco/Icomos Mission Report 2019, P.5F.  
<sup>12</sup> Unesco/Icomos Mission Report 2019, P.32

## References

- Bernard, Erich, and Tabor, Jan (2014). *Tor zur Welt. Inter-Continental Wien*. Wien: Amalthea
- Buchinger, Günther, and Christa Farka (2003). "Wien. Geschichte, Struktur und Stadtbild." In *Dehio-Handbuch der Kunstdenkmäler Österreichs – Topographisches Denkmälerinventar*. Wien I. Bezirk – Innere Stadt, edited by Bundesdenkmalamt, XXI-XLI. Horn-Wien: Berger
- Caviezel, Nott (2015). „Die erodierte Stadt. Das Wiener Memorandum und die Folgen.“ In *Österreichische Zeitschrift für Kunst und Denkmalpflege (ÖKZD) LXIX, Heft 1/2*, edited by Bundesdenkmalamt, 41-50. Wien
- Magistrat der Stadt Wien, Magistratsabteilung 21 (MA21) – *Stadtteilplanung und Flächennutzung (2013)*. Städtebauliche Entwicklung Hotel InterContinental Wien, Wiener Eislaufverein. *Dokumentation und Ergebnis des kooperativen ExpertInnenverfahrens: Wien*
- Perspektiven (2002)*. Wien und das Weltkulturerbe, Dezember 2002, edited by Stadt Wien
- UNESCO/ICOMOS (2019). *Report on the Joint High level UNESCO World Heritage Centre ICOMOS Advisory Mission to the Historic City Centre of Vienna, Austria [1033] from 11 to November 15th 2018*. Paris-Vienna
- Wehdorn, Manfred (2004). *Vienna. The Historical Centre: UNESCO World Heritage Site*, Wien-New York: Springer+

Antonio Capestro

## Introduction

Architecture and the City have always represented a palimpsest to be interpreted and remodelled to be then transmitted to future generations as an active and dynamic testimony and an authentic expression of both a tangible and an intangible context. The ensemble of layers and transformations that have characterised the city-system through time constitute an intangible heritage since they are evidence of a culture of the urban project which poses two important challenges: the role of Urban Design today and the meaning of the city as common heritage within a framework of shared operativeness.

For this reason, Urban Design becomes a heritage to be safeguarded since it induces us always to invert our perspectives and seek concrete and operative actions based on an alternative vision.

This contribution reflects the opportunity to recover this culture of the project, starting from a heritage of knowledge and skills that are Italian in origin, historically integrated and recognisable in the transformations of some Albanian contexts, which are investigated through training and applied research activities carried out in Albania.<sup>1</sup> Beginning from the binomial of Architecture and the City, the adopted methodology wishes to transmit to young Albanian architects a good practice of the urban project for interpreting the instances of modernity through their own relational, spatial and semantic roots. It is expressed in a shared and participated manner, involving both the institutions and the community in a 'permanent laboratory' that produces ideas for concrete actions, that searches for an identity which sometimes may be lost and therefore must be rediscovered or even re-invented from those elements of authenticity that the city still maintains.

### The role of urban design in the safeguarding and valorisation of the urban heritage

In this renewed framework, the role of Urban Design is fundamental because, without impoverishing the essential notions of safeguarding and preservation, it underlines the

importance of the project as a resource within a complex system for assessing new *modus operandi* and proposing renewed backgrounds of meaning capable of affecting the historic urban landscape and of bringing it closer to its inhabitants.

As actors in the urban scene (architects and designers, administrators, stakeholders and citizens), we must re-evaluate the project's role as heritage, understood as a process that has transfigured the assets bequeathed from the past, modifying them through new visions (Capestro, 2019).

In fact, in order to prevent the Heritage from becoming a brand or being classified as a historical and cultural icon, with its values relegated as museum pieces, it is necessary to reflect once again on the meaning of identity, authenticity, integrity, and in general on the possibility of bringing the concepts of 'urbs' and 'civitas' back together again as the expression of a dynamic process that is both identifiable and shared (Palumbo, 2019). Today, instead, these two concepts are undergoing a process of disconnection. Modernisation and globalisation have made us lose the sense of the city, which, in our globalised era, is characterised by a series of suspended fragments of disconnected devices that have lost their logical and systemic structure. To recover the practice of the project means to reinterpret the identity of that suspended fragment and to re-position it, retaking its 'deep structure' within a 'logical structure' so as to reconcile it with its citizens, thus attempting to rebuild the relationship between 'urbs' and 'civitas'.

Reflecting once again with awareness on this binomial, relying on research, education and training, as well as on shared and concrete actions, could allow us to reassess the Heritage that has been bequeathed to us as a vital and sustainable resource, not only in cultural and social terms but also in economic and productive ones, within an active laboratory.

### Albania as urban laboratory

Albania presents the following *status quo*: it is a crossroads of cultures and conquests, of interventions more

often imposed than participated and has, much against its will, a rich cultural heritage that has been assimilated throughout time, as well as a significant capacity to absorb it. A practice derived not only from its historical context but also from its geographical and morphological position: the Albanian Alps behind it and an extraordinary presence opening onto the Mediterranean.

Albania is an Urban Laboratory because, although being a relatively small country, it is varied. The resulting differences could constitute its wealth if this multiplicity of layers, some of which are of Italian origin, were recovered through interpretative keys capable of attributing added value to the said differences to re-establish a 'deep structure' within a logical and systemic structure. In particular, Albania presents a remarkable potential linked basically to three factors:

- The first is of a cultural type – This country, which for a few years now has been free from its previous condition of closure to Western Europe, due first to the Communist regime, and later to the economic crisis of the Nineties, would seem to be undergoing a period of 'awakening' and 'euphoria' that allows it to react to change with force and determination;
- The second is linked to its heritage – The natural and urbanised territories of Albania present a very rich architectural, urban and landscape heritage that offers excellent potential in terms of tourism and of future investments;
- The third regards its geographic location - Albania has always had a strategic position in the Mediterranean as a place of interaction. Historically, this nation was a bridge between East and West, not only for Italy. Thanks to this position, as a land of conquest and relationships, Albania could play an essential role in the Mediterranean basin since it already is a part of these relationships, which only need to be rediscovered. Furthermore, in this context, Italian urban design could represent a starting point.

Albania has been re-emerging within the European scene for some time, although it is not yet actually a part of it. Thanks to its collaborative presence, its networking capacity, and its wish to reaffirm its identity in a transnational context, it represents a significant presence in the Mediterranean with substantial potential for the future.

This attention to relationships, to the 'concept of vicinity', also emerges in the Albanian participation in the 2021 Architecture Biennale.

"Know thy neighbour" is the advice given by the contri-

bution, an invitation to surpass barriers and "discover the gift of connection", to satisfy and increase the sense of belonging as a common value linked to the place but also to the community, as exchange and sharing of diversity, that hidden desire that globalisation has forced us to repress and which the current situation reintroduces as an urgent theme, extending it to the environment as a whole, understood as a complex system to be reinterpreted as an ensemble of ecosystems .

On the other hand, the importance of a landscape that permits a process of osmosis between the various scales of relationships had already been pointed out by Leon Battista Alberti: "The city is like a large house, and the house, in turn, is like a small city, one would not be wrong to affirm that the limbs of a house are small dwellings themselves [...]".

Every individual building component must be conceived with care: "It is, therefore, necessary to study these elements with the greatest care and diligence, since they are fundamental for the overall work; and make sure that even the smallest parts are perfectly executed [...]" . Leon Battista Alberti referred to architecture and the city as the basic elements supporting social welfare, designed and developed with 'care' to bring back 'urbs' and 'civitas' together again reinterpreted in an amplified scale of relationships. A lesson that is as relevant today as it ever was.

The theme of the vicinity, wishing to be part of a community of living together as in an ordinary house, could be an element of strength that historically is already a part of Albania. It could be valorised in the Mediterranean context today.

Albania could metaphorically be interpreted as a 'House for all' since it has this tradition of hospitality that is very similar to the Greek 'xenia', a right-duty to host which serves to reaffirm the sense of belonging to a place and opening to vast interpretative horizons. An ethical value-enhanced today by nuances, some of which are sustainable, concern mutual aid and the need to stress one's identity in a transnational context.

The three interventions presented here all stem from this set of reflections: the search for harmony between scales of relationships to be reinterpreted within the context of an Urban Design that derives from historical and morphological roots the values of innovation and regeneration as both premise and promise of new contemporary identities. The three project proposals regard interventions at the urban architectural scale in three important Albanian cities: Tirana, Lezhë and Durrës.

## Tirana

Tirana has undergone numerous transformations and urban planning projects at both the urban and sectorial scale, which has not always resulted in a shared expression between the 'urbs' and the 'civitas'. There is, however, a common theme in the Urban Design inherited from Italy, which has attempted a systemic, organic and unitary interpretation of the city that still exists today.

The first substantial change took place during the first decades of the 20th century, with the first urban strategic plan by Armando Brasini (1925), which connected the ancient nucleus and the modern city by way of a monumental north-south axis. In 1939, Gherardo Bosio radically modified the city's design, ascribing to it a 'modern' appearance as a garden-city with low buildings and a greater density in the centre, yet well integrated into its environmental context. After Bosio's plan, which had acted on the level of urban environmental and architectural quality, fifty years of Communist regime (1944-1991) and a long period of transition characterised by an unstable and unregulated political scenario.



**Figure 1.** *Architecture and the City\_ An Urban Centre for Tirana: plan (previous page) and general view. Concept by Saimir Elmadhi (Project developed as part of the activities at the Architectural Design Laboratory III – Academic Year 2018/2019).*

It lasted until the turn of the century, had a strong impact on the form of the city, conditioned as it was by a quantitative rather than qualitative expansion process (Nepravishhta, 2019; Giacomelli and Vokshi, 2012).

From the early 21st century, the Urban Project seems to be aimed toward a new direction that alternates between the re-discovery of the country's roots and the search for a new identity. The various projects demonstrate this at the architectural scale which were undertaken as a result of the competition for the reconstruction of Skanderbeg Square (2008), as well as by the latest proposal by Studio Boeri (2016), which offers a perspective view of the city (Tirana 2030).

In the context of these interpretative horizons, some of which have Italian origins, this contribution developed as part of the teaching and research activities that I carry out at the Catholic University "Nostra Signora del Buon Consiglio" in Tirana belongs.

In particular, in 2019, the theme of the re-defining of Skanderbeg Square through the inclusion of a new structure within a unitary layout. In order to promote a cultural and civic recognition process, it was decided to develop a project of specialised architecture devoted to spaces

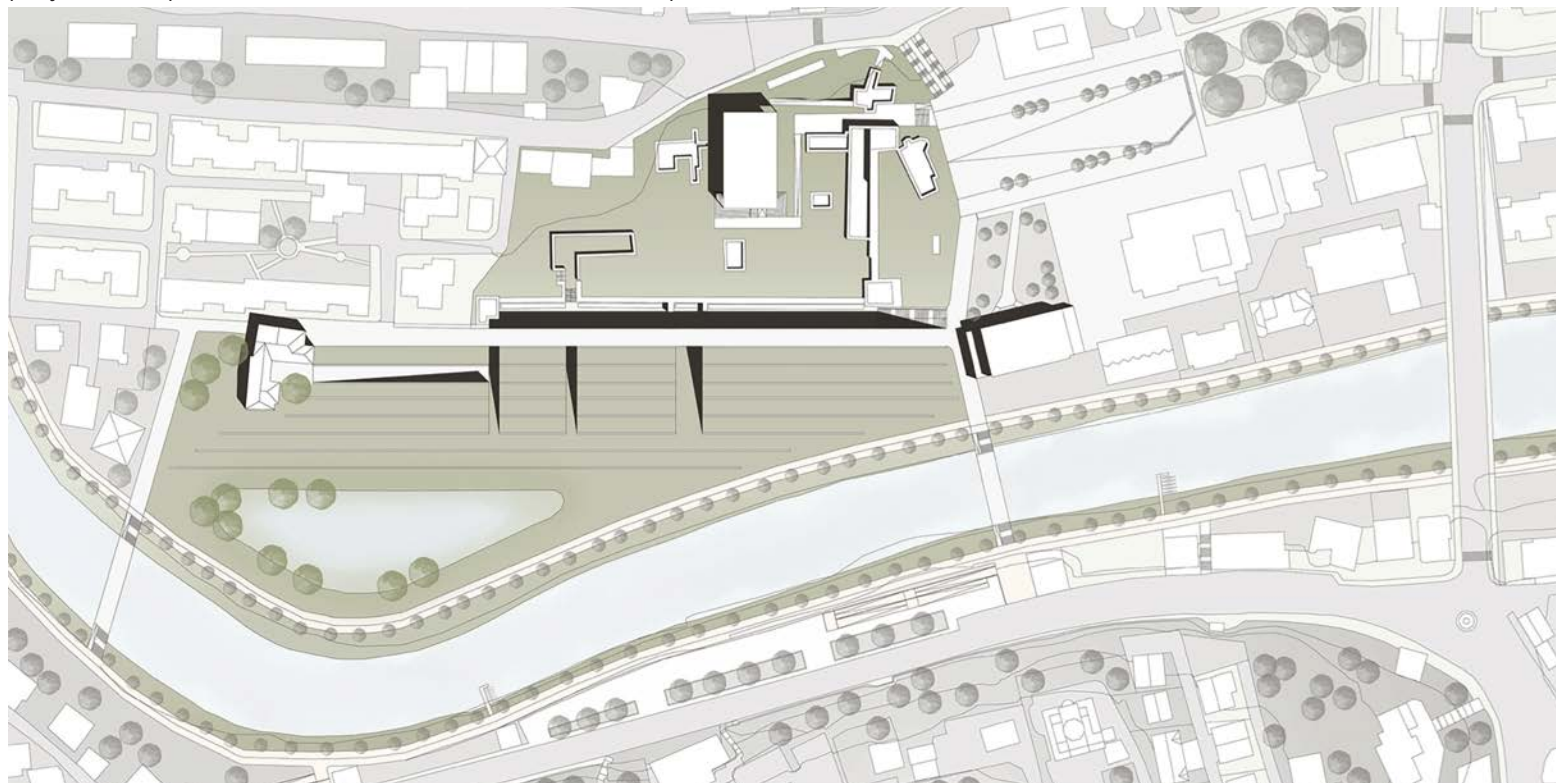
and activities for an Urban Centre as a reference and active participation hub for the urban transformation processes involving Tirana over the past few years.

The themes of architecture explored in the urban component take on territorial directrices as the origin of the architectural form, capturing the square crossing flows and absorbing them, with a new value, in a gateway of access to the square and the urban fabric.

## Lezhë

The city of Lissus, founded in the 4th century B.C. as a colony of Syracuse, had the function of controlling the access to the valley of the river Drin, one of the few ways to enter the Illyrian hinterland.

Having passed under various dominations, including the Venetian, the city is linked to Gjergj Kastrioti Skënderbeu figure, the Albanian national hero. A prominent personality during the 15th century, he was capable of preventing the Ottoman advance toward Europe for decades and reunited the various Albanian principalities, thus helping to consolidate the Albanian identity. He died at Lezhë and was buried in the church of Saint Nicholas.



**Figure 2.** Albanian Projects\_ Lezhë, the Museum of the City: master-plan and general view. Concept by Sabina Djala (Project developed as part of the activities at the Architecture and the City Laboratory – Academic Year. 2019/2020).



**Figure 3.** Albanian Projects\_ Lezhë, the Museum of the City: general view. Concept by Sabina Djala (Project developed as part of the activities at the Architecture and the City Laboratory – Academic Year. 2019/2020).

The Skanderbeg memorial, built by the Communist regime on the ruins of the church, was inaugurated in 1981. It is the city's main monument and stands in the vicinity of a park where remains from Illyrian, Roman, Byzantine and Ottoman constructions coexist. The area is adjacent to the river Drin, historically important in terms of communication and production, and today source of a potential system of urban and landscape reconnection and valorisation. In a context where both an archaeological and a natural park coexist, several inappropriate sections (un-

kempt areas and private agricultural land) separate the intervention area from the city. The project's proposal attempts a reinterpretation of the historical and morphological systems of the area through a "Historical Museum of the City", a vehicle that combines an active knowledge of the site and a new space for social interaction so as to initiate a process of regeneration and relaunch the role of this city, opening it to the territory and the Mediterranean basin, considering its crucial historic position on a hillside only 3 kilometres from the sea.



An underground space, built-in front of the ancient walls of the city of Lissus, makes it possible to carry out this new vocation as both museum and place for social interaction by offering an immersive experience that brings together the archaeological and environmental themes to new uses for the community and the city.

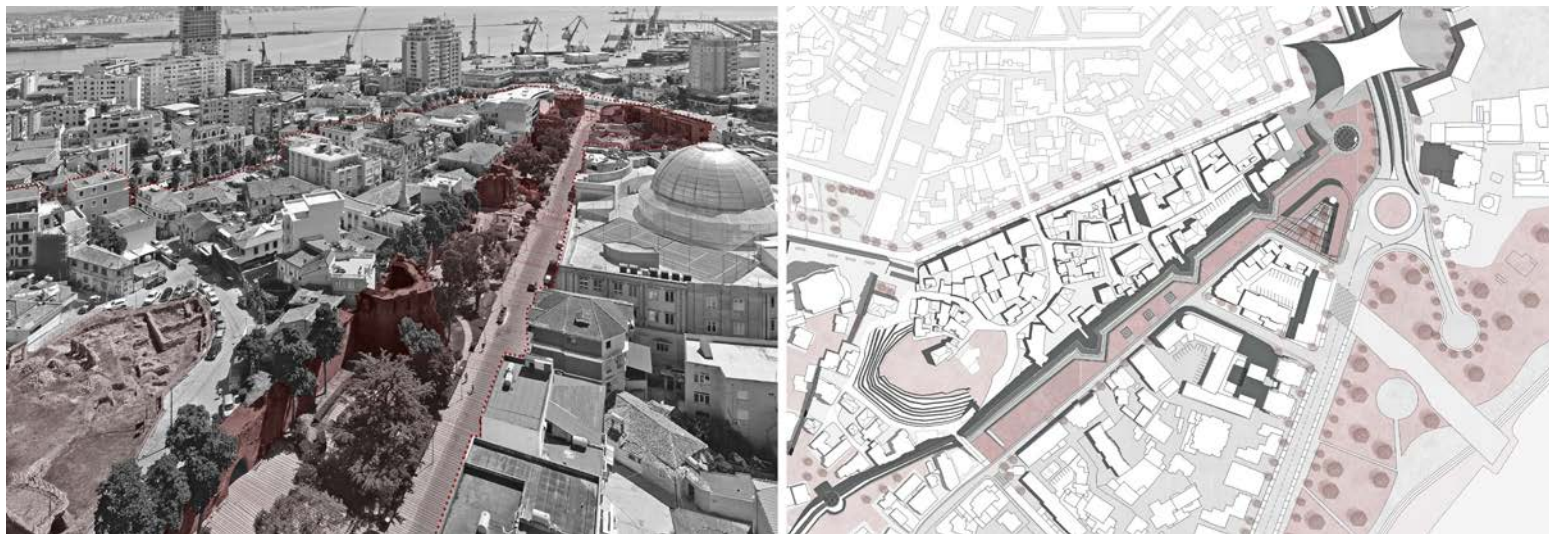
## Durrës

The city of Durrës has a great wealth of historical and archaeological remains, both in the urban area and throughout the territory. Its history goes back more than 2,500 years to the time when it was founded, in the vicinity of a previous Illyrian settlement, by the Corinthians and the Corcyraeans. They chose the location because of the presence of a bay that offered a safe haven. The particular features of the place are well described in the Map of the Archaeological Risk for the City of Durrës:” Among countless vicissitudes derived from the passage of time and the dynamics of power, which involved Greeks, Illyrians, Romans, Byzantines, Normans, Angevins, Venetians, Turks and Albanians, and up to the current process of intense building expansion which resulted from having become in a very short time the most important Albanian port, as well as one of the most important in the Mediterranean, the city has continued to build layer upon layer on the same site, in a continuous dynamic relationship between the work of men who build, transform and destroy, and the action of nature on the environment - the hill, the marsh, the variations of the coastline, as well as earthquakes.

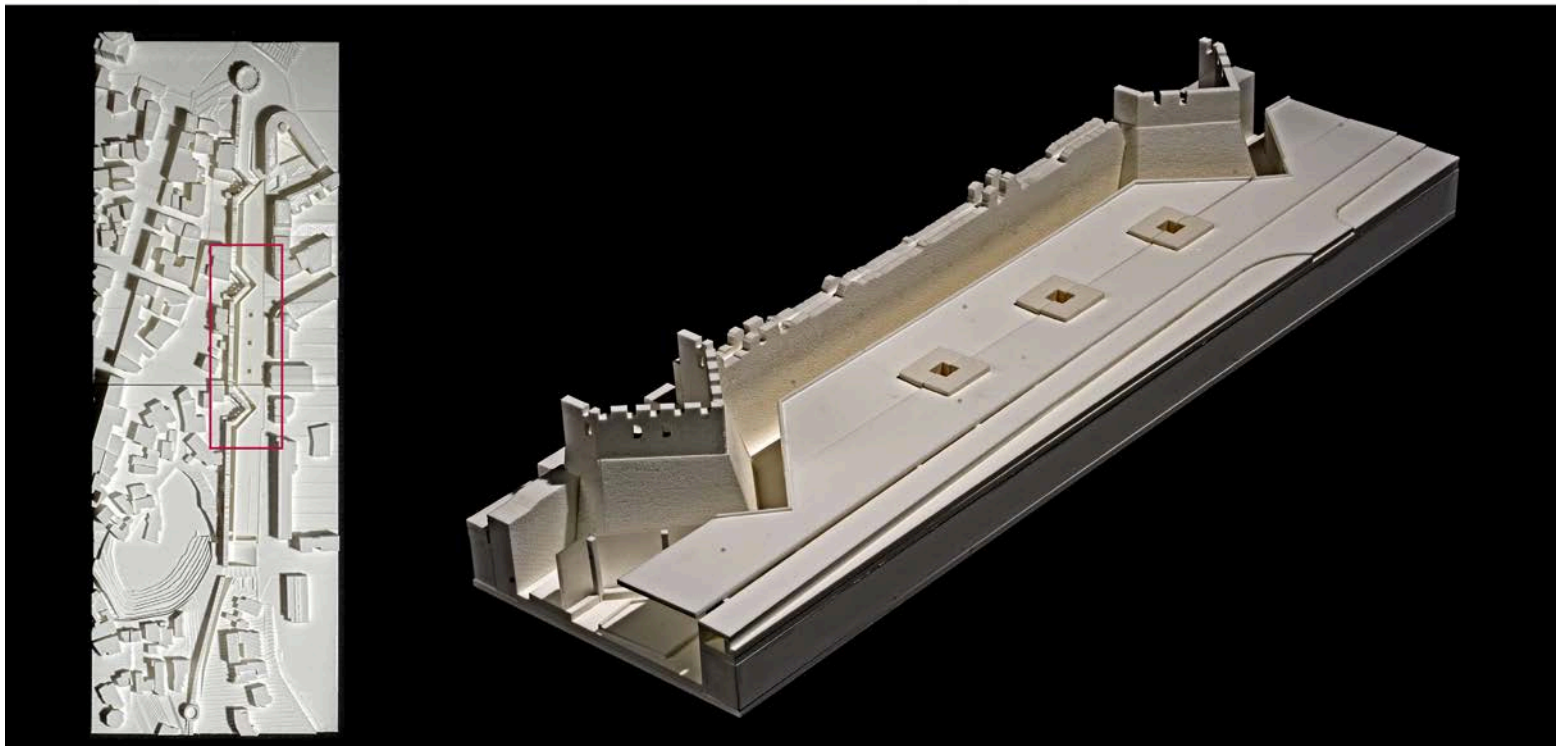
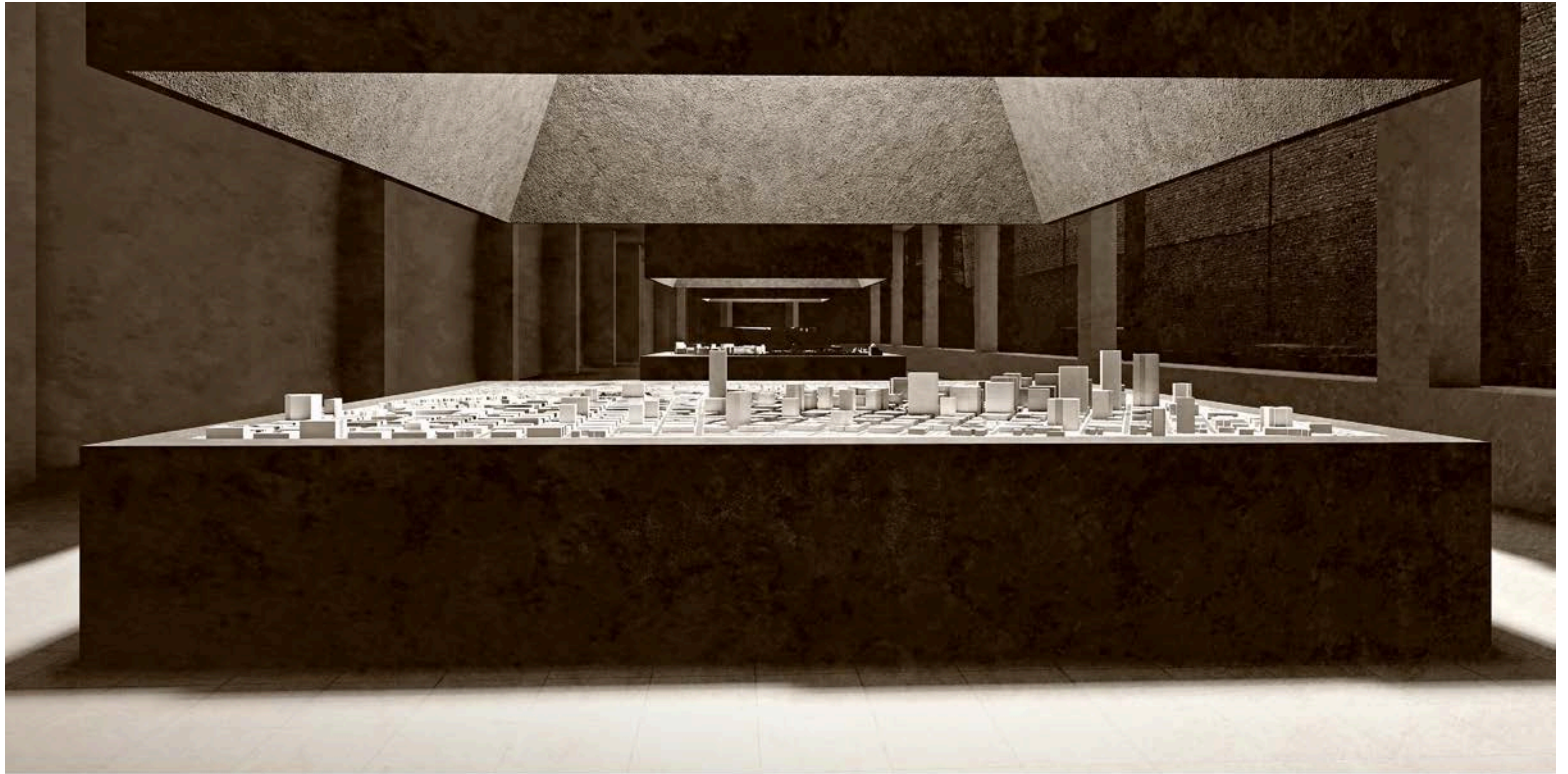
Today, this Adriatic city which was born to be a gateway between East and West, is called once again to play its fundamental role as a hinge in the communication axis that will connect the Balkans to a reunited Europe, and to disseminate the values of its millenary culture, safeguarding the treasures of its exceptional archaeological and historical heritage with pride and responsibility, also through tools involving restrictions to building activities in the areas with the greatest archaeological density [...]. The building and economic development of the past few years have multiplied the cases of discoveries concerning the historical and archaeological stratigraphy” (Santoro, 2005).

The concept of the project originates in this cultural and historical sedimentation. Through a series of interventions, some of which underground, it intends to valorise the relationship with the site through an itinerary of discovery, a maieutic operation that, almost with the sensibility of an archaeologist, brings back to light the historical layers, and especially its ‘genius loci’, activating through a permanent laboratory accessible to the community the knowledge and valorisation, in a contemporary key, of the site.

To sum up, with the aim of reconstructing the relationship between ‘urbs’ and ‘civitas’, the project proposes a “Study Centre for Archaeological Sites in the Mediterranean Basin” in order to recover the concept of heritage as a vital organism and as a resource for urban regeneration.



**Figure 4.** The ancient walls of Durrës. Project for a Centre for Archaeological Studies in the Mediterranean Basin: Masterplan and internal view with project. Concept by Julia Demirai (Project developed as part of the Undergraduate Dissertation – Academic Year. 2020/2021).



**Figure 5.** The ancient walls of Durrës\_Project for a Centre for Archaeological Studies in the Mediterranean Basin: models. Concept by Julia Demirai (Project developed as part of the Undergraduate Dissertation – Academic Year. 2020/2021).

## Note

<sup>1</sup>Catholic University "Nostra Signora del Buon Consiglio", Faculty of Applied Sciences – Master's Degree Course in Architecture (double degree title with academic staff from the University of Florence) and Centre for Research on Mediterranean Architecture.

<sup>2</sup>For further information on this subject see the catalogue of the Venice Biennale, "Biennale Architettura 2021. How will we live together?", vol. National Participations and collateral events, Albania "In our home", pp. 6-7.

<sup>3</sup>L. B. Alberti, *De re ædificatoria*, L'architettura, from the Italian translation by Giovanni Orlandi, Milan 1966, p. 64. In Ettore Janulardo, *Forme urbane e dell'abitare*. Note su Leon Battista Alberti, BTA - Bollettino Telematico dell'Arte, 27 April 2016, n. 804 <http://www.bta.it/txt/a0/08/bta00804.html>

<sup>4</sup>Santoro S. 2005, "Archeologia urbana, carta del rischio archeologico e programmazione della Tutela", in *Carta del rischio archeologico della città di Durres*. Metodologia di realizzazione e istruzioni per l'uso, S. Santoro and A. Monti (eds.), p. 2.

## References

Giacomelli, M. et Vokshi, A. (Eds.). (2012). "Architetti e ingegneri italiani in Albania". Firenze; IT: Edifir.

Sarkis, H. (Ed.). (2021). "Biennale Architettura 2021. How will we live together?". Venezia, IT: La Biennale di Venezia.

Capestro, A. (2021). "Dimensions du projet urbain" In *Hyperurbain.7 Présence dans la ville Post-Numérique*, edited by Marc Veyrat, 78-99. Paris, FR: Europa.

Capestro, A. (2019). "Il Progetto del Patrimonio - il Patrimonio del Progetto". In *Piazze minori nel centro storico di Firenze*. Papers Proceedings Book of the international conference, May 19-26 Firenze, edited by Antonio Capestro, 24-53. Firenze, IT: Didapress.

Capestro, A., Palumbo, C. (2019). "Tirana: il patrimonio del disegno urbano nell'era della globalizzazione". In *Modernisation and Globalization. Challenges and Opportunities in Architecture, Urbanism, Cultural Heritage*. IFAU, 3° International Forum for Architecture and Urbanism. November 21-23 Tirana, edited by Florian Nepravishta, Andrea Maliqari, 50-57. Tirana, AL: Faculty of Architecture and Urbanism (FAU), Polytechnic University of Tirana (PUT).

Nepravishta, F. (2019). "Square rehabilitation and modernization on the inner city of Tirana". In *Piazze minori nel centro storico di Firenze*. Papers Proceedings Book of the international conference, May 19-26 Firenze, edited by

Antonio Capestro, 94-109. Firenze, IT: Didapress.

Palumbo, C. (2019). "Il progetto delle piazze minori: strategie d'intervento e governance". In *Piazze minori nel centro storico di Firenze*. Papers Proceedings Book of the international conference, May 19-26 Firenze, edited by Antonio Capestro, 242-259. Firenze, IT: DIDApres.

Internet source:

Stefanoboeriarchitetti. (2019). "Tirana 2030". Accessed September 7, 2019. <https://www.stefanoboeriarchitetti.net/project/tirana-2030/#wp-video-lightbox/-1/>

Albanianews. (2021). "Lezhë: storia". Accessed May 30, 2021. <https://www.albanianews.it/albania/lezhe>

Il giornale dell'Architettura. (2016). "Ritratti di città. Tirana alla prova del masterplan | Amarda Velcani,". Accessed September 7, 2019. <https://ilgiornaledellarchitettura.com/2016/09/07/ritratti-di-citta-tirana-alla-prova-del-masterplan/>

Docpayer. (2021). "Carta del rischio archeologico della città di Durres". Accessed May 30, 2021. <https://docpayer.it/22567934-Carta-del-rischio-archeologico-della-citta-di-durres.html>

## Introduction

The double seismic event that affected some Italian Apennines regions in 2016 made the high level of risk of almost all of our country evident and at the same time raised a strong demand for safety from those communities that, affected by the earthquake or falling in sensitive areas, manifest a growing discomfort with regard to danger, emergency, reconstruction, all situations that undermine the “normality”.

The problem of reconstruction, dealt with from time to time according to non-codified procedures (“How it was, where it was”, moving to other safer sites, replacing collapsed buildings with other non-existent anti-seismic ones with pre-existing forms, etc.), produces a widespread nostalgia for the authenticity of lost places and a strong will to reconstruct their beauty. The desire to remain in the places affected and continue to inhabit them substantiates the choice to rebuild the cities “where they were” as an expression of the roots of the populations to their territory and their identity linked to their land.

The research conducted in the Dicar and Dicatech Departments of the Polytechnic University of Bari starting from 2016, of which this essay expresses some partial outcomes, address the issue of safety together with that of



**Figure 1.** Pescara del Tronto before seismic event. Source: A. Amendola, G. Chiapparino, O. Giuga, F. Lorusso, M. Montaruli, A. Musajo

identity and authenticity, focusing attention on innovative settlement models, responding to security criteria but able to preserve and rebuild the local identity, the social, cultural and productive reality of a territory.

The case study was the area of the upper Tronto valley.

## The beauty of a fragile territory

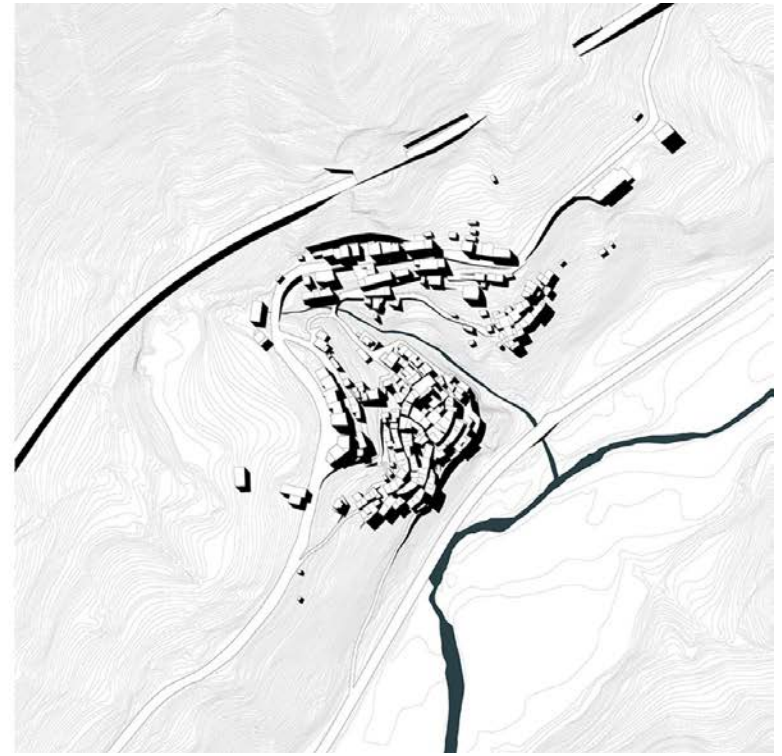
The permanence of the identifying characteristics of the hilly Italian territory, of its “classical landscape”, is linked to the existence of a settlement/housing tradition able to represent the identity of places as a harmonious relationship between architectural forms and forms of nature and to build it through a continuous process of regeneration, following destruction by extraordinary events (earthquakes, fires, wars) or ordinary (urban renewal).

The word “identity” is supported above all by the rule of repetition of forms; we, therefore, think of those signs of the territory as the works of soil control (centuriations, dry stone walls, substructures, etc.) that over time have integrated with the geography of places up to a process of total identification, becoming the last structure to bring together spaces disjointed by global market dynamics (Marini, 2010).

The beauty of the hill towns is in the authenticity and in the uniqueness of their distinctive forms, the result of a deep relationship with the territory, in which each architecture or part of a newly built city shares the constitutive grammars of the urban form by constructing a strong identity, coinciding with the landscape or places in which each community recognises itself: it is space that returns identity (Corboz, 1998).

The identity of the affected communities, expression of their relationship with the places, with the urban forms and with the land, is also put at risk by the incongruous transformations of the “technical” matrix of the environment happened in this last years, united to the non-attendance of a “maintenance” policy.

“The earthquake must be faced for its urgencies, of course, but also understood as an opportunity for the regeneration of the existing city” (Venezia, 2016) and “land main-



**Figure 2.** Gregoriano cadastre of Pescara del Tronto and historical/morphological analysis of urban structure.  
 Source: A. Amendola, G. Chiapparino, O. Giuga, F. Lorusso, M. Montaruli, A. Musaiò

tenance” for the Internal areas of the country, because “the prevention and mitigation of seismic and hydro-geological risk, can make it possible to secure the territory, promote natural and cultural diversity and contribute to a new development strategy “ (Barca, 2013). The choice to “rebuild where it was” could allow affected populations to return to live in their places of origin, as an expression of cultural roots in their own territory and becomes an opportunity to reconstruct the immaterial aspects of reality such as beauty, culture, social cohesion, participation (Barca, 2013), offering an alternative to the notorious speculative “new towns.”

### The research of new design paradigms

Our country has a strong exposure to natural risk (earthquake, landslides, floods, etc.) that makes fragile a large number of urban settlements of great beauty, witnesses of national history, placed in critical contexts, both internal and coastal (peninsular and insular), whose value derives from the way in which their form interprets the natural conformation of our territories, enhancing their conspicuous places. Therefore, a request for security and a desire to preserve the identifying characteristics of vulnerable Ital-

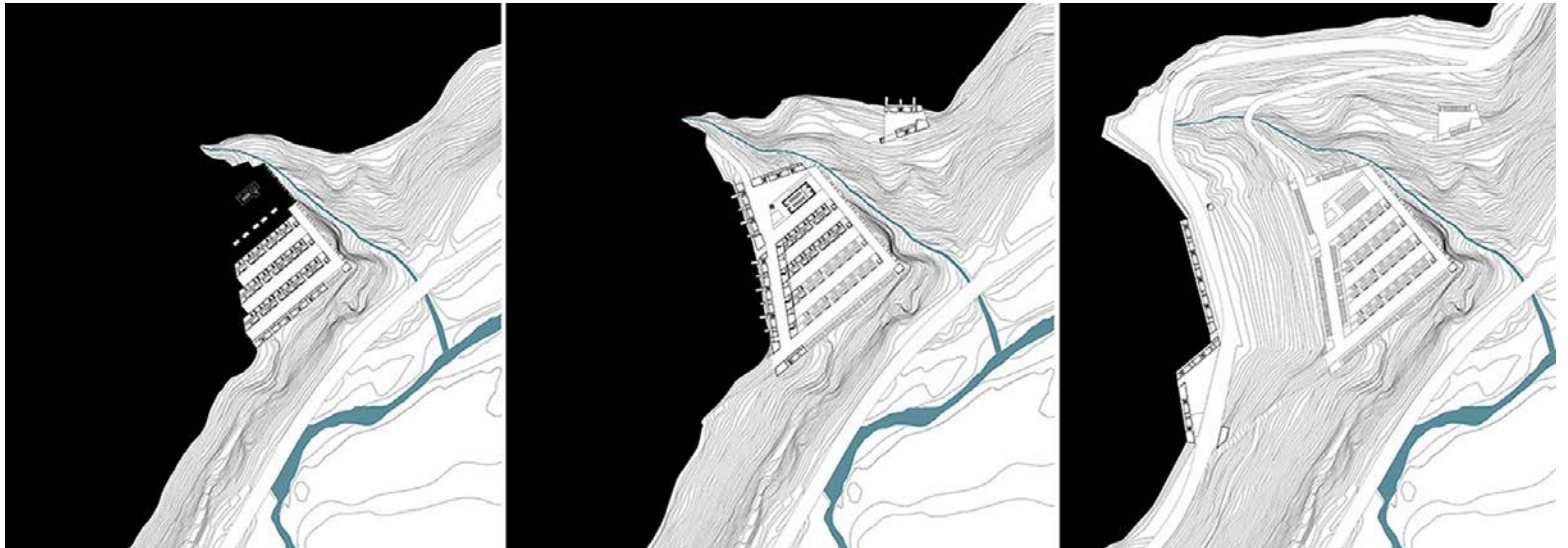
ian cities and landscapes appear as the extremes of a problem of contemporaneity that must be faced with a multiscale and multidisciplinary innovative approach that allows defining methods good practices capable of integrating more knowledge. Assuming this dimension of the problem and recognising the centrality of the project and therefore of the form, the objective of the research is the definition of new paradigms for the interventions of transformation, reconstruction, integration in which the value of the pre-existing formal orders is recognised in the territories, cities and artefacts, in the traces of the ancient and in the testimonies of the past. The reference field of research is, therefore, that of the city located in contexts subject to seismic and hydro-geological risk. The main interpretative key will be the knowledge of the relationship between the built form of the city and the natural form of the orographic substratum, between the structure of the buildings and the soil modelling works and the geological structure of the soil itself. In this sense, research goes beyond the logic and scale of the intervention on the single building by defining new design strategies capable of combining the mitigation of risks with the permanence of the urban form. The size of the interventions for “elementary urban units” intermediate between the building and the city will con-



**Figure 3.** Design of the urban structure of the project. Source: A. Amendola, G. Chiapparino, O. Giuga, F. Lorusso, M. Montaruli, A. Musaiò

stitute the irreducible element of reference for the project; morphological and structural units whose formal definition and optimisation of behaviour with respect to the actions of the earthquake and hydro-geological instability will be achieved through operations on the built (demolition, thinning, densification, counterfeit) and on the ground (terracing, constipation, substruction, embankment ...).

Recognised the figurative power and the settlement value that the soil protection works assume in the contexts characterised by a steep terrain condition and taking into account the technical reasons the project will face the construction of the city spaces, internal and external to it, assuming as significant the orography, the topological and topographical conditions, the technical and urban forms as organic elements between them.



**Figure 4.** Three levels of the urban structure of the project (A. Amendola, G. Chiapparino, O. Giuga, F. Lorusso, M. Montaruli, A. Musaiò)

The challenge of the research will be to derive the choices related to the actions put in place (demolitions, consolidations, new buildings) - as well as those connected to the location of the interventions - not by rules elaborated on a "sectoral" basis but by principles resulting from an integrated approach that incorporates the more strictly "technical" reasons (aimed at mitigating risks) with those "aesthetic" (defined by the relationships of the form), with the aim of achieving together safety and identity.

### **Building with the memory of absence. Pescara del Tronto**

The research aimed to identify and experiment with a design methodology to define appropriate models for the construction/reconstruction of the Italian hill town, able to combine the theme of safety with those of the authenticity and identity of the places affected. Trisungo and Pescara del Tronto are two typable case studies: in the first, the theme of integrations in the valley-bottom city was discussed, and in the second, the theme of the total reconstruction of the city on the slope.

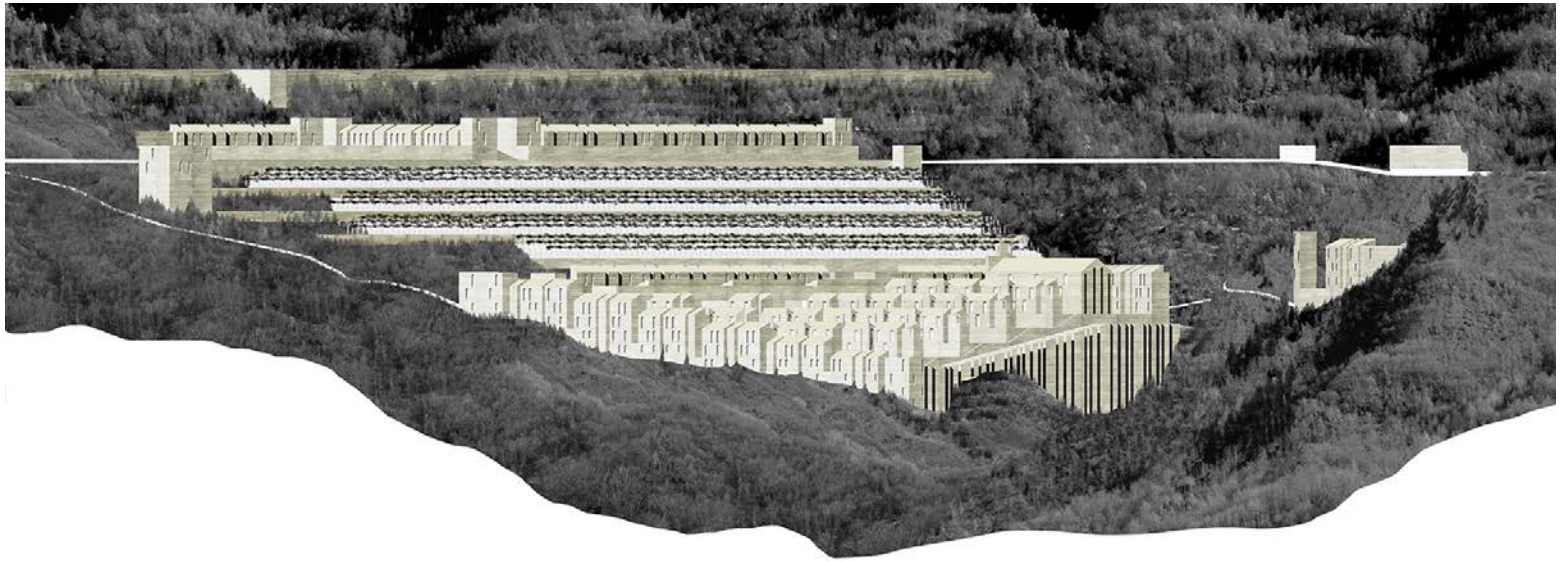
The identified method tries to summarise structural issues (geological consistency of the soil, structural stability, safety of public spaces, living and functional comfort) and formal questions (relationship between orographic substratum and urban types, spatial relationships between urban spaces and built areas, building and structural types) according to a multidisciplinary approach.

A "multi-scale" approach to the analysed space (territory, city, architecture) characterises the design experimentation that develops itself in two phases, an analytical and cognitive one, through the survey, the comparative and taxonomic analysis of cities and natural morphology of the upper Valle del Tronto; the other synthetic and design dedicated to the definition of the intervention models as verification of the results of the first phase.

In the first phase, the basic cognitive and theoretical reference framework was defined according to a scalar relevance of the issues starting from the identification of the geographical units or "territorial rooms" to which the cities under study belong, also describing in a taxonomic and comparative way the geographical forms, landscape, settlements, urban fabric, architecture. The geomorphological characteristics such as orography, morphology, hydrology, geology, the seismic hazard of territorial geographical units have been analysed and described on the territory scale in order to identify the forms of soil containment and the most appropriate constructive forms to ensure the continuity with the building and housing tradition of the territory.



**Figure 5.** Three levels of the urban structure of the project schematic plan and section (A. Amendola, G. Chiapparino, O. Giuga, F. Lorusso, M. Montaruli, A. Musaio)



**Figure 6.** Urban profile of the project (A. Amendola, G. Chiapparino, O. Giuga, F. Lorusso, M. Montaruli, A. Musaiò)

On the urban scale, the settlement and construction models that generated the current urban structures and their forms have been recognised, identifying characteristics to be assumed as invariants in the design phase. The type-morphological characteristics of the urban fabric, such as the structure of the routes, the aggregative forms, the spaces and their generative grammar, were analysed and described to identify the elementary urban units to be assumed as syntactic and identity morphemes in the reconstruction of urban spaces. In particular, with regards to Pescara del Tronto, the absence of physical references made this work complicated because its urban structure was reconstructed starting from historical cartographies and through the typological, morphological and structural analysis of the few architectures of which we had documented. This work was addressed to grasp the settlement principles and the urban structure to identify the existing distinctive relationships between the shape of the ground, the forms of containment and urban forms.

In the second phase, based on the cognitive framework, some design models have been identified based on the correspondence between formal and constructive aspects of the constituent elements of urban forms, ensuring safety and the permanence of their renewed identity. The shape and dimensions of the elementary morphological units are congruent with the ground's containment structures and foundations.

The city can establish a significant relationship of continuity with the physical forms of the soil with its geological modelling and lithological stratification.

In particular, recognising the figurative power that the soil protection works, thanks to their dimension, assume in the contexts characterised by a steep terrain condition, the project recognises the "foundational", etymological value of the ground shapes, in the construction of the forms of the city, its size, its spaces and its topological conditions.

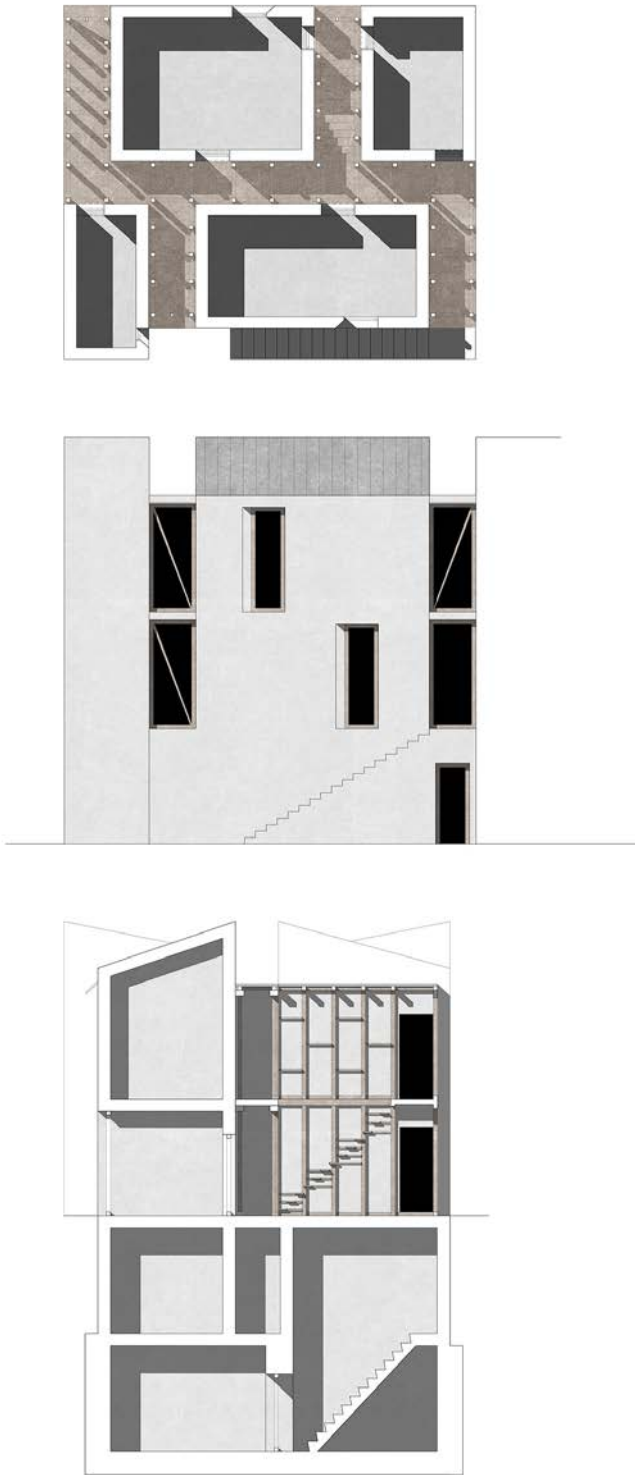
The operations of terracing, constipation, subsistence, embankment take on the value of a settlement form because they make monumental the system of natural forms waiting for built urban forms.

In this way shape and size of the new urban plan are determined by the shape of the ground because each part of it is defined based on the confirmation of the soil on which it is located, developing the typological paradigm of the area in an identity-based manner according to the site's shape.

After the earthquake, the partial removal of rubble and layers of incoherent material has produced a new site conformation, consisting of a sequence of terraces and slopes that culminates with a spur facing east over the valley.

The middle slope separates the area of the quarries abandoned from above by a steep slope below, which ends in a promontory in the shape of a triangular spur, facing east over the stream and south over the Tronto valley.





**Figure 7.** Housing module detail (A. Amendola, G. Chiapparino, O. Giuga, F. Lorusso, M. Montaruli, A. Musaiò)

The project interprets these variations, including the forms of containment, substruction and basement in the form of the new urban layout: in the upper part, a viable embankment protecting from landslides becomes the margin of a natural path that delimits the memory park, connecting the village with the initial part of the city.

Below the road, a system of terraced vineyards implements the original one and becomes an interpretative form of the steep slope that characterises the slope, concluded at the bottom by the inhabited front of row-walled houses-walls on the north-south axis and placed on the passage limit from the slope of the slope to the plateau of the promontory. On the other side of the "Vallone", a small urban space like a belvedere opened towards Pescara and Tronto valley, placed on the site of the original first urban nucleus of Pescara del Tronto, re-establishes the original opposition relationship and faces the inhabited settlements on the two ridges of the river itself.

We also tried to define the settlement principle, the shape of the urban structure and that of its morphological units, through the constructive and spatial congruence between foundations and buildings, expressing the continuity with the forms of the ground as the Italian hill town assumes the forms of the ground as their own etymological roots showing an uncommon ability to interpret the relationship with nature, building a place.

The idea of the city combines containment systems, embankments, terraces and the linear and compact building fabric, made up of terraced houses grouped in a row and interconnected systems settled on the versant. The main street partially coincides with the ancient seat of the main road leading to the church of Santa Croce, overlooking the Vallone: from it orthogonal roads depart which end against the slopes that delimit the Vallone bottom, creating a fabric of storage perpendicular to the valley and parallel to the Via Salaria.

Thus nature and architecture once again become constituent parts of the urban form to restore the identity of the place that is singularly defined through the project, giving recognition and belonging to the communities that can return to inhabit those places.

## Conclusions

The desire to rebuild the cities affected there "where they were" can ensure the return to the "normality" desired by the populations, re-establishing the continuity of a housing and construction tradition, starting from the reconstruction for elementary urban units.

The natural catastrophes that erase the identity of entire geographical areas produce the progressive loss of its most typical representative part in terms of physical, social and productive features within nations such as Italy.

The safety of these areas must be combined with the return of the populations to the places affected and rebuilt as returning to live and produce in their places, in their land, takes on a strategic value in the process of social and environmental reconstruction. To rebuild the affected city "where it was", safe but recognisable, it is necessary that the new interventions re-establish inter-scale relations with the land, the landscape, the territory, recognising in the forms of the earth the etymological root of the urban form and the value of uniqueness that derives from them. Then transform to preserve from a deep knowledge of what it was to define models and methods of intervention able to assume the existing complexity and to reconstruct it with its own identity.

## References

- Barca, F. (2013). *Intervento al Forum Aree interne: nuove strategie per la programmazione 2014 2020 della politica di coesione territoriale*, Rieti, 11 12 Marzo 2013.
- Corboz, A., (1998). *Il territorio come palinsesto*, in Viganò P., *Ordine sparso, saggi sull' arte, il metodo, la città, il paesaggio*, Franco Angeli, Milano.
- Cristinelli, G., Foramitti, V. (a cura di), (1999). *Il restauro tra identità e autenticità, atti della tavola rotonda "I principi fondativi del restauro architettonico"*, Venezia, 31.01-01.02 1999, Marsilio, Venezia.
- De Vincenti, C. (2015). *Strategia Aree Interne – Relazione annuale sulla strategia Nazionale per le Aree Interne*, Roma, Cipe.
- Di Venosa, M., Morrìca, M. (2018). *Rigenerare territori fragili. Strategie e progetti*, Aracne, 2018.
- Marini, S. (2010). *Nuove terre. Architetture e paesaggi dello scarto*, Quodlibet, Macerata, 2010.
- Martí Aris, C., (2007). *La cèntina e l' arco. Pensiero, teoria, progetto in architettura*, Christian Marinotti, edizioni, Milano.
- Pignatti, L. (2020). *Territori fragili. Saggi ed approfondimenti dopo IFAU 2018*, Gangemi, Roma, 2020
- Venezia, F. (2016). *Terremoto e ricostruzione. Parola a Francesco Venezia*, discorso tenuto a L'Aquila il 05.09.2016, <https://www.artribune.com/static-index.html>

Yourcenar, M. (1981). *Memorie di Adriano*, Einaudi, Torino, 1981, p.120

# 14 PROMOTING HISTORICAL URBAN OPEN SPACE AS A CONVIVIAL ENVIRONMENT

*Filippo Angelucci , Hanan Elfraites*

## Introduction

The city's passage into the so-called post-Fordist era, an end to the intensive industrialization of the territory and sprawling urban expansion is causing more than just the decommissioning of former manufacturing sites and vast peri-urban areas. This condition has also initiated a new season of densification inside the city for at least two reasons: Firstly, because the building concentration tends to correspond with effects (e.g., a diminution in movements, optimization of services, reduction in toxic emissions), that compensates the unsustainability of the industrial city (Ng, 2010; Density Atlas, 2019). Secondly, because high-density cities continue in any case to offer greater opportunities for employment, leisure, and culture, together with better living conditions, than more isolated settlements (UN, 2015).

In practical terms, this second season of densification constitutes a continuation of the modern ideal of the Fordist city. It simply dislocates its advantages and disadvantages into other environments. Not only modern or contemporary areas of expansion in large cities are involved. Historical nuclei of small/medium-sized settlements are also witnessed to densification of constructions, people, and functions. Historical cities are transforming into "capsulized" entities (based on the model of specialized areas for commercial use) that tend to shed any ties with their environmental context (De Cauter, 2006).

These forced actions to modernize the historical city can be tied back to two principal actions.

The first aspect is referred to the transformation of historical areas into enclaves for tourism leisure and the flattening of urban spaces to reflect standardized formal-functional models.

In part, the defunctionalization of historical areas has generated interventions unilaterally centred on inserting buildings and spaces within international consumerist itineraries of cultural, religious, food & wine and commercial mass tourism (Cervellati, 2010). For other aspects, the performative comparison with standards in large cities – based exclusively on vehicular accessibility, speed of movement

and access to large commercial supply chains – has only depreciated the value of the historical city and its capacity to attract investments and new projects.

## Recurring criticalities in historical cities

The process of capsulizing historical cities generally occurs in two phases. The first tends to concentrate functions solely in centres of attraction, with consequent congestion of tourist offerings, a loss in the morphological identity of spaces, and gentrification (De Cauter, 2004). Secondly, there is acceleration in mobility flows and a reduction in the time it takes to cross public spaces. Finally, there is a progressive dematerialisation of the edges of the historical city (Settis, 2017), with the sole objective of facilitating designs for the use of historical-architectural heritage by the masses. These phenomena, whose largest effect is felt by the system of unbuilt spaces (Fig. 1), unfolds in three specific phases in the process of perceiving, using and modifying open space: accessing, crossing and pausing.

Regarding access questions, new typologies of open space (parking areas, interchange hubs) increase extra moenia. This produces such diverse criticalities as: the increase of consumption and waterproofing of agricultural and natural areas; a rupture with the synergic evolution between city walls and natural resources; the reduction of "slow" options of accessing the city; the appearance of tunnels, escalators, and mechanical lifts for ever-faster movement. About questions of crossing, the only roads to survive are those that respond to the home-parking/parking-store model, capable of supporting the high-speed vehicular movement. Other criticalities include: the disappearance of interface areas between open public space and closed private space; the occupation of broad portions of roads with parking lots; the decrease of slow access and walkability; repaving that responds only to the specific needs of vehicular movement.

Parking in the historical city is reduced to the emulation of high-speed and intensive consumerism models typical of shopping malls with the same criticalities.



**Figure 1.** Historical urban open spaces and critical effects of forced modernization. Examples from case studies in Lanciano (Italy). Research LIMEN.

Between these main critical aspects, there is the specialization of activities related solely to food; the invasion of outdoor spaces with fixed furnishings; the decrease of spaces that can be crossed on foot or by bicycle and their relative safety; an increase in the concentration of users; an increase in conditions of acoustic and visual discomfort.

### Urban open space as a convivial environment

The densification induced by capsulization interrupts more than stylistic, formal, or urban-architectural continuity inside the historical city. There is also a break in the relationship between the means of using open space and the context in which it is located. This effect is caused by an

exasperated acceleration of experiences that transforms inhabitants of the historical city into simple consumers. The edges of historical areas are presented as boundaries to be overcome, spaces to be accessed without delay and in the shortest time possible. Streets are transformed into axes to be crossed at maximum speed. Polarities mutate into zones for the fast delivery of services for tourism, hospitality, and commerce.

Edges, streets, and polarities should instead be reinterpreted in accordance with a vision intent on recomposing the convivial conditions of inhabiting the spaces and attractions of the historical city, recovering the multi-dimensional qualities of perception and experience. Open space must be attributed an enabling value in terms of a space/environmental system.

This complex technological-environmental interface must not be limited to facilitating the fruition/consumption of the cultural capital of historical cities. Instead, it must enable conditions that allow the wellbeing inside the historic architectural-urban heritage. This different point of view reintegrates open space within the continuum of the historical city by reinterpreting it as a convivial, inclusive, welcoming, attractive, and flexible environment that respects local cultures of dwelling and building.

The objective of conviviality is not only to ensure access to goods and services; it is also a question of modelling objects and spaces, shaping and using them “with others and for others”. This permits a redefinition of the relationship with otherness and the environment in terms of “vitality, fairness and creative autonomy”, as an equilibrium between input and output (Illich, 1973).

Rethinking unbuilt space in terms of a social space/environmental system may constitute the first step toward stemming the excesses of modernization induced by the capsulisation of the historical city and allow us to achieve various objectives.

This approach would extend the maintenance and conservation of urban and architectural heritage into an “environmental setting” of techniques, materials, and languages (Pane, 1987). It would preserve the vitality of the historical city by working with the articulation and organic diversification of its connecting elements (Cederna 2006). It would redefine a sense of “inside” the historical city, opening up toward an “outside” to welcome the exchanges and alterations fundamental to the very survival of the city (Cervellati, 2019). It would consent to an integral promotion of the historical urban landscape by working with natural, cultural and human resources, participatory processes, values, vulnerabilities and public-private collaborations among multiple actors (UNESCO, 2013).

There are two principal methods of intervention for restoring this sense of conviviality within the space/environmental system of the historical city: recovering the regulating capacities of some typologies of open space and supporting the preservation of specific relational conditions that are fundamental to conviviality.

### **Six typologies of regulating convivial spaces**

A first approach to restoring conviviality to the space/environmental system of the historical city involves recovering and promoting the capacities of open spaces to generate conditions of wellbeing.

In pre-modern cities, the ordinary relationship between buildings, open spaces, inhabitants, and foreign users is founded on a rhythm that tends to be slower than that adopted in extraordinary situations (war, evacuation, plague). Advances and pauses along itineraries and polarities were protracted and marked by a continuous state of wandering among people, goods, markets, shops, and taverns.

Conviviality served to maintain urban vitality. Its absence meant the decay of the economy and forms of support to the city and its residents, not to mention the risk of collapsing equilibriums, balances and autonomies between the rights of fixed citizens and temporary users.

This atmosphere of hospitality and conviviality could be found in spaces that were more than simply functional to the movement of people, animals, and goods. Paths, covered passages, shelters, public/private boundaries, islands and oases were the lemmas used to construct convivial narratives.

Recovering the character of conviviality through the regulatory capacities of these six recurring typologies of space is fundamental for initiating regenerative actions in the historical city. They serve less to reinstate the comforts of fast shopping/food and more to promote conditions of wellbeing in the city, the advantages of user diversity (UN, 2007), the pleasures of “living well” together (Morin, 2014) (Fig. 2 A).

Along paths, it is necessary to re-establish socio-cultural, work-related, and residential coexistence conditions, privilege slow crossings on foot/by bicycle, ensure access for disabled tourists and weaker users and permit vehicular access to residents or emergency/service vehicles. They must favour perceptive sequences and pauses, coherent with road geometries and sections, avoiding the congestion of signs and objects.

Covered passages (porticoes, underpasses) must be promoted in terms of their role as protection against the elements and effects of climate change. They must be considered spaces for walking, eventually provided with lightweight and reversible facilities, avoiding any intervention that risks compromising their use in the event of an emergency or during servicing or assistance.

Shelters have always served as specific points along paths, as micro-spaces for pause, rest, meeting, talking, reading, playing. Integrated among buildings and open spaces, they must respect buildings’ typological, geometric, and functional characters without causing interruptions, fractures, or obstructions to the unbuilt environment’s perception, functioning, and safety.

**A**

**Six typologies of regulating convivial spaces**



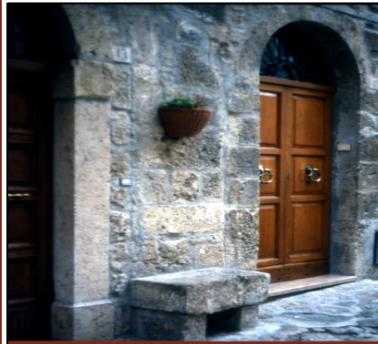
**paths**



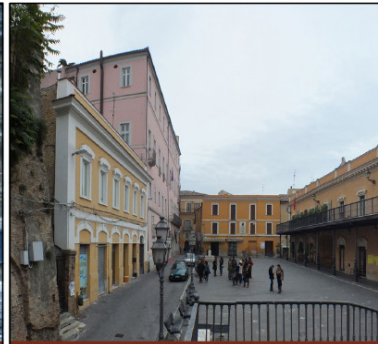
**passages**



**shelters**



**frontiers**



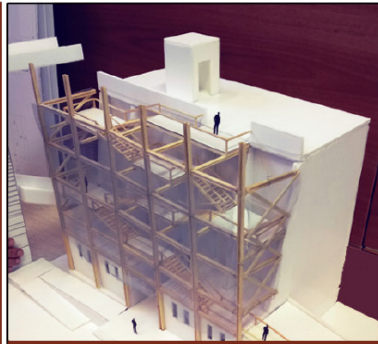
**islands**



**oases**

**B**

**Six relational conditions for conviviality**



**void-solid**



**external-internal**



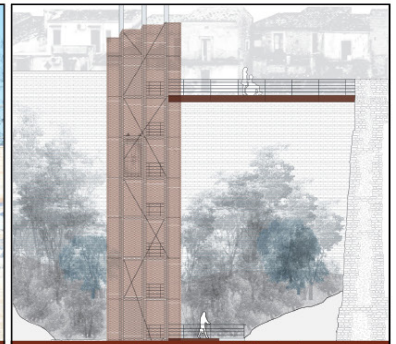
**open-closed**



**public-private**



**outside-inside**



**natural-artificial**

*Figure 2. Regulating spaces and conditions for conviviality as main project themes for the design of space/environmental system. Research case studies: Chieti\_lab, LIMEN, BikeFlu.*

Frontiers between buildings-exterior are more than gates to be opened and closed; they are thresholds that establish communications between home and street, work and residence, production, and consumption. They should be used to regulate flows (air, light, sound, scents), create functional interactions (exhibiting, conversing, exchanging, communicating, observing) and enable multiple senses (sight, smell, touch, taste, hearing).

Islands (courtyards, widening, gardens, terraces) are essential spaces for favouring the unity of neighbourhood relations, hosting activities of sharing/cooperation, cultural/recreational events and exchanges between cultures and generations. They must guarantee psychophysical and micro-climatic wellbeing conditions by filtering the intensity of flows without transforming them into exclusively private spaces. Oases (vegetable and flower gardens, fountains) assume value as interactive spaces with natural resources (water, air, plants, humidity, shadow) to compensate for the congestion of flows of users or to rebalance the effects of climate change.

### **Six relational conditions for conviviality**

By balancing the drives that tend to modernize historical settlements, conditions of conviviality depend not only on the capacity to regulate the reactions, functions, and performance of built and inbuilt heritage.

They also ensure the capability of design to make the space/environmental system behave as an interface between immaterial relations.

At least two emerging aspects need to be considered. In the medium-long term, the damaging effects of congestion cause a drop in the quality of a visit and flows of visitors interested in times of extended permanence. They are a source of crisis also for the economic reasons underlying the intensification of intensive cultural, recreational and tourist uses (Garzillo, 2019; Leon, 2019).

Furthermore, congestion introduces a mono thematic transformation of the historical city, leading to depopulation and a loss in vital services for residents (Di Biase, 2011). The mono thematic nature of functions strips away the original characters and identities that represent the values that attract residents and temporary visitors to the historical city. This operative framework makes it possible to hypothesize the use of historical areas of the city for tourism, culture, and recreational uses, however, without interrupting the vital immaterial relations that distinguish rhythms, atmospheres and harmonies for residents and temporary users.

The interface concept places proposals, transformation actions and the management of the settlement system within an expanded vision and a process by which the comprehensive value of the historical city is not compared solely to technical and spatial components.

Within the space/environmental system, it is also possible to forecast eventual additional, integrative, subtractive, and infrastructural micro-interventions, though always focused on balancing a set of fundamental relations for conviviality (fig. 2 B).

The void-solid relationship is one of the principal variables for avoiding the semiotic pollution caused by the densification of technical objects, sign age and information. It is fundamental to avoid annulling the value of unbuilt space as a space of pause and interval to preserve the original morphological characters of the historical system of settlement. The external-internal relationship is fundamental to neighbourhood unity and interaction among buildings and public space. Breaking this relation means forcing the interior of the unbuilt by limiting actions to the “furnishing” of open space. It also means losing the opportunity for more “eyes on the street” (Jacobs, 1961) to guarantee vitality, safety and surveillance.

The open-closed relationship establishes the degree of exchange among sensations, emotions, perceptions, information, services and products, between built and unbuilt spaces. This relationship must be managed to avoid the demarcation of physical confines or an increase in specialized enclosed spaces (dehors, kiosks), to nurture the intensity and continuity of interchanges in open space.

The public-private relationship assumes a central role in regulating the privacy, safety, and accessibility of uses in open space. It must be governed to favour the fluidity of unbuilt spaces, avoiding negative interferences capable of compromising the historical city’s habitability, hospitality, and attractiveness. The inside-outside relationship regards the communicational equilibrium between residents and visitors by establishing the historical city’s possible degrees of preservation and alteration. Therefore, it must be intended as the capacity to balance between space and place, otherness and identity, hospitality and refusal, the quality of the city intramoenia and the quality of the territory (Vernant, 2004). The natural-artificial relationship distinguishes what changes spontaneously in the historical city from what is destined to be preserved through human intervention. It exceeds the simple relationship between materials and techniques because it admits the possibility for actions favouring the recovery and promotion of the historical city that may not be exclusively conservative.

## Conclusions

Considering the open spaces of the historic city, not only as simple infrastructural components but also as a complex space/environmental system, produces two opportunities that can be linked back to the theme of conviviality.

An initial opportunity regards the possibility to reintegrate public space within vital economic and productive processes as a privileged system for the physical reconnection of values and activities in the historical city. What prevails, in this case, is the volumetric nature of the space/environmental system. Conviviality also results from the capacity to intervene by forecasting cultural, tourism and recreational uses, though without affecting the right to historical heritage afforded to all typologies of users, whether fixed or temporary.

The second opportunity concerns the capacity of open space to guarantee the necessary conditions for living together in the historical city, acting on immaterial relations among the landscape, technical-building culture, and dwelling practices. What emerges in this second case is the relational role of the space/environmental system. Conviviality derives from the capacity to weave vital relations, re-establish interrupted atmospheres, recover alternative rhythms, and reconstruct the reciprocity of values among different parts of the historical settlement system. In both cases, the space/environmental system generates conviviality by developing a common and participatory sense (among individual inhabitants, in settled communities and temporary societies) founded on the evolutive nature of the historical city.

## References

- Cederna, Antonio (2006). *I vandali in casa. Cinquant'anni dopo*. Prima ed. 1956. Bari: Laterza.
- Cervellati, Pier Luigi (2010). "Centri storici". *Treccani XXI secolo*. Roma: Istituto della Enciclopedia Italiana. Accessed July 13, 2019. [http://www.treccani.it/enciclopedia/centri-storici\\_%28XXI-Secolo%29/](http://www.treccani.it/enciclopedia/centri-storici_%28XXI-Secolo%29/).
- Cervellati, Pier Luigi (2019). "Che cos'è la città storica". In Guermandi Maria Pia e Umberto D'Angelo (Eds.), *Il diritto alla città storica*, 63-68. Roma: Bianchi Bandinelli.
- De Cauter, Lieven (2004). *The Capsular Civilization. On the City in the Age of Fear*. Rotterdam: NAI Publishers.
- Density Atlas. 2019. "Measuring". Accessed July 12, 2019. <http://densityatlas.org/measuring/>.
- Di Biase, Carolina. (2011). "50 anni Ancsa". In Toppetti,

Fabio (Ed.) *Paesaggi e città storica, teorie e politiche di progetto*. Firenze: Alinea.

Garzillo, Elio (2019). "Uso e abuso del patrimonio culturale nella città storica". In Guermandi Maria Pia e D'Angelo Umberto (Eds.), *Il diritto alla città storica*, 87-92. Roma: Bianchi Bandinelli.

Illich, Ivan (1973). *La convivialità*. Milano: Mondadori.

Jacobs, Jane (1961). *The Death and Life of Great American Cities*. New York: Random House.

Leon, Alessandro (2019). "L'economia pubblica dei centri storici". In Guermandi Maria Pia e D'Angelo Umberto (Eds.), *Il diritto alla città storica*, 125-134. Roma: Bianchi Bandinelli.

Morin, Edgar (2014). *Enseigner à vivre*. Paris: Actes.

Ng, Edward (2010). *Designing High-Density Cities*. London: Earthscan.

Pane, Roberto (1987). *Attualità e dialettica del restauro*, 238-247. Chieti: Marino Solfanelli Editore.

Settis, Salvatore (2017). *Architettura e democrazia*. Torino: Giulio Einaudi Editore.

UNESCO (2013). *New Life for Historic cities*. New York: UN Educational, Scientific and Cultural Organization.

United Nation (2015). *World Population Prospect. The 2015 revision*. New York: United Nations Publishers.

United Nations (2007). *Convention on the Rights of Persons with Disabilities*.

Vernant, Jean-Pierre (2005). *Senza frontiere: memoria, mito e politica*. Milano: Raffaello Cortina Editore.



## Introduction

After 1871, the urban development of Rome was a fundamental moment in the history of the new capital of the Kingdom of Italy. The various Master Plans issued between its proclamation and 1909 highlighted the need to expand the city's territory, which had proved unsuitable for the needs of a modern metropolis. The urbanization process was carefully planned since 1873 but was implemented only ten years later with several changes (Fig. 1). It was crucial for the city, which still retained its 16th-century layout. However, Roma Capital's Master Plans issued until the beginning of the 20th century were fully-fledged tears in the city's fabric. They quickly reorganized the 'old' territory, extended its boundaries and overturned the previous layout, which had remained essentially unchanged since the urban planning intervention carried out at the time of Pope Sixtus V.



Figure 1. Master plan of Rome (1883) by the concession of the Archivio Storico Capitolino, Cart. XIII, 19.

The new districts that quickly sprung up around the old town centre were intended for residential housing and needed to be completed by providing all the services for the citizens and civil servants living in the area. As already clarified and discussed on the occasion of IFAU19 – 3rd International Forum for Architecture and Urbanism, Modernization and Globalization Challenges and Opportunities in Architecture, Urbanism, Cultural Heritage<sup>2</sup>, the plots of land on which the new houses were to be built were arranged in a fixed order defined by a sequence of quadrangular plots of land following the classic urban layout also found in ancient Roman cities, particularly in the area of the Salaria-Trieste district, formerly known as Savoia.

## The Clergy's programmatic indications and the new religious buildings

The Savoia district, officially established in 1926 on the slopes of Villa Ada and the historic *Villa* and *Vigna Lancellotti*, was again enlarged by the 1931 Master Plans (Fig. 2), which extended its boundaries towards the east, close to the *Aniene Valley*<sup>3</sup>.

The area overlooking the *Salaria Railway*, later known as *Quartiere Africano*, was built after the 1940s but was already recognizable, albeit with a different layout from what was later built, in the planning scheme envisaged in the 1909 Master Plan, as it was considered strategic due to its proximity to the *Nomentana* railway station.

As it had happened in the other previously built 'suburbs', the district was quickly provided with all the services for the residents but was initially lacking the religious buildings that traditionally characterized the papal city. In this context and by virtue of the needs of the faithful, the Vicariate of Rome took on the responsibility of erecting churches in the new districts, bearing all expenses and intervening, with specific indications about the style to be adopted, in the cultural debate that was kindling the minds of many Italian architects.



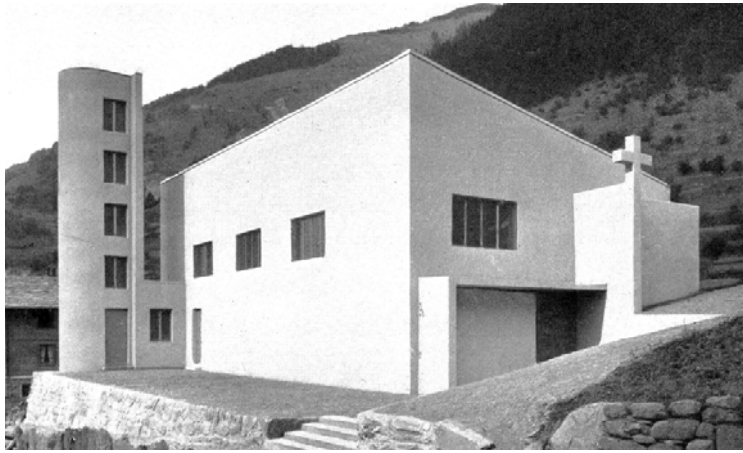
**Figure 2.** Detail of the area in the “Salario-Trieste” district (Master Plans 1909 and 1931) by the concession of the Archivio Storico Capitolino, Cart. XIII, 1; Stragr.680 (10).

*La Chiesa vuole essere presente in ogni quartiere dove la gente vive e lavora*<sup>4</sup>. With this goal in mind, motivated by the need to cater to the souls of the faithful in the suburbs, Pius XI founded the Pontificia Opera per la Preservazione della Fede e la Provvista di Nuove Chiese in Roma<sup>5</sup> in 1930. On 5 August, the Holy Father instituted the Opera with a *Motu Proprio* to provide for the spirituality of the diocese, which at the time had only 67 churches<sup>6</sup>. After only four years, between new buildings and restoration work, 83 churches were built on the territory. 16 of them were raised thanks to the *collaborazione di 7 architetti, soli o in cooperativa; e per tanto non di uno solo. Ciò per la verità perché: oltre il Busiri Vici, vi figurano Rossi e Conti, Fornari, Cassinis, Calza Bini, Bazzani, Barluzzi e Grazioni, Pediconi e Paniconi, Parisi*<sup>7</sup>.

As previously mentioned on the occasion of the IFAU 19 Conference held in Tirana, architect Clemente Busiri Vici, namely the author of the church of *San Saturnino* – built-in 1934 in the *Savoia* district –, worked on behalf of the Vicariate but prematurely abandoned the prestigious task to take on the role of architect of Propaganda Fide.

Engineer Busiri Vici was succeeded by his young pupil Tullio Rossi, trained at the *Regia Scuola Superiore di Architettura* in Rome, responsible for designing two of the sacred buildings *Salario-Trieste*. In line with the programmatic indications of the Clergy, which had clarified its stance with respect to modern architecture since the beginning of the century, Tullio Rossi materialized in the two buildings constructed here the will of the church, which intended to *Ricondurre l'arte cristiana ai sui puri e gloriosi principi [...]. Non altrimenti vuole Pio X che l'architettura sacra s'informi agli immortali capolavori dello stile basilicale, o agli stili romanico e gotico*<sup>8</sup>.

In Italy, the cultural debate born around the style to be adopted for the construction of new religious buildings began in the 1920s and saw the participation of many of the most influential designers of the time, including academic Gustavo Giovannoni and various members of the Clergy. The engineer, persuaded by the need to deal with history, which had to be considered the primary source of inspiration, wanted to link sacred modernity to local tradition, specifically the Romanesque lingo.



**Figure 3.** Alberto Sartoris's 1932 church in Lourtier, in Giolli 1936, page 45

He also declared his opposition to Le Corbusier's functionalism, which had precociously inspired the new rationalist churches designed by architects Ignazio Gardella and Alberto Sartoris (Fig. 3)<sup>9</sup>. For the Academician, churches ought instead to return to performing their liturgical function in its traditional form while at the same time embracing the technological revolution of reinforced concrete. In 1932, Pius XI declared his detachment from the latest generation of sacred art, which he considered caricatural and degenerate<sup>11</sup>.

For the Pope, religious architecture had to play a social role and be inspired by ancient shapes, as well as reconnect with the local culture in keeping with the *Genius loci*, as advocated by Marcello Piacentini. He built the basilica of *Sacro Cuore di Cristo Re* in the *Prati* district, considered one of the most significant religious buildings in modern Rome<sup>12</sup>.

### Tullio Rossi and the 'Trieste' district

In this context, between the 1930s and the 1950s, Tullio Rossi was responsible for the construction of a corpus *ecclesie* of forty recognizable buildings throughout the territory of Rome<sup>13</sup>. The architect is therefore to be considered as one of the figures who most embodied the cultural milieu of the time, at least as far as the numerous experiences gained in the field of religious building are concerned<sup>14</sup>. In the new district under construction, consistently with the wishes of the Curia of Rome, which had commissioned the work, the architect built two of the most significant sacred buildings named after *Saint Emerentiana* and *Saint Maria Goretti*.



**Figure 4.** Tullio Rossi, *Saint Emerentiana*, Roma, 1943 ca. (historical photograph)

The lingo adopted in the churches of the Trieste district, which were built at a distance of about ten years from one another, is ascribable to a new-medieval matrix and thus responds to the many requests contained in the statements issued by the *Holy Church*<sup>15</sup>. The two projects are characterized by a stylistic matrix of Romanesque derivation, which has its roots in local history.

The lingo defined by the author is characterized by the simplified use of different morphological elements of historical derivation, which are modernly translated here through the essential rendition of the various architectural components and resolved with unusual sobriety in terms of lines and volumes.

The dependence of the projects on a traditional matrix can be seen in the choice of materials, including Roman bricks and travertine, and by virtue of the planimetric distribution of the spaces, which are developed through large naves within a traditional basilica plan. The church dedicated to *Saint Emerentiana* (Fig. 4) was built in 1942 and overlooked the homonymous square. The façade dominated by the monumental arch motif, which is also a feature of the main façade of the nearby church of *San Saturnino*<sup>16</sup>, stands solid and massive, embracing the essential features of Romanesque architecture.

The salient façade is divided into two levels by a white string course that marks the separation of the space destined to the elevation of the main nave, which is sided by two squatter bodies dedicated to the small aisles.



**Figure 5.** Tullio Rossi, church Saint Emerentiana, current conformation.

The front, which is structured like a typical brick-faced wall, is preceded by a short flight of steps leading to the three entrance portals, all of which are arched and embellished with travertine.

The original, unbuilt version of the rear elevation of the building, which was replaced by a classic semicircular, protruding apse, was initially marked by a blind loggia reminiscent of the one built-in 1933 for the church of *San Francesco Saverio*, which was designed by Albereto Calza Bini in collaboration with Clemente Busiri Vici for the new *Garbatella* district.

The compact, imposing bell tower leans against the side elevation, which is rhythmically marked by a sequence of arches that give space to the walkable loggia; this is also mirrored in the right elevation, where a small, slightly recessed building offers an impressive view of the asymmetrical façade. The arches are arranged rhythmically in the lateral elevations, making the sides, which would otherwise have been too flat and monotonous, dynamic.

The solid, massive structure of the building also features an unusual aspect, since it does not reveal the traditional tripartition of the sacred hall, which is marked on the outside by the use of the three portals with lunettes; said portals are only contained within the space of the central nave and are not intended, as tradition dictates, to mark the three aisles. Indeed, the interior space (Fig. 5) is divided into three parts by a sequence of pillars overlapped by classic *matronea* supported by simple semi-columns with Doric capitals.

The environment, which is covered with a succession of lowered barrel vaults, is illuminated by a sequence of curved windows arranged on the attic floor. On the outside, it corresponds to the loggias of the sides. In the side chapels, it is possible to see the most refined cross vaults, which are placed on the sides of the building and mark the space of the lateral chapels, embraced by a series of longitudinal arches. Strangely enough, there are five such chapels on the right and only one on the left.

Tullio Rossi built the church of Santa Maia Goretti, which in the architect's projects is called '*degli Amara*', in 1952, just a few hundred meters from *Santa Emerentiana*<sup>17</sup>. Three different projects were dedicated to the building, but the first and the last (the one that was built) is the most valuable. In the last version dedicated to the *Chiesa degli Amara*, the edifice (Fig. 6) is characterized by a single building. Its façade is divided into three parts by a series of rectangular frames obtained thanks to the different arrangement of the rows of bricks, which produce a chiaroscuro effect of remarkable impact.

The texture, characterized by different mouldings alternating with recesses and projections, is interrupted on the front by the arched entrance portal and the rose window. The white marble band is placed, complete with an epigraph and papal coat of arms. This particular wall structure is probably to be interpreted as a visual expression of the clinker-covered structure of the building, and it is reprised in the back of the apse that stretches outward by means of a short curvilinear projection.

The lateral elevations, on which nine long windows per side follow each other, are defined by the alternation of the holes and of further mouldings, which also produce, as in the whole building, a pleasant chiaroscuro effect. Inside, the classic basilica layout stretches for forty meters, plus another ten dedicated to the presbytery, which is completed by an apse ending in a slight curve.

The side chapels are arranged on the sides, alternating with different conformations that always depend on a strict geometrical design. The interior spaces are separated by massive pillars with green lessens, golden bases and simple capitals. The roofing of the nave is lowered and outlined by a series of twin beams that recall those installed in the nearby church of *San Saturnino* by Clemente Busiri Vici.

A bell tower characterized by unusual slenderness typical of sails is placed on the left, closer to the sacristy, which, together with the front colonnade, contributes to tying up the architectural unit dedicated to the rectory and the parish services.

Unlike the one that was built, the first project<sup>19</sup> (Fig. 7) is defined by a central octagonal plan, which has been historically successful in the Capitoline area. Think of the Lateran Baptistery or the church of Santa Maria Mediatrice by Giovanni Muzio, which was completed in 1950.

In this building, architect Tullio Rossi still followed a typical historical model, both in terms of coating material and formal order; here, unlike in other projects, said model seems to achieve greater monumentality, partly due to its planimetric layout.

The building is characterized by the lines of the octagon, which are complemented on the sides by four small alternating structures dedicated to the side chapels and the main entrance. In the elevation, it is possible to recognize the simple style that characterizes the lingo of the architect, who decided to illuminate the main body of the church through a series of open windows on the side-walls, the lantern and the tambour, in line with the apex of the double-pitched roof.

Here on the top, the typical geometric wall structure, which defines the elevation space, is still proposed, completed by a marble band with typical Roman tiles.

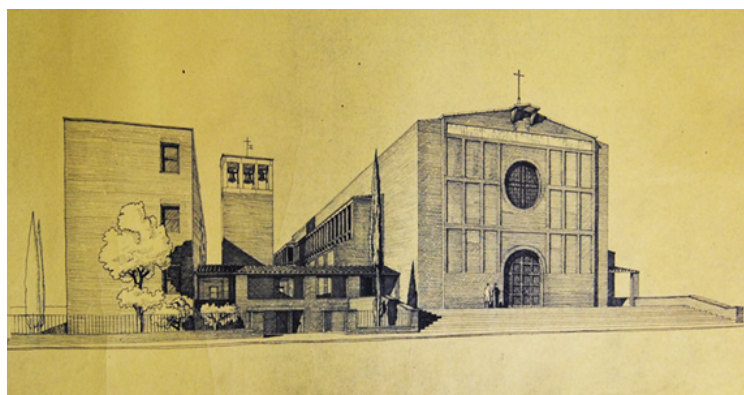


Figure 6. Tullio Rossi, Church "Degli Amara", 1953, first project, ASFi, Tullio Rossi historical fund, progetti in rotoli, T28, no. 72, tav. no. 2735

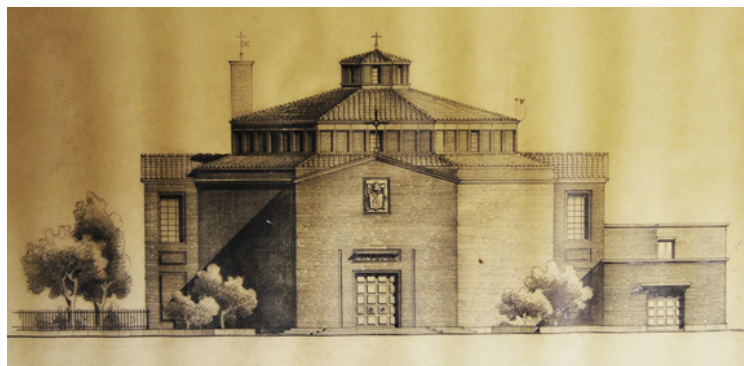


Figure 7. Tullio Rossi, Church "Degli Amara", 1953, first project, ASFi, Tullio Rossi historical fund, progetti in rotoli, T28, no. 72, tav. no. 2069.

## Conclusions

The churches built by Tullio Rossi in the Salario-Trieste district are a remarkable cultural cross-section since they can be considered as the stylistic evolution of a historical lingo characterized by a gradual simplification of lines and shapes of medieval origin. In line with the intentions of the Clergy, which firmly expressed its conservative position, the architect developed a personal style capable of reconciling the progress of technique with a traditional design dependent on local etymology, as had already happened in civil architecture with the Roman "Barocchetto" in the historic Savoia district of Rome<sup>19</sup>.

## Note

\*The essay published here is to be considered as the specific in-depth study of the theme discussed at the IFAU19 Conference held in Tirana. I would like to thank Florian Nepravishta, Carlo Bianchini and Simona Benedetti, Professor for their support.

<sup>1</sup> 26 May 1882 saw the approval by the City Council of the first Master Plan of Roma Capitale, which ratified the already ongoing expansion of the city and defined its subsequent development. The plans are kept in the Archivio Storico Capitolino (hereinafter referred to as ASC) and are published here (Figs. 1-2) by concession of the 'Sovrintendenza Capitolina ai Beni Culturali - Archivio Storico Capitolino', *Stampe e dei Disegni della Biblioteca Romana Fund*, Cart. XIII, 119; Cart. XIII, 1; *Stragr.* 680 (10), relating respectively to the 1883, 1909 and 1931 Master Plans of the city of Rome.

<sup>2</sup> Passarelli, Spaccarelli 1971, pages 119-128.

<sup>3</sup> Cacioni 2019a, pages 109-119.

<sup>4</sup> It should be noted that the 1909 Master Plan of Rome, drawn up by Sanjust di Teulada, defined part of the area with the same urbanistic prerogatives that were implemented about twenty years later.

<sup>5</sup> The Church wants to be present in every district where people live and work. *Benedetto XVI in Mavilio* 2014, page 5.

<sup>6</sup> The Opera was actually first established by Pope Leo XIII in 1902. In 1930, with the new foundation of the Opera, the intention was to erect new churches in the areas and regions most lacking in them.

<sup>7</sup> Cf. *La nuova costituzione* 1930, page 305.

<sup>8</sup> The collaboration of 7 architects, either alone or working together, and therefore not just one. This is true because, in addition to Busiri Vici, there are Rossi and Conti, Fornari,

Cassinis, Calza Bini, Bazzani, Barluzzi and Grazioni, Pediconi and Paniconi, Parisi. Cf. *Frediani*, pages 537-538.

<sup>9</sup> *Lead Christian art back to its pure and glorious principles [...] It is no coincidence that Pius X wants sacred architecture to be informed by the immortal masterpieces of the basilica style, or by the Romanesque and Gothic styles. Benzi* 1919, page 2.

<sup>10</sup> See Albero Sartoris's 1932 church in Lourtier. Here, the Le-Corbusier-like shapes and the construction elements seem to have been conceived for a building rather than a place of worship. In this way, the church is completely emptied of all cultural references and Christian symbolic language. The published church (Fig. 3) can already be found in *Giolli* 1936, page 45. Ignazio Gardella, on the other hand, designed the church of the Victor Emmanuel III Sanatorium (now Teresio Borsalino) in Alessandria in 1930. The Milan-born architect abandoned the traditional concept of church and moved closer to international research: witness the flat roof, the white, abstract shapes, and the canopy and bell tower, which are outlined by means of a skeleton of pillars. Cf. *Montanari*, 2003 page 419.

<sup>11</sup> *Giovannoni* 1936, pages 10-15.

<sup>12</sup> Pius XI in *La parola del Santo* 1932, pages 293-294; cf. *Benedetti* 2003, pages 182-183; cf. *Scalesse* 2003, page 183.

<sup>13</sup> Suffice it to think of the church realized by the Academician in the Prati district. The project, which saw the light only in 1934, attempted to achieve constructive modernity within the terms of tradition. Cf. *Piacentini* 1934, pages 513-531. Moreover, in 1930, the Academician published the text *Architettura d'oggi*, in which he clarified the necessity of reconnecting the lingo of new architecture with the pre-existing context. Cf. *Piacentini* 1994, page 63.

<sup>14</sup> The exact number of churches built by the architect is not known, since the complete list was lost during the Florence flood of 1966.

<sup>15</sup> Cf. *Muratore* 2004, pages 84-97

<sup>16</sup> Cf. *Benedetti*, 2003, pages 182-189

<sup>17</sup> Cf. *Cacioni* 2019a, pages 115-116

<sup>18</sup> Some of Rossi's projects are preserved in the Archivio Centrale dello Stato in Florence (hereinafter ASFi). The church known as 'degli Amara' can be found in ASFi, Tullio Rossi historical fund, *progetti in rotoli*, T28, no. 72, tavv. no. 2735 and no. 2069 (authorization for publication - Figs. 6, 7 "su concessione del Ministero della Cultura / Archivio di Stato di Firenze". For an in-depth study, see also *Cacioni* 2019b, pages 255-262. (Figure no.5 photo taken by Silvia Cacioni)

<sup>19</sup> Rossi reused this project as a variant for another Roman church dedicated to Gregory VII, which he presented to the Pontificia Commissione Centrale per l'Arte Sacra in Italia in 1953, only with very few modifications to the tambour. This church was never built by Rossi, but rather by architects Giulio Pediconi and Mario Paniconi, albeit with a different architectural configuration.

<sup>20</sup> For a summary, see Cacioni 2019a, research paper presented at the IFAU 19 Conference.

## References

Benedetti, Simona (2003). "Significative realizzazioni di opere religiose a Roma negli anni tra le due guerre". In *L'architettura nelle città italiane del XX secolo. Dagli anni Venti agli anni Ottanta*, (eds) V. Franchetti Pardo, Milan, Jaca Book, 182-89.

Benzi, Lorenzo (1919). *Inaugurandosi la chiesa parrocchiale di San Camillo al quartiere Ludovisi eretta per munificenza di SS. Pio X*, Rome.

Cacioni, Silvia (2019). "Dal Barocchetto romano allo stile Littorio: i progetti di Clemente Busiri Vici, Raffaele de Vico e Cesare Valle per lo storico quartiere Savoia di Roma (1930-1934)". In *IFAU19 – 3rd International Forum for Architecture and Urbanism. Modernization and Globalization: Challenges and Opportunities in Architecture, Urbanism, Cultural Heritage*, Tiranë: Flesh, 2019, 109-16

Cacioni, Silvia (2019). "L'edilizia per il culto nella prima metà del Novecento: reminiscenze medievali e sintesi modernista nell'opera di Tullio Rossi". In the proceedings of *V Ciclo di Studi Medievali NUME*, (Florence 3-4 June 2019), Lesmo (MB): Etabeta edizioni EBS, 255-62

Cacioni, Silvia (2018). "La chiesa di San Benedetto al Gazometro di Roma. Clemente Busiri Vici e le chiese moderne (1912-1948)". *Journal of Rivista dell'Istituto Nazionale di Archeologia e Storia dell'Arte*, 40, no. 73, Florence: Serra Editore, 371-401.

Cacioni, Silvia (2017). "L'architettura per il culto di Carlo Maria e Clemente Busiri Vici: caratteri evolutivi di matrice neomedievale (1885-1935)". In *La costruzione della forma. Architettura nell'Italia medievale*, Sapienza University of Rome, Faculty of Architecture at Fontanella Borgheese, Rome, 22-25 May 2017, (in the process of being published).

"Chiesa parrocchiale di Santa Maria Goretti in via degli Amara a Roma". 1956. In "Fede e Arte: rivista internazionale di arte sacra", IV, 9-10-11, September-October-November, Vatican City: the Pontifical Central Commission for Sacred Art, 350-51.

Frediani, Gino (1934). "La vita religiosa e parrocchiale di Roma. Il vasto programma pontificio". 1934. *Journal of Fides. The monthly magazine of the Opera per la Preservazione della Fede in Roma*, XXXIV, 12, December, Vatican City: Tipografia Poliglotta Vaticana, 537-41.

Giolli, Raffaele (1936). Alberto Sartoris. Milan: Edizioni di Campo Grafico.

Giovannoni, Gustavo (1936). "I temi dell'architettura religiosa moderna e gli esempi dell'architettura religiosa romanica". In *Atti della terza settimana d'arte Sacra per il Clero*, Ferrara, 13-20 October 1935, Vatican City, 1-16.

Mavilio, Stefano (2014). "La Pontificia Opera per la preservazione della Fede e la provvista di nuove Chiese in Roma". *Journal of Arte Cristiana*, CII, 880, January-February, Milan: Società amici dell'arte cristiana, 4-10

Montanari, Guido (2003). "Tra sacro e moderno. La committenza della chiesa nel periodo delle Avanguardie". *Journal of L'architettura nelle città italiane del XX secolo. Dagli anni Venti agli anni Ottanta*, (ed.) V. Franchetti Pardo, Milan: Jaca Book, 418-24.

Muratore, Giorgio (2004). "Un nuovo stile per l'edilizia cittadina: il barocchetto romano". In *Storia dell'Architettura italiana. Il primo Novecento*, Milan: Mondadori-Electa, 84-97.

Passarelli, Vincenzo; Spaccarelli, Attilio (1971). "L'edilizia sacra". In *La Terza Roma: lo sviluppo urbanistico, edilizio e tecnico di Roma capitale*, Palombi Editori, 119-28.

Piacentini, Marcello (1934). "Il Tempio votivo internazionale della pace dedicato al Sacro Cuore di Cristo Re - arch. Marcello Piacentini". *Journal of Architettura. Rivista del sindacato nazionale fascista architetti*, XII, 9, Milan: Treves, Rome: Treccani: Tumminelli, 513-31

Piacentini, Marcello (1994). *Architettura d'oggi*, (ed.) M. Pisani, Melfi: Libria, 1994

Scalesse, Tommaso (2010). "Il dibattito sull'architettura sacra negli anni tra le due guerre". In *L'architettura dell'"altra" modernità*, *Atti del XXVI Congresso di Storia dell'Architettura*, (eds) M. Docci, M.G. Turco, Roma: Gangemi, 180-195.

"Il clero e l'arte sacra (Roma centro dell'arte sacra)". 1933. *Journal of Arte Sacra*, III, 4, Rome: Edizioni per la rivista di arte sacra, 332-342.

"La nuova chiesa di San Saturnino al largo Tupino a Roma". 1938. *Journal of L'Architettura Italiana*, XXXIII, 6, 189-196.

"La nuova costituzione della Pontificia Opera per la Preservazione della Fede e la Provvista di Nuove Chiese in Roma. Pio XI, Motu Proprio". 1930. *Journal of Fides. Monthly magazine of the Opera per la preservazione della fede in Roma*, XXX, 8, August, Vatican City: Tipografia Poliglotta Vaticana, 305-10.

"La parola del Santo Padre sull'arte sacra". 1932. *Journal of Arte Sacra*, II, 3, Rome: Edizioni per la rivista di arte sacra, 291-99.

Ornella Zerlenga, Vincenzo Cirillo

**Cultural heritage and excellent examples [OZ]**

As part of the Neapolitan Cultural Heritage, Palazzo Ayerbo Cassano d'Aragona is a historical building of considerable architectural value. For many years the building has been in a serious state of abandonment and is currently owned by the well-known Neapolitan gallery owner, Giuseppe Morra, who has rehabilitated the palace into the Archive of Contemporary Art. In this sense, Giuseppe Morra opened a new museum, Casa Morra in Naples, in Palazzo Cassano Ayerbo d'Aragona, that will gradually be refurbished to house the large Morra's collection.

Consisting of over 2,000 works, presented with thematic paths, and focusing on artists through the history of contemporary art and fundamental movements: Gutai, Happening, Fluxus, Viennese Actionism, Living Theatre, Visual Poetry up to the most advanced Italian and foreign research.

Casa Morra continues the adventure of the Neapolitan patron, with it eventually housing the large collection, the result of over forty years of active presence in the international art scene, proposing it not as a static exhibition space for works but rather as an archive of contemporary art, a dynamic place to stimulate reflections and research on the changes in society.

A space where the past merges with the present and future to challenge time until 2116: *«Morra has planned 100 years of exhibitions with the mechanism of the game of the goose made of references, crossings, anticipations. Exhibitions regulated by the alchemy of the numbers 3 and 7 will coincide from time to time with the number of artists presented or with the number of works and sequences of exhibitions according to the principle of randomness that animates the symbolic path of the game of the goose, a foundation for the statute and future of Casa Morra»*<sup>1</sup>.

The first cycle of events (28 October 2016) launched an unprecedented dialogue of works between John Cage, Marcel Duchamp, and Allan Kaprow. The opening with three artists, who have made a creative practice of casualness by applying a change in the way of seeing and perceiving art, has shown the will to build environments in which to act and experience while experimenting.

Casa Morra adds a new element to the ample project Il Quartiere dell'Arte (conceived by Giuseppe Morra, Pasquale Persico, Roberto Paci Dalò, Nicoletta Ricciar-delli, Francesco Coppola), for the social redevelopment of the entire area close to the historic centre of Naples.

From the historical point of view, the archival sources that document the transformations of Palazzo Cassano Ayerbo d'Aragona in Naples and the name of the architect who conceived its impressive eighteenth-century staircase are uncertain. In fact, inside the building, built over time around two courtyards, the staircase for to go to the first noble floor takes on importance.

The grandeur of the staircase in Palazzo Cassano d'Aragona consists of being both materially and immaterially 'out of scale', a narrative event of boundless emotion in the 'immense' concept of architectural space. With a hexagonal plan, the design of the planimetric and altimetric layout is the result of the skilful ability to articulate elementary geometric shapes in a plastic and dynamic space, vibrating with structural tensions and multiple symmetrical asymmetrical visions. The development of this staircase does not leave the observer indifferent, with a great deal of amazement. The space is such that it instantly distracts the mind from any other thought. The space's considerable size and peculiar configuration attract the observer and inhibit the proportional relationship between man and architecture in favour of the artefact.

Going along it, starting from the entrance, the view of the staircase produces scene after scene that changes seamlessly from canonically constructed perspectives as central views to dynamic and asymmetrical views generated by the different the position that the point of view takes step by step, moment after moment, almost 'visions' that the memory struggles to preserve in this changeable set of telescopic perspectives on a fluid space, made up of ramps and pillars covered by a vaulted 'sky' and illuminated by the natural light of large openings on the first floor, where the staircase ends.



The scientific interest in the study of Palazzo Cassano Ayerbo d'Aragona is recent, and the research is developed based on the Memorandum of Understanding signed between the Fondazione Morra and the Department of Architecture and Industrial Design of the University of Campania "Luigi Vanvitelli" to not only collaborate scientifically with the aim of producing critical knowledge on the constructive vicissitudes of the staircase and Palazzo Cassano Ayerbo d'Aragona, but also to carry out initiatives that will positively influence the cultural growth of the territory. In this sense, the surveying and representation of the grandiose staircase of Palazzo Cassano Ayerbo d'Aragona, in its spatial unity and methodological systematisation of monographic research, was carried out for the first time in 2017 by a research team of the Department mentioned above, scientifically coordinated by the writer with Vincenzo Cirillo and undertaken by Gianluca Delle Rose, Brigida Di Costanzo, Gessica Friello. In 2019, instead, the architectural surveys were completed on the entire Palazzo Cassano Ayerbo d'Aragona.

The research aimed to recognise the different construction phases of the palace, from a hunting lodge to a princely palace to a monastery. This phase of the architectural survey, always coordinated by the writer with Vincenzo Cirillo, was carried out by Maria Cioffi, Anna Di Luise and Sara Giuliano.

### Constructive events: from hunting lodge, to noble palace, to monastery [VC]

During the first half of the 1700s, many noble residences in Naples were the object of modernisation works aimed at the creation of an urban filter, a visual-perceptive distance system consisting of a portal, a hall, a courtyard and a staircase. The staircase was configured as a design opportunity to define a representative space of the architecture to be imposed on the sight of passers-by<sup>2</sup>. The surprise effect was determined by the design experimentation of the architects on the theme of the staircase based on the typologies included in the Italian architectural treatises<sup>3</sup>. This also occurred for Palazzo Cassano Ayerbo d'Aragona in Naples in the Materdei neighbourhood at Salita San Raffaele n. 20/c. Although transformed over time, it presents today an imposing eighteenth-century staircase characterised by a plan and altimetric system of extraordinary architectural creativity, with its original configuration almost intact.

In order to place the project of the imposing spatial configuration of the staircase within a temporal context, it is worth mentioning the scarcity of any documents on the transformation of the building and the name of the architect who designed it, along with the staircase.



**A - Lafrery, 1566**

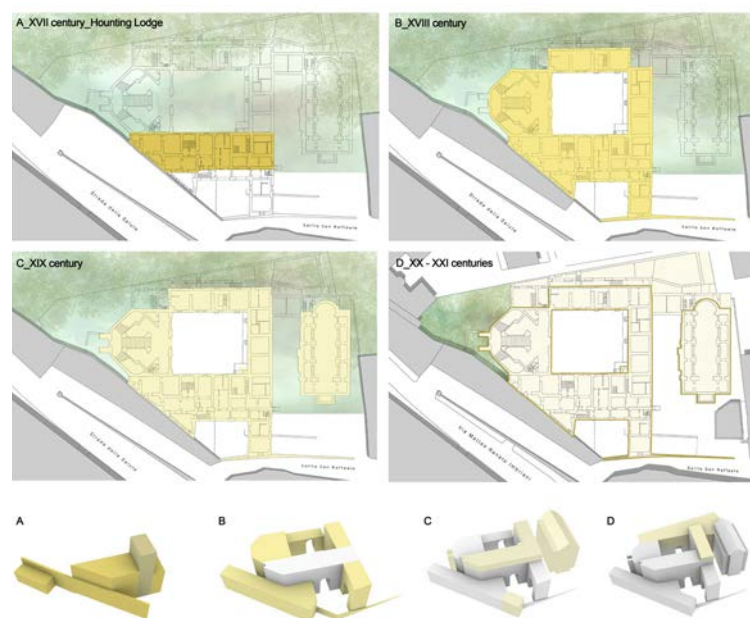


**B - Baratta, 1629**

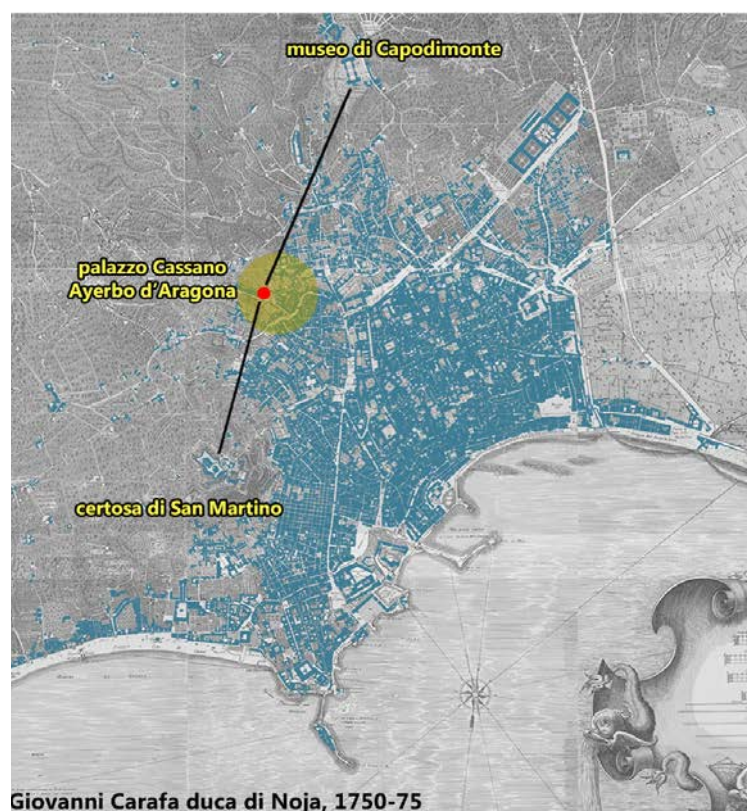
**Figure 1.** Iconographic representations of the hunting lodge: A, Dupérac-Lafreiry, *Pianta di Napoli*, 1566; Alessandro Baratta, *Fidelissimae urbis neapolitanæ [...]*, 1629.

To, therefore, describe the possible construction events of the building to which the unusual geometric shape of the staircase is related, literary and iconographic sources were consulted and integrated so as to report the results to the documental objectivity of the staircase through the scientific methodology of graphic analysis along with architectural and environmental surveying.

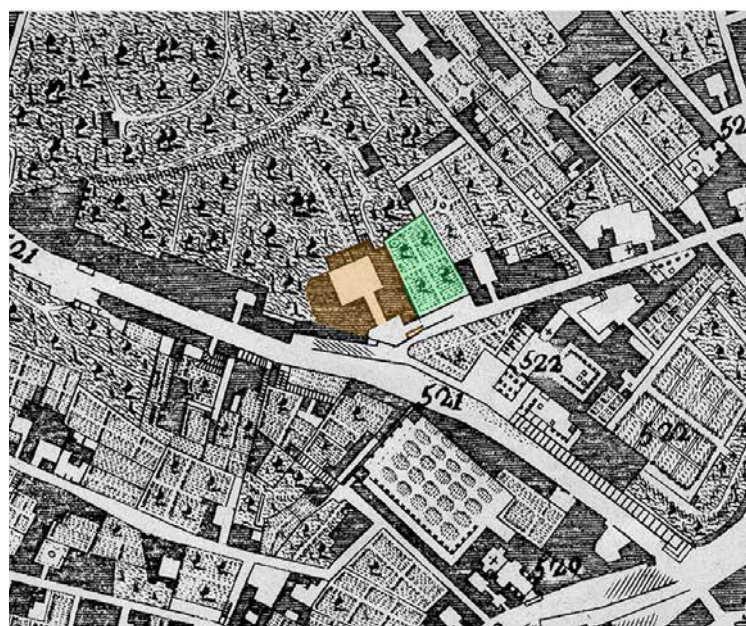
Palazzo Cassano Ayerbo d'Aragona is located outside the 'viceroxy city' walls in an area full of noble residences as described by Carlo Celano in the 1692 tourist guide of Naples<sup>4</sup> and confirmed in that of Domenico Antonio Parrino in 17005. In the extended edition written by the latter's son (1725), it is described how near the convent and the "Church of the Conception of the Capuchins, of S. Effrem ò Jefremo there were many new beautiful lodges, such as the one of the Prince of S. Severus, then de' Carafi Duke of Bruzzano, now of the Prince of Cassano Ayerbo d'Aragona"<sup>6</sup>. The presence in this extra-urban area of noble residences is represented in the topographic view of 1566 by Dupérac-Lafréry, called the Pianta di Napoli (Plan of Naples) (Fig. 1, A). In the bird's eye view of 1629 by Alessandro Baratta, Fidelissimae urbis neapolitanæ [...] (Fig. 1, B), along Salita San Raffaele (where it turns to join the "strada della Salute", today Via Imbriani) and in front of the church of Sant'Eframo Nuovo, there is a building where today Palazzo Cassano Ayerbo d'Aragona stands.



**Figure 2.** A-C. From a hunting lodge to a noble palace, to monastery; D: Palazzo Cassano Ayerbo d'Aragona today (drawing by Marika Cioffi, Anna Di Luise and Sara Giuliano).



**Giovanni Carafa duca di Noja, 1750-75**

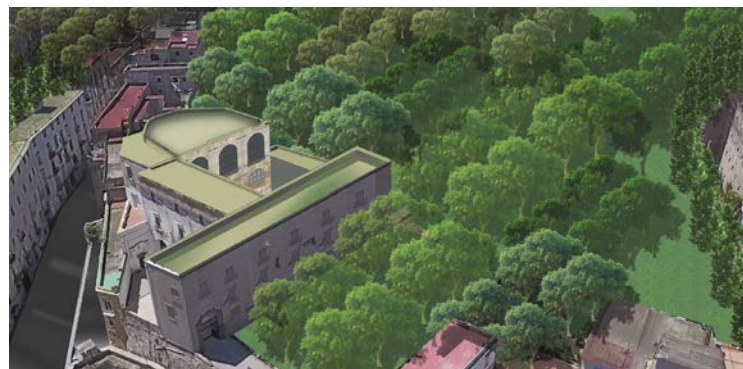


**Figure 3.** Relations between palazzo Cassano Ayerbo d'Aragona and urban development of Naples in the Mappa Topografica della città di Napoli e de' suoi contorni by Giovanni Carafa Duca di Noja, 1775.

Represented in pseudo-axonometry and surrounded by a large wooded area, the building has several floors and a crenellated tower. From the graphical comparison with the architectural survey of the building dated to 2013<sup>7</sup>, the shape, staircase and tower of the pre-existing hunting lodge is assumed (Fig. 2, A), while due to the point of view from which the view is built, the presence of any other buildings behind the lodge is uncertain; the uneven orography of the site and the ramp in front of the Capuchin convent are well represented. Finally, compared to the view by Dupérac-Lafréry, the area is more urbanised, and some buildings are set against the high wall of the lodge. In the *Mappa Topografica della città di Napoli e de' suoi contorni* by Giovanni Carafa Duca di Noja, the first iconography that reveals the city on a scale of representation almost equal to about 1:4.000 and published posthumously in 1775 (Fig. 3), the planimetric layout of Palazzo Cassano Ayerbo d'Aragona, that of the nearby chiesa di Sant'Eusebio nuovo, know as San Iefremo, and Convento di Frati cappuccini (n. 522 of the captions) and the development of the new Strada de' Cappuccini nuovi, and "della Salute" (n. 521, today Via Imbriani) (Fig. 2, B) are all visible. The planimetric configuration of the building is similar to today, with to the: east, the entrance hall to the first courtyard; east and north, the fronts that delimit the inner courtyard; west, the consistent part of the new staircase. In addition, to the east of the building, there is a large quadripartite garden and to the north, in line with the entrance hall between the first and second courtyard, the passage to the hunting lodge.



**Figure 4.** View from a drone of the Palazzo Cassano Ayerbo d'Aragona and the church of Santa Maria dell'Addolorata (by Mirko Perna 360°VIRTO).



**Figure 5.** 1775, visualisation of the state of the places. View on Palazzo Cassano Ayerbo d'Aragona (drawing by Vincenzo Cirillo).



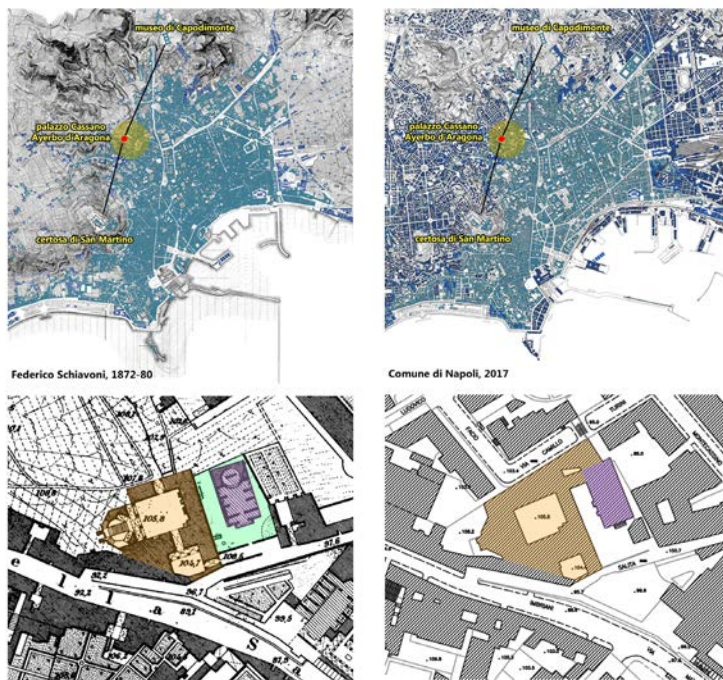
**Figure 6.** 1775, visualisation of the state of the places. View on the hill of San Martino from Palazzo Cassano Ayerbo d'Aragona (drawing by Vincenzo Cirillo).

Finally, along the first stretch of Salita San Raffaele, a new block of buildings leans against the building. The information deduced from the *Mappa Topografica della città di Napoli* [...] by Duca di Noja, integrated with the photographs taken by a drone in 2017 (Fig. 4)<sup>8</sup>, allowed to model a view of the building inserted into the context (Figs. 5-6). The *Pianta della città di Napoli* by Federico Schiavoni from 1872-80 (Fig. 7) is particularly significant due to the topographic cartography and detailed display of the plan of the building and, above all, of the extraordinary geometrical configuration of the hexagonal five-ramp staircase with a scale ratio 1:2.000.

The graphic conventions also depict the strengthening intervention of the staircase, hallways, porticoes, altitudes and, on the southern front, both the back wall leaning against the building as well as the church of Santa Maria dell'Addolorata instead of the quadripartite garden (Fig. 2, C). The research on the genealogy of Palazzo Cassano Ayerbo d'Aragona presents an interesting comparison with the various owners of the building.

The 'House' of Ayerbe d' Aragona originated from Pietro (?-1318), born from the secret wedding of James I, King of Aragona, and Teresa Gil de Vidaure. Pietro received the fief of Ayerbe in Aragona from his father and took his surname. The family arrived in Italy at the service of Alfonso V, King of Aragona, to conquer the Kingdom of Naples<sup>9</sup>. In 1686, "the Dukes of Bruzzano sold the villa with the estate to the Duchess of Alessano"<sup>10</sup> (?-1699), wife of Don Filiberto d' Ayerbe of Aragona who, from 1668 was the 1st Prince of Cassano of Bari for maternal succession from Donna Girolama de Curtis, Princess of Cassano (?-1657)<sup>11</sup>. On the death of the Duchess of Alessano, the palace passed to her nephew Nicola Michele d' Ayerbe d' Aragona, 3<sup>rd</sup> Prince of Cassano (1676- 1727), and not to her son Giuseppe d' Ayerbe d' Aragona (1650-1698), 2<sup>nd</sup> Prince of Cassano, died before his mother. Don Nicola died without children, and the palace passed to his brother Don Emilio (1689-1739), 4th Prince of Cassano from 1727. The research carried out at the Banco di Napoli Historical Archives furthers the knowledge.

A document dated 28 July 1730 records a payment of the 4<sup>th</sup> Prince of Cassano to the master Antonio Saggese for work in piperno, directed by his father, an engineer,



**Figure 7.** Relations between palazzo Cassano Ayerbe d' Aragona and urban development of Naples in the *Pianta della città di Napoli* by Federico Schiavoni, 1872-80.

**Figure 8.** Salita San Raffaele with frontal view of the Palace Cassano Ayerbe d' Aragona and urban context (drawing by Marika Cioffi, Anna Di Luise and Sara Giuliano).



**Figure 9.** Salita San Raffaele with frontal view of the Palace Cassano Ayerbe d' Aragona and urban context (drawing by Marika Cioffi, Anna Di Luise and Sara Giuliano).



**Figure 10.** Longitudinal cross-section on the courtyard of Palazzo Cassano Ayerbe d' Aragona (drawing by Marika Cioffi, Gianluca Delle Rose, Brigida Di Costanzo, Anna Di Luise, Gessica Friello and Sara Giuliano).

Enrico Pini, in the "new building of the first courtyard of the Palazzo of Prince Cassano included in this work, the door, the pillars, perspective, stable and *piperno* works of the very fine house, the cornice of the loggia, cornices, cords, boge, and pieces of fictional masks framed by the covered loggia, as well as eight pieces for the rings for horses"<sup>12</sup>, along with the ornamental works in the "rooms of the new quarters" and the gilding of the ceiling of the "Gabinetto", realised by the painter Gaetano Fasano and directed by Pini<sup>13</sup>.

Joseph II of Ayerbe of Aragona (1729-1784), 5th Prince of Cassano since 1739, in the last months of 1748, signed an act "for the realisation of the new staircase"<sup>14</sup> of the building.

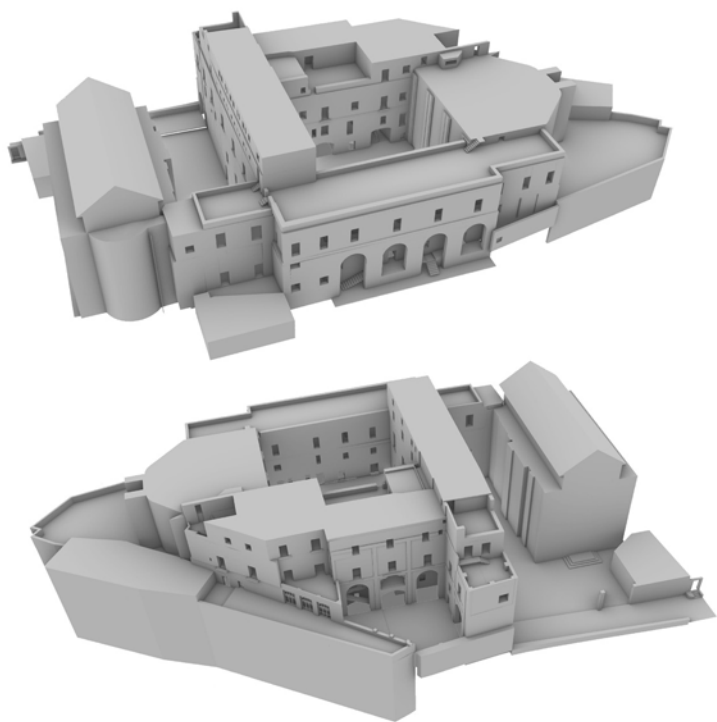
In the first months of 1754, another document reports the payment of the prince to the piperniere Domenico D' Ambrosio for the works "for the new building, and the last tapered steps [...] and for the other pieces still standing in the courtyard of the palace of the said prince with the pieces of the balcony, cornices, and windows of the said palace"<sup>15</sup>.

Another document from 15 January 1785 reports a substantial payment to the "builder Gennaro Vero" for a work to "compensate the staircase" and for the expertise of the "engineer d. Gaetano Barba"<sup>16</sup>.

The payment was taken from the wealth of Donna Eleonora Carafa, widow of Don Felice d'Ayerbe d'Aragona (8/7/1730-17/10/1784), 6th Prince of Cassano from January to October 1784, and of the mother-in-law Donna Settimia Grimaldi, wife of the 4th Prince of Cassano.

In a deed dated 14 January 1786, it is reported how in December 1785, the stucco artist Domenico Santulli was paid for the work "of all the stuccos and everything else on the staircase of the Palace at S. Efreim Nuovo, and the two walls of the courtyard as well as the rooms divided under the prince's order for the tenor of five notes presented with the skill of the engineer"<sup>17</sup>. The "prince" was the 7th Prince of Cassano, Don Giuseppe III d'Ayerbe d'Aragona (04/06/1784-08/07/1837), after just a year and a half and with whom the hereditary line of the Princes of Cassano d'Ayerbe d'Aragona ended.

In 1852, Donna Maria Caterina Riario Sforza (?- 1853), widow of the 7th Prince of Cassano, sold "the whole property": palace, garden and estate to the noble tertiary nun Maria Teresa De Conciliis<sup>18</sup>. In 1853, the first stone was laid for the construction of the church of Santa Maria dell'Addolorata in the garden of the palace following an ex-voto (Fig. 2, C), as reported in the act of 1836<sup>19</sup>.



**Figure 11.** Three-dimensional view of today's Palazzo Cassano Ayerbo d'Aragona (drawing by Marika Cioffi, Anna Di Luise and Sara Giuliano).

On 15 December 1859, De Conciliis bequeathed in her will Palazzo Cassano Ayerbo d'Aragona to the "monastery of women Servants of Mary"<sup>20</sup>, a religious order of solemn vows dedicated to the contemplative life. The Congregation of the Sisters of Our Lady of Sorrows was founded in Naples in 1874 and aggregated to the Order of the Servites, which included Maria Teresa De Conciliis<sup>21</sup>.

In 1863, Maria Teresa died, but the palace remained the property of the family until 1906 when the Sisters of Our Lady of Sorrows bought the palace, church and estate, although some documents indicate that the nuns were already living in the palace<sup>22</sup>.

In 1921, the Sisters sold the estate to the cooperative Case Impiegati dello Stato, which between 1925-30 started the construction of the Materdei neighbourhood<sup>23</sup>. In the 20<sup>th</sup> century, the palace and the church were joined (Fig. 2, D). In 2011, the Fondazione Morra bought both the building and church and started the restoration and reuse project, coordinated by Massimo Pica Ciamarra<sup>25</sup>. Between 2013 and 2016, some buildings (Fig. 8) were demolished (a reference to satellite images from Google Earth) located: in front of the church of Santa Maria dell'Addolorata; in the first courtyard; in the northern part in Via Camillo Tutini so as to reopen the pre-existing arches. The new structure (Fig. 9-11) is visible through the drone mentioned above reconnaissance from 2017 (Fig. 12).



**Figure 12.** Current view from a drone of the Palazzo Cassano Ayerbo d'Aragona from Via Tutini (by Mirko Perna 360°VIRTO).

## Notes

<sup>1</sup> Carnevale, T. (2018). *Fondazione Morra – Istituto di Scienze delle Comunicazioni visive*. In: Zerlenga, O. (ed.). *M'illumino d'immenso. The staircase of Palazzo Cassano Ayerbo d'Aragona*. Naples: La scuola di Pitagora, p. 9.

<sup>2</sup> Zerlenga, O. (2014). *Staircases as a representative space of architecture*. In Carmine Gambardella, *Best practise in Heritage Conservation Management from the world to Pompeii*. Napoli: La scuola di Pitagora, pp. 1632-1642.

<sup>3</sup> Cirillo, V. (2019). *Riflessioni e suggestioni fra geometria e forma. Le scale del '700 napoletano*. Napoli: La scuola di Pitagora, pp. 31-73.

<sup>4</sup> Celano, C. (1692). *Notizie del bello, dell'antico e del curioso della città di Napoli per i signori forastieri*. Napoli, Giornata VII, p. 111.

<sup>5</sup> Parrino, D. A. (1700). *Napoli città nobilissima, antica e fedelissima, esposta agli occhi et alla mente de' curiosi, [...]*. Napoli, vol. I, p. 422.

<sup>6</sup> Parrino, D. A. (1725). *Nuova Guida de' forastieri per osservare e godere le curiosità più vaghe e più rare della real fedelissima gran Napoli, città antica et nobilissima, [...]*. Opera di Dom. Antonio Parrino: Accresciuta con moderne notizie da Nicolo' suo Figlio. Napoli, p- 389.

<sup>7</sup> The survey in 1:100 scale of the building, the Congregation of the Servants of Mary of Sorrows, is deposited at the Superintendence for Architectural Heritage and Landscape and of the Historical and Artistic Heritage of Naples.

<sup>8</sup> Photographic documentation based on video footage taken with a drone survey by Mirko Perna (june 2017).

<sup>9</sup> Ayerbe is a Spanish municipality in Aragon. The surname of Ayerbe has undergone a change in spelling (Ayerbis or d'Ayerbo) over time. For the House of Cassano Ayerbe d'Aragona, cfr. <http://www.genmarenostrom.com/pagine- lettere/letteraa/Aragona%20d'Ayerbis.htm>

<sup>10</sup> Superintendence for Architectural Heritage and Landscape and of the Historical and Artistic Heritage of Naples, prot. 987 of 19/01/2015, "Relazione descrittiva e tecnica del Restauro del Complesso di Salita San Raffaele 20 C" - Napoli e progetto di trasformazione in Museo e Sede della Fondazione Morra (attached to Note 017256 of 09/07/2014), p. 24.

<sup>11</sup> Donna Girolama De Curtis, princess of Cassano (?-1657); in <http://www.genmarenostrom.com/pagine- lettere/letterad/d%27aquino/Aquino-Castiglione.htm>

<sup>12</sup> A.S.B.N., Banco di San Giacomo, G.M. 770, p. 609, m. 1902 (28/07/1730).

<sup>13</sup> A.S.B.N., Banco di Spirito Santo, G.M. 1242, m. 2064, p. 528 (04/07/1732).

<sup>14</sup> Superintendence for Architectural Heritage and Landscape and of the Historical and Artistic Heritage of Naples, cit. p. 24.

<sup>15</sup> A.S.B.N., Banco del SS. Salvatore, G.M. 1296 (13/02/1754). Previously quoted in: Gambardella, A., Amirante, G. (1994), p. 145. 16 A.S.B.N., Banco di Spirito Santo, f. 595, bancale Cassa, II vol. (15/01/1785). Partially quoted in: Gambardella, A., Amirante, G. (1994), p. 145.

<sup>17</sup> A.S.B.N., Banco di Spirito Santo, (14/01/1786). Previously quoted in: Gambardella, A., Amirante, G. (1994), p. 145.

<sup>18</sup> Superintendence for Architectural Heritage and Landscape and of the Historical and Artistic Heritage of Naples, cit. p. 25.

<sup>19</sup> The document is kept at A.D.N., Inventari, p. 266, erezioni chiese, vol. 78 1888.

<sup>20</sup> Superintendence for Architectural Heritage and Landscape and of the Historical and Artistic Heritage of Naples, cit. p. 25-26.

<sup>21</sup> Ferraro, I. (2006). *Napoli. Atlante della città storica. Dallo Spirito Santo a Materdei*. Napoli: Oikos, vol. IV, p. 462.

<sup>22</sup> Superintendence for Architectural Heritage and Landscape and of the Historical and Artistic Heritage of Naples, cit. p. 26.

<sup>23</sup> Ferraro, I. (2006), cit. p. 462.

<sup>24</sup> Superintendence for Architectural Heritage and Landscape and of the Historical and Artistic Heritage of Naples, cit. p. 26.

<sup>25</sup> The project of «Restoration of the Complex of Salita San Raffaele 20 C - Naples and transformation project into the Museum and home of the Morra Foundation», carried out by Pica Ciamarra Associati - PCA int srl, has been deposited at the Superintendence for Architectural Heritage and Landscape and of the Historical Artistic Heritage of Naples.

## References

Cirillo, V. (2019). *Riflessioni e suggestioni fra geometria e forma. Le scale del '700 napoletano*. Napoli: La scuola di Pitagora. Ferraro, I. (2006). *Napoli. Atlante della città storica. Dallo Spirito Santo a Materdei*. Napoli: Oikos.

Zerlenga, O. (2014). *Staircases as a representative space of architecture*. In Carmine Gambardella, *Best practise in Heritage Conservation Management from the world to Pompeii*. Napoli: La scuola di Pitagora, pp. 1632-1642.

Zerlenga, O. (2018) (ed.). *M'illumino d'immenso. The staircase of Palazzo Cassano Ayerbo d'Aragona*. Naples: La scuola di Pitagora.

The Cemetery of the 366 pits in Naples, designed in 1762 by Ferdinando Fuga, together with the Cemetery of the Colerici behind it, designed by Leonardo Laghezza in 1837, represent a dual architectural and vegetation complex of great importance in the history of cemetery infrastructures on the hill of Poggioreale in Naples both for being, the first, the 18th-century archetype of a new idea of a cemetery with mass graves and, the second, for its ability to describe three temporal sections of 19th-century Neapolitan cemetery architectural history.

More specifically, Il Cimitero delle 366 Fosse and the Sepolcreto dei Colerici are each the architectural alter ego of the other: The former is an eighteenth-century cemetery with a square inner courtyard paved with lava stone, in which there is no name, date or face depicted, only numbers, from 1 to 366, which relate as many mass graves

to the individual days of the year, including the leap year; The second, on the other hand, is a nineteenth-century funeral park, irregular in shape and dotted with tall trees, in the enclosure of which are scattered different types of tombs enriched with names, dates, epigraphs and, sometimes, depictions of faces and symbolic decorations sculpted in bas-relief or high relief.

The Cemetery of the 366 pits is a rationalist architecture whose cyclic, perpetual mechanism of common burial refers to an idea of funeral homologation based on rigorous anonymity incapable of recalling stories of life lived: Ferdinando Fuga's Cemetery is, therefore, a powerful symbolic metaphor, through architecture, of human transience; of ordinary humanity which does not yet want to recognise the value and dignity of its earthly experience.

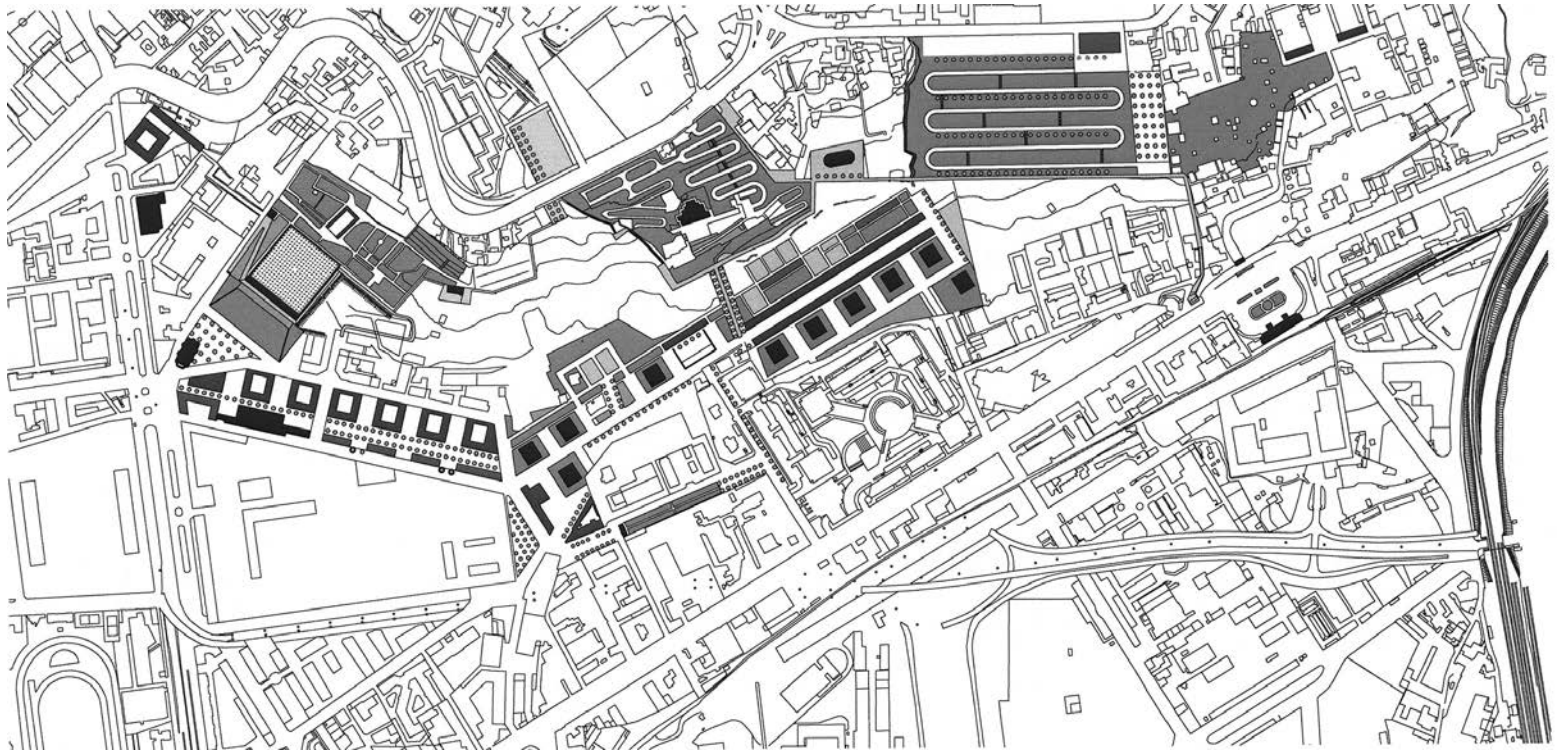
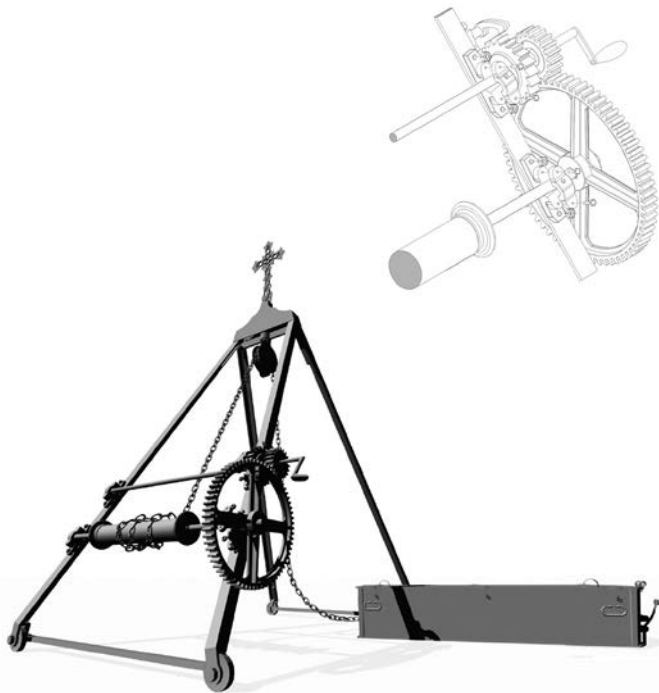


Figure 1. Poggioreale Cemetery Hill, Cemetery Master Plan, 2008.



**Figure 2.** Cimitero delle 366 Fosse north enclosure. Source: Roberto Pane, 1956.

Leonardo Laghezza's Sepolcreto dei Colerici, on the other hand, is a romantic park which, through the presence of centuries-old trees and individual monumental tombs, proposes a double symbolic metaphor, an interweaving of life and death:



**Figure 3.** Funeral winch, render



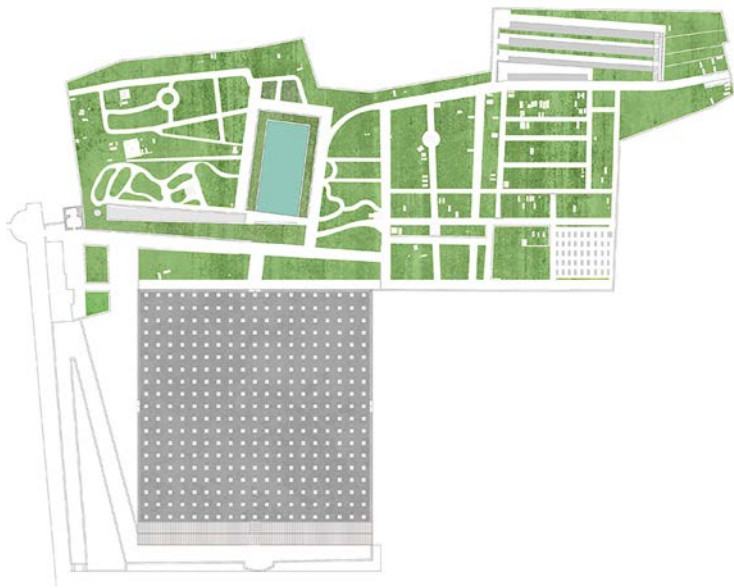
**Figure 4.** Cimitero delle 366 fosse, state of the art, overhead photo, 2019

On the one hand, the dense vegetation which, through its periodic seasonal withering and re-blooming, represents the cyclical nature of life; on the other hand, the presence of individual tombs which, through the various commemorative inscriptions dedicated to the deceased, ensures the immortality of man, at least on the level of remembrance and memory. In this sense, the two cemeteries, located on the Poggioreale Hill and bordering each other, well express the different attitudes towards death and burial in the pre-revolutionary eighteenth-century monarchical society and the post-revolutionary bourgeois society of the nineteenth century.



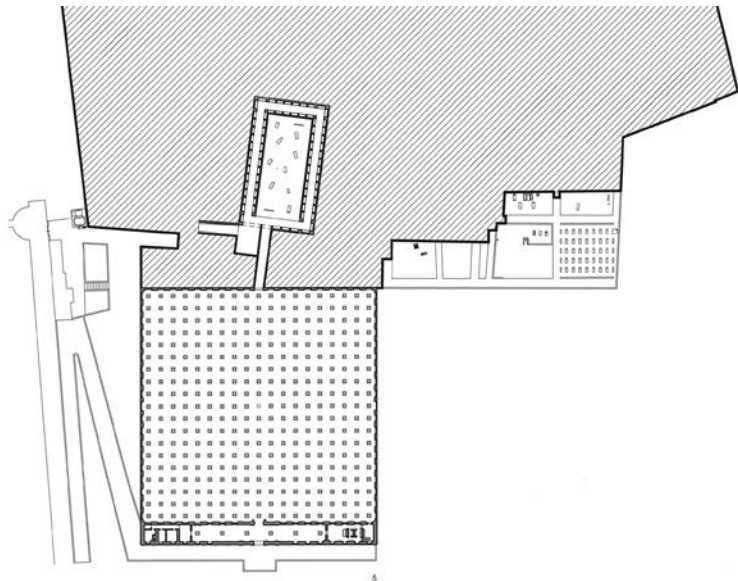
**Figure 5.** Cimitero delle 366 fosse, state of the art, photo from the south, 2019



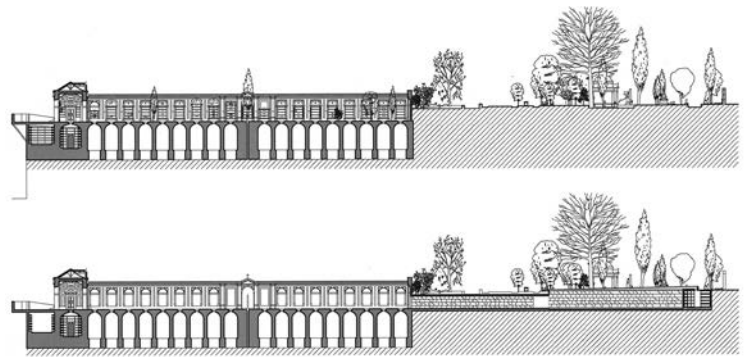


**Figure 6.** *Cimitero delle 366 fosse and Sepolcreto dei Colerici, restoration and reconfiguration project, 2008*

Despite their clear cultural matrices of adoption, the two cemeteries are currently unable to fully represent their original architectural characteristics, both because of the widespread environmental degradation surrounding them and the considerable transformations made to them, especially in recent decades.



**Figure 7.** *Cimitero delle 366 fosse and Sepolcreto dei Colerici, restoration and reconfiguration project, plan, 2008*



**Figure 8.** *Cimitero delle 366 fosse and Sepolcreto dei Colerici, restoration and reconfiguration project, longitudinal sections, state of the art (top) restoration and reconfiguration project (bottom), 2008*

Over the centuries, the Cemetery of the 366 pits has undergone a number of transformations that, although bold, have not altered its original layout. These include, in addition to the hypogeal extension underneath the main body of the building, carried out in 1871, the placement of monumental tombs similar to those in the neighbouring Colerici burial ground inside the window compartments of the wall separating the inner space of the aforementioned building from the square courtyard. The construction, between the end of the 19th century and the beginning of the 20th century, of these funerary monuments, represents, from an architectural point of view, contamination of romantic character and style within a rational structure which, due to their high decorative and typological quality, is not to be considered as invasive to the compositional balance of Ferdinando Fuga's Cemetery. On the other hand, the structural and functional interventions carried out below the churchyard entrance to the Cemetery and within its square courtyard in the 1960s are considered an entirely different order. These concerned, in particular, the removal of the rural slope with the relative construction of reinforced concrete retaining wall concealing a new cemetery hypogeum and the systematic use of the decorative niches located on the internal western, northern and eastern sides of the funeral enclosure to create new burial niches: invasive interventions, the latter strongly compromising the compositional clarity expressed by Ferdinando Fuga's original project. In addition to this, inside the funeral courtyard, a thick vegetation, both spontaneous and not, compromises with its roots the delicate statics of the intrados and extrados of the hypogeum system at 360 pits.

This hybrid vegetation should be completely eliminated in order to restore the beautiful numbered courtyard of

the Cemetery of the 366 pits to its original appearance as a square paved in volcanic stone, which makes it very different from the tree-lined, irregular funerary enclosure behind the Sepolcreto dei Colerici. The latter is an abandoned cemetery enclosure, guardian of tragic funeral memories that marked the social history of the Neapolitan city from 1836 to 1910. The inexplicable abandonment of the Colerici burial ground has thus caused twofold damage: first of all to the original vegetation, which has not been cared for and has been overgrown by spontaneous vegetation, and secondly to the various types of the burial ground, which have been attacked by atmospheric agents and outraged by repeated looting and acts of vandalism that have jeopardised the testimony of an important architectural and landscape environment. Recent damage has been added to past transformations that have compromised the original design of the pedestrian paths and burial grounds designed by Leonardo Laghezza in 1837 within the first funeral enclosure of the Colerici burial ground. In this way, what could represent the monumental western head of the Poggioreale Cemetery hill - the gateway to the cemeteries of S. Maria del Pianto, to the future burial ground of Fondo Zevola, to the Monumental and to the Nuovissimo - risks approaching that fateful point of no return beyond which two of the most important funerary testimonies of European cemetery history would be definitively compromised. In this sense, it is evident that the area enclosed by Corso Malta, Via Nuova Poggioreale and Via Don Bosco above represents an orographic-architectural whole of great landscape value.

An important historical cemetery park in which it is possible to read the genesis and the eighteenth-nineteenth-century development of Neapolitan cemetery culture which, by virtue of this architectural-environmental characteristic, deserves a substantial reconfiguration intervention capable of re-evaluating, at the same time, both the Cemetery of Ferdinando Fuga and the Colerici burial ground. Specifically, the restoration of the Cemetery of the 366 pits should, first of all, resolve the difference in height between the cemetery churchyard and the square below, which was created in the 1960s when the rural slope in front of it was excavated; In addition, the vegetation in the inner courtyard must be removed so that the cold, rational transversal lava stone paving can be seen, on which three hundred and sixty of the 366 tombstones 'float' at right angles to the square enclosure; finally, the decorative niches in the inner façades of the perimeter wall of the inner courtyard must be freed from the recently built niches.

On the one hand, this last operation is of fundamental importance for restoring Ferdinando Fuga's Cemetery to its original architectural setting. However, on the other hand, it requires a great sense of respect and caution because of the apparent problems associated with the transfer of the bodies buried there. On the other hand, as far as the Colerici burial ground is concerned, the restoration of the small church designed by Leonardo Laghezza and located near the entrance to the nineteenth-century Cemetery should be carried out; the reconfiguration of the layout and the burial grounds in the first sector, the one dating back to 1837, and in the third sector, the one dating back to the 1884 enlargement, as well as a series of small interventions to modify the ground plan by introducing, at specific points, new paving, new stairs, kerbs and small ramps to overcome the various differences in level within the burial grounds.

The restoration of most of the sepulchres scattered around the Colerici burial ground, currently lying in situ and in a very poor state of preservation, would complete the picture of the interventions needed to revalorise the sites. The restoration operations listed above, separately for the Cemetery of the 366 Pits and for the Colerici burial ground, while satisfying the specific recovery needs of the two funerary monuments, would not, however, grasp the real potential of a broader "modification project" capable not only of resolving the critical points described above but also, and above all, of proposing an innovative architectural-landscape scenario in continuity with what a more in-depth "survey design" can bring in terms of knowledge. These considerations refer to what can be deduced from an analysis of the 1872-1880 map of the Municipality of Naples showing the Colerici burial ground in its 1865 layout and from a passage in the description of the same by Carlo Celano in his book "Notizie del bello dell'antico e del curioso della città di Napoli" in which he recounts that as a result of the 1837 epidemic, because of the high number of cholera victims, burials were suspended in the Camposanto Vecchio, Ferdinando Fuga's Cemetery because the pits had been filled in. The subsequent burials of about eighteen thousand bodies were carried out in an open space behind the Cemetery. Well, from the above-mentioned map, it can be seen that the main transversal route of the Colerici burial ground, the one lying along the north-south axis, had (still has), despite the modification of the original routes, an additional segment that went (still goes) as far as the perimeter wall of the 366-pit Cemetery in correspondence with the triangular pediment that crowns the central decorative niche of the internal facade of the square courtyard.



**Figure 9.** *Cimitero delle 366 fosse, restoration and reconfiguration project, photomontage from above, 2019.*

The latter, moreover, is the only niche in its present state that, without niches, has a red brick wall at its back, which differs from the rest of the wall structure of the funerary enclosure, made entirely of yellow tuff stone, thus testifying to tampering with the septum wall in question. These two circumstances lead to the supposition that, for a brief period between 1836 and 1837, the Cemetery of the 366 burial pits and the Colerici burial ground, despite the different elevation of the two different ground levels, were connected by a passageway in the central niche of the northern elevation of the funerary enclosure designed by Ferdinando Fuga. This functional precedent and cognitive presupposition are fundamental in order to hypothesise a “modification design” capable of connecting the two cemeteries once again and directly with each other while at the same time satisfying all the requirements deriving from the need for a meticulous and impracticable restoration of the two funeral enclosures. In this sense, if, as noted in the past, between the two cemeteries there has already been an interrelationship not only of a functional type but also of an architectural nature - as the “romantic” contamination of the Cemetery of the 366 took place through the construction of individual tombs - it is possible to assume, at present, a “design of modification” based on a new relational connection and on new contamination, this time of a “rational” approach, of the Colerici Burial Ground.

Architectural contamination proposes, therefore, in the romantic enclosure of the Colerici burial ground, the construction of new tombs - for burial and inhumation - characterised by a typological, morphological and dec-



**Figure 10.** *Cimitero delle 366 fosse, restoration and reconfiguration project, photomontage from the south, 2019.*

orative definition that is strongly rigorous, clear and clear essential. In this perspective, the reasoning behind such a design for modification draws its legitimacy from at least three strongly connected motivations: First of all, the need for a common restoration of the two cemeteries. Secondly, the need to locate new burial niches in the immediate vicinity of the 366-pit Cemetery in order to free the inner perimeter fence from the corpses wrongly placed there in recent decades; finally, the need to identify one or more areas within the Colerici burial ground for a limited number of new burials and burials to trigger a new process of ordinary maintenance for a cemetery structure that would otherwise be doomed to oblivion, abandonment and irrecoverable decay. The proposal of a modified design that is aware of these needs, as well as of the past events and configurational realities that have marked the funerary history of the Cemetery of the 366 Graves and the Colerici Burial Ground, represents a methodological response that is culturally rooted in a working hypothesis that assumes representation as a discipline capable of governing the cognitive and propositional processes that underlie the modification of the territory: above all of those portions of the territory on which time has deposited the signs and architectural traces of its multiple and past contemporaries. The proposed modification of the monumental western head of the Poggioreale Cemetery Park provides explicitly, in addition to the direct connection between the 366-Grave Cemetery and the Colerici burial ground, the construction of three new burial structures to be built within the perimeter of the latter: the 366-grave burial ground, the 36-grave hill and the 3-grave hill.



**Figure 11.** *Cimitero delle 366 fosse and Sepolcreto dei Colerici, restoration and reconfiguration project, render of connection between the two burial structures, view from the south.*

The Sepulchre of the 366 graves represents the architectural fulcrum of the connection between Ferdinando Fuga's 18th-century Cemetery and Leonardo Laghezza's 19th-century funeral park. It is a semi-hypogaeum courtyard building, located inside the Colerici burial ground, at the same height as the Cemetery of the 366 graves and connected to the latter by an underground passageway. Since the ground level of Ferdinando Fuga's Cemetery is four metres lower than that of the Colerici burial ground, the new 366 tombs burial ground is buried below the Colerici burial ground, thus not altering its continuity of perception from ground level.

The connection between the new funeral courtyard and the Colerici burial ground above it is provided by a sloping driveway with two ramps and a hairpin bend to the west of the new Cemetery.

From a typological point of view, the 366 Tombs Cemetery consists of a "C"-shaped body of the building that opens towards the underground corridor that connects it to the courtyard of the 366 Tombs Cemetery.

The "C"-shaped underground body is composed of a tripartite system structured around a central corridor that



**Figure 12.** *Cimitero delle 366 fosse and Sepolcreto dei Colerici, restoration and reconfiguration project, rendering of connection between the two burial structures and water court, view from the south.*

disengages on the right and left. These niches were intended to house only the bodies transferred from the decorative niches of the perimeter enclosure of Ferdinando Fuga's Cemetery. The latter operation could thus be carried out without the need for lorries and without going outside the eighteenth-century Cemetery by transferring the bodies on the shoulders of the bearers in a procession, in accordance with ancient funeral rituals. Specifically, three hundred and sixty-five niches are organised in a sequence of five vertical units for each of the 73 modules that give concrete form to the architectural rhythm of the hypogaeum.

This distributional organisation is numerically reminiscent of that which was forcibly created in the central courtyard of the Cemetery of the 366 Graves around the 1960s. This underground structure is illuminated by a continuous slot in the ceiling of the central corridor of the "C" shaped body. The extrados of the C-shaped building, whose height is lower than the surrounding areas, is covered by a lawn system that camouflages its presence in relation to the neighbouring flowerbeds.



**Figure 13.** *Cimitero delle 366 fosse and Sepolcreto dei Colerici, restoration and reconfiguration project, render of the water court and of the space connecting the two funerary structures, north view.*



**Figure 14.** *Render of parapet on water court and northern boundary wall between the two burial structures, north view.*

The 366 Loculus, on the other hand, is located within the water court that opens below the ground level of the Colerici cemetery park. The courtyard is bordered by the stone-clad wall of the semi-hypogean “C” shaped building and is silent, or simply inhabited by a high steel cross placed in the north-eastern corner of the courtyard and by some old gravestones of the Colerici burial ground, almost floating on a veil of water covering its entire surface. The Tomb of the 366 Tombs courtyard is not passable but simply perceptible from the corridor connecting it to the eighteenth-century Cemetery and from the Colerici burial ground above. The same need for architectural mimesis that characterises the 366-tomb burial ground also defines the other two new funeral facilities located in the Colerici burial ground: the ‘Radura delle 36 Fosse’ and the ‘Collina dei 3 Sepolcri’.

The latter are funeral facilities designed to allow a new use of the nineteenth-century cemetery park while respecting its specific identity, which, as described above, cannot be found only in the architectural quality of the tombs but also in that of all the vegetation. The Radura of the 36 graves is located in the extreme south-eastern corner of the Colerici burial ground: an area of about five hundred square metres at the lowest level of the funeral park.

Specifically, the new layout consists of a square clearing in which thirty-five inhumation pits are arranged in five rows in the east-west direction and seven rows in the north-south direction. In addition to these, placed outside the square pattern, in the north-eastern corner of the clearing is the thirty-sixth tombstone characterised by a vertical monolith three metres and sixty centimetres high. The tall stone stele, on which various types of crosses are engraved in bas-relief, indicates, from the neighbouring sectors, the presence of the new funerary structure. If the 'Radura delle 36 Fosse' is located in the lowest altimetric depression of the Sepolcreto dei Colerici, on the other hand, the last proposed funerary settlement, the 'Collina dei 3 Sepolcri', is located above the four steps that structure the north-eastern end of the 19th-century cemetery. Terraced steps on which are located three old sepulchres dating back between 1884 and 1887.

More specifically, the third burial settlement in the Colerici burial ground is characterised by four in-line structures, each located on a single terrace, with the rear elevations facing south. Access to the burial niches is from the rear of these volumes, allowing these four in-line structures to appear as a retaining wall with four recourses wholly covered in lava stone.

In this way, once again, architectural and environmental mimesis is guaranteed, which respects the identity of the Colerici's funeral enclosure. The project for the restoration and reconfiguration of the monumental funerary head of the Poggioreale Cemetery Park, composed of the Cemetery of the 366 pits and the Colerici burial ground, takes its legitimacy from a complex articulation of the historical identity of the two cemeteries, not disdaining, however, a modifying reinterpretation steeped in contemporaneity. In summary, as Vittorio Gregotti writes, "Modification" is, in linguistic syntax, a way of being of the mode, that is, of the verb category, which defines the quality of the action (subjunctive, indicative, etc.). Therefore, it also reveals the consciousness of being part of a pre-existing whole, the transformation introduced in the whole system by the change of one of its parts and indicates that

it develops in time and, through the etymological root that links it to the concept of measure (modus), is then joined to the geometric world of finite things".

## References

- A.A.V.V., (1996). *Manuale del recupero delle antiche tecniche costruttive napoletane dal Trecento all'Ottocento*, Napoli 1996.
- Bertolaccini, L., (2004). *Città e Cimiteri, Dall'eredità medievale alla codificazione ottocentesca*, Roma 2004.
- Bianchi, L., (1955). *Disegni di Ferdinando Fuga e di altri architetti del Settecento*, Roma 1955.
- Boato, A., (2008). *L'archeologia in architettura: misurazioni, stratigrafie, datazioni, restauro*, Venezia 2008.
- Carletti, N., (1772). *Istituzioni di Architettura Civile*, Napoli 1772.
- Celano, G., (1792). *Delle Notizie del Bello dell'Antico e del Curioso della città di Napoli. Con aggiunzioni di Giovan Battista Chiarini*, Napoli 1792.
- Della Torre, S., (1996). *Storia delle tecniche murarie e tutela del patrimonio. Esperienze e questioni di metodo*, Milano 1996.
- Gambardella, A., (2001). *Ferdinando Fuga. 1699 - 1999* Roma, Napoli, Palermo, Napoli, Napoli 2001.
- Giordano, P., (2006). *Il disegno dell'architettura funebre. Napoli\_ Poggioreale, il Cimterio delle 366 fosse e il Sepolcreto dei Colerici*, Firenze 2006.
- Giordano, P., (1997). *L'Albergo dei Poveri, il Cimitero delle 366 fosse, i Granili*, Lecce 1997.
- Gravagnuolo, B., (2010). *Architettura del Settecento a Napoli: dal barocco al classicismo*, Napoli 2010.
- Kieven, E., (1988). *Ferdinando Fuga e l'architettura romana del Settecento*, Roma 1988.
- Letarouilly, P., (1866). *Edifices de Rome moderne*, Brussel 1866.
- Mangone, F., (2004). *Cimiteri napoletani: storia, arte e cultura*, Napoli 2004.
- Mangone, F., Giuffrè, M., Pace, S., Selvafolta, O., (a cura di), (1952). *L'architettura della memoria in Italia. Cimiteri, monumenti e città 1750-1939*, Milano 2007.
- Matthiae, G., (1952). *Ferdinando Fuga e la sua opera romana*, Roma 1952.
- Pane, R., (1956). *Ferdinando Fuga*, Napoli 1956.

Luigi Corniello, Gennaro Pio Lento

## Introduction

The paper presents the results of architectural survey campaigns of religious micro-cities along the western coastal strip of the Mount Athos peninsula. An autonomous territory within the Hellenic Republic but with a particular self-governing statute, located at the last of the three peninsulas of the region called Chalkidiki.

The city's theme can be seen in the geometric forms and the public and political functions assumed by the monasteries. Social activities are governed independently in the individual structures while considering the monastic rules. The current bibliographical documentation focuses, for the most part, on an art-historical description of the paintings in the monasteries, as well as on the travel notes of visitors who have climbed their peaks and steep paths, and is scanty in graphic documentation and surveys of the architectural volumes.

Many famous travellers (architects, philosophers, writers, directors) have drawn inspiration for their works from the slopes of the Holy Mountain: Umberto Eco's famous novel *The Name of the Rose* was inspired by his journey to Athos. Le Corbusier also visited the Mount, and some references can be found in his 1960 work, the Catholic Monastery of Tourette in Lyon, France, whose structure can be compared to the monastic complex of Dionisiou.

Over the centuries, the monastic community of Athos, dedicated to hermitic life, has preserved the social traditions of the approximately 1500 Orthodox monks and the architectural geometry of the community buildings, churches, service structures, dormitories and solitary cells aggregated in vast complexes similar to religious micro-cities (Fig. 1).

### The process of the survey of monasteries on the west coast of Athos

The consolidated phases of the discipline of representation, such as digital surveying, point clouds, processing of flat surfaces and 3D modelling, have enabled a journey of knowledge of the third arm of the Chalkidiki peninsula,



**Figure 1.** *The Monasteries of Mount Athos. Planimetric identification of the Monasteries in red.*

both with regard to the religious architecture and to the current and historical functions of the ten Monasteries under research.

In the initial part, the research was developed with photographic documentation taken from the sea to create an appropriate illustrative campaign to document the artefacts. In a second phase, after the complicated visa procedures for access to the sites, the in site surveys of the Monasteries on the west coast was carried out.

Of great importance is the design of the sockets, the definition of the shooting points from which the measurements are taken. This project took into account the actual dimensions of the Monasteries both for the phase carried out from the sea and for the subsequent surveys from land. A survey project was then drawn up, which required greater attention as it was necessary to superimpose the

images and align them correctly. The characterisation of the shots allowed the definition of some image filtering procedures in order to determine the greatest reduction in noise and the maintenance of the geometric configuration given by the shapes of the Monasteries. (Apollonio, 2010)

The size of the architectural detail, often consisting of fixtures, wall facings and balconies, constituted an additional parameter for the point clouds' realisation based on the optics used and in relation to the mesh established for the survey phases. In relation to the purpose of the survey, graphic-geometric documentation, dimensional and occlusion characteristics, material reflection, and detail ratio were taken into account. The lack of freedom of movement, caused by the filming carried out by boat, for which it was necessary to take into account the relative oscillation due to the sea waves, greatly influenced the survey campaign and the processing of the data collected. The captured images were interpolated with measurements taken at three different points. The survey was carried out both from the centre, perpendicular to the individual Monasteries, and the side points to collect the greatest number of triangles to create the digital survey model.

Following the sea and land survey campaign, the collected data was processed.

Of great importance is the alignment of the images through digital software. In order to control the error, the overlap was calculated to the extent of 40% between one image and another with a symmetrical view from two vertices towards the same point of capture. (Remondino, 2011)

The images taken from the sea shots did not show any problems of poor overlap in mesh generation, as they were both numerically suitable for the light condition. The meshes were merged into a single image with polygonal characteristics, and this activity resulted in the creation of merge images of the point cloud. The geometries obtained were realised using the maximum density of the polygon vertices, reducing the automatic control of the surfaces to a maximum.

On the other hand, the editing phase was developed by marking and eliminating typological errors relating to the acquisition of the images, mainly for the phase carried out by the boat and the subsequent point cloud alignment processes subsequently. However, manual intervention was necessary to close the gaps present in the less exposed surfaces to a lesser extent.

The point cloud created was then checked for external noise caused by the multiple environmental conditions present on site. Subsequently, the plans and main sections were created in order to document the monastic complexes of Athos.



*Figure 2. The Monastery of St. Gregorio. Cloud of points.*



## The monasteries on the west coast of Athos

In the definition of research on religious micro-cities, the study of the spaces in which monastic life takes place is of particular interest. They are complex places in terms of form and position, and simple forms and complex geometries aggregate to follow the mountain's slopes.

The activities concerned the Monastery of St. Dionysius, the Monastery of Xeropotmus, the Monastery of Zographus, the Monastery of Dochiarius, the Monastery of Simonpetra, the Monastery of St. Paul, the Monastery of Xenophon, the Monastery of St. Gregory, the Monastery of St. Panteleimon and the Monastery of Costamonitis (Fig. 2).

The Monastery of Dionisiou, built in the middle of the 14th century by the monk Dionysius of Koryssos, was destroyed by fire in 1535 and subsequently rebuilt, retaining its architectural form to this day. The structures, built on a spur of rock overlooking the sea, are smaller than the floor space of the other complexes. The Monastery is characterised by a central church surrounded by several chapels with frescoes and a refectory completed in 1603. Of particular interest is the defensive tower, built in 1520, which currently houses the Monastery's precious library with numerous works of art, including icons and miniature manuscripts (Fig. 3, 4).

The Monastery of Xenophontos is located by the sea, between the structures of Docheiariou and St Panteleimonos, and is dedicated to St George. In the historical bibli-

ography, it is mentioned in the 11th century, when it was destroyed and rebuilt after a long commercial and cultural activity. The sea-facing part of the building has a large entrance opening, topped by four floors, one of which is the attic. The lower part of the building is characterised by a stone structure with arches and buttresses surmounted by wooden galleries coloured red and blue. Of great interest is the library with 300 manuscripts, over 4000 books and numerous mosaic icons (Fig. 5).

The Monastery of Zografo, traditionally founded in the 10th century, is dedicated to St George and situated on a slope on the southwest side of the Mount Athos peninsula. In the late Byzantine period, it was destroyed by pirates and rebuilt with the financial support of Eastern European rulers. For this reason, the majority of the resident monks came from Bulgaria, Serbia and, to some extent, Greece. The volumes in the central courtyard are covered with copper-plated zinc domes. There are also two workshops for painting and making religious icons and a library with 126 manuscripts in Greek and 388 in Slavic (Fig. 6).

The seaside Monastery of Dochiariou was founded in the second half of the 10th century. At present, the structure can be reached by means of a dock for small and medium-sized boats to supply non-self-produced goods. The monastic complex develops on the mountain slope with different geometric shapes such as the parallelepipeds of the main volumes, the spheres and hemispheres of the domes of the churches and chapels, and the pyramids



Figure 3. The Monastery of St. Dionysius. Cloud of points.



Figure 4. The Monastery of St. Dionisio. Cloud of points.

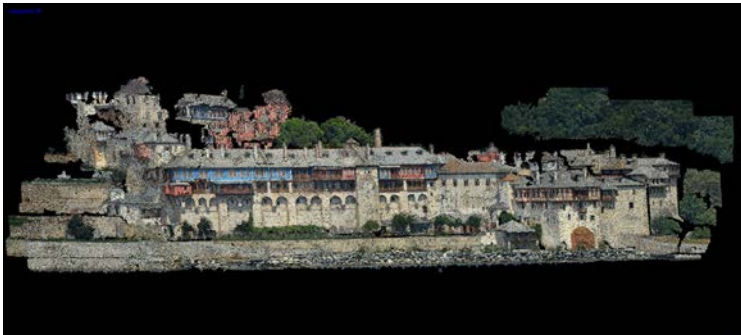


Figure 5. The Monastery of Xenophontos. Cloud of points.



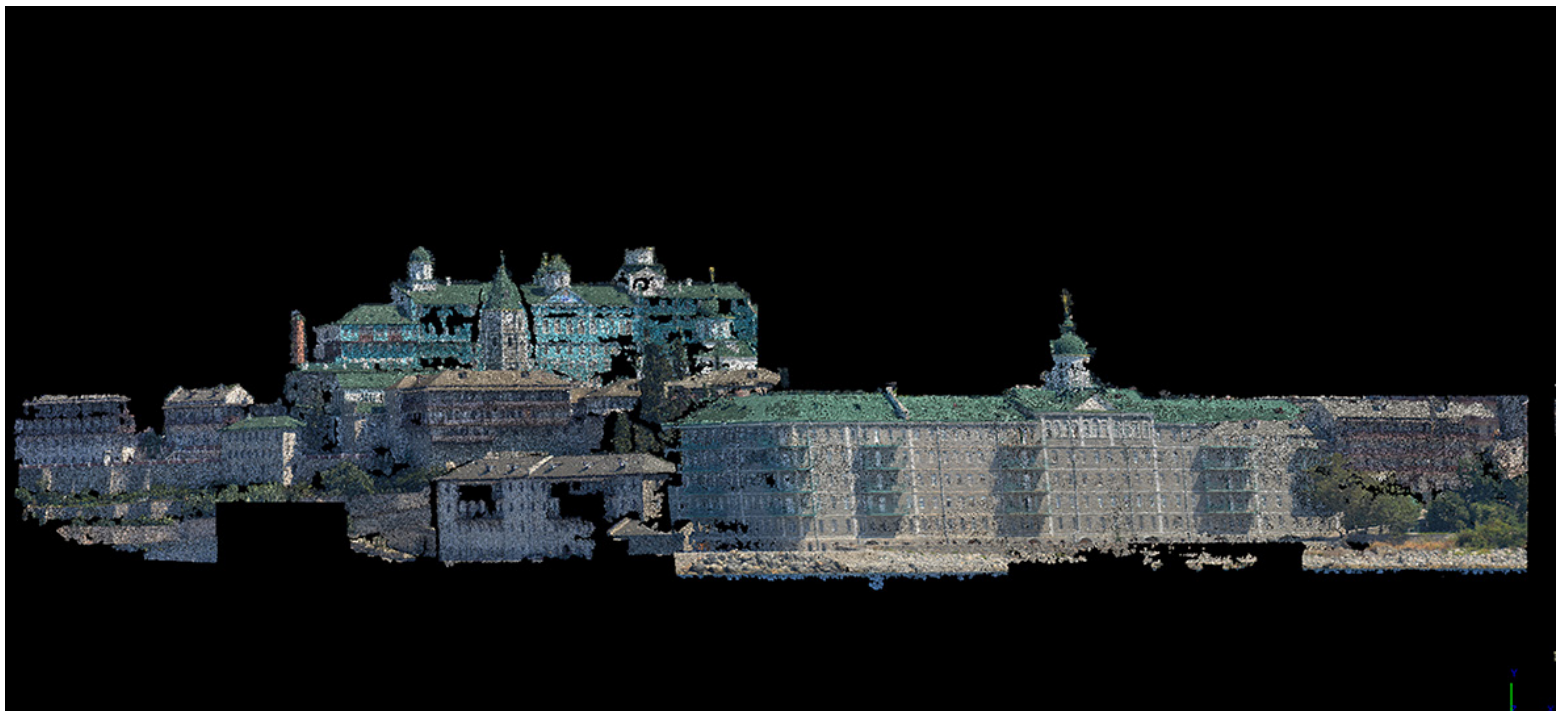
Figure 6. The Monastery of Zograph. Cloud of points.

cones of the roofs. Of particular note are the two refectories positioned parallel to the coastline, with the old refectory by the sea, dating from 1675, and the new one on the hill from 1700, overlooked by the Katholikon, the main church built on the remains of the walls of an older religious building. The Monastery also has a watchtower and a library with about 900 manuscripts.

The Simonpetra Monastery is a majestic seven-storey building dedicated to the birth of Christ. The structure is 230 metres above sea level and consists of two architectural complexes, one downstream serving as a landing place for boats from the nearby Ouranopoli and the other upstream, where the monks live and pray. The building by the sea, with a small harbour and boathouse, has a stone watchtower. In a panoramic position, facing south, the Monastery is composed of two built portions: the first with the church, the refectory and a tower; the second, instead, entirely used as a residence for the monks with cells and services. Over the centuries, the building was destroyed by numerous fires and rebuilt several times through donations from Russia (Fig. 7).



*Figure 7. The Monastery of Simonpetra. Cloud of points.*



*Figure 8. The Monastery of St. Pantaleimon. Cloud of points.*

The Monastery of St Paul, dedicated to the presentation of Christ in the Temple, was destroyed and rebuilt many times over the centuries, and this architectural stratification can be seen in the shapes of the buildings, which date back to different periods. The religious complex, currently attended by a community of 30 monks, has 12 prayer chapels, the most important of which is the one dedicated to St George, with frescoes of the Cretan school dating back to 1555. Of great interest is the library containing 494 manuscripts and a total of about 12500 books.

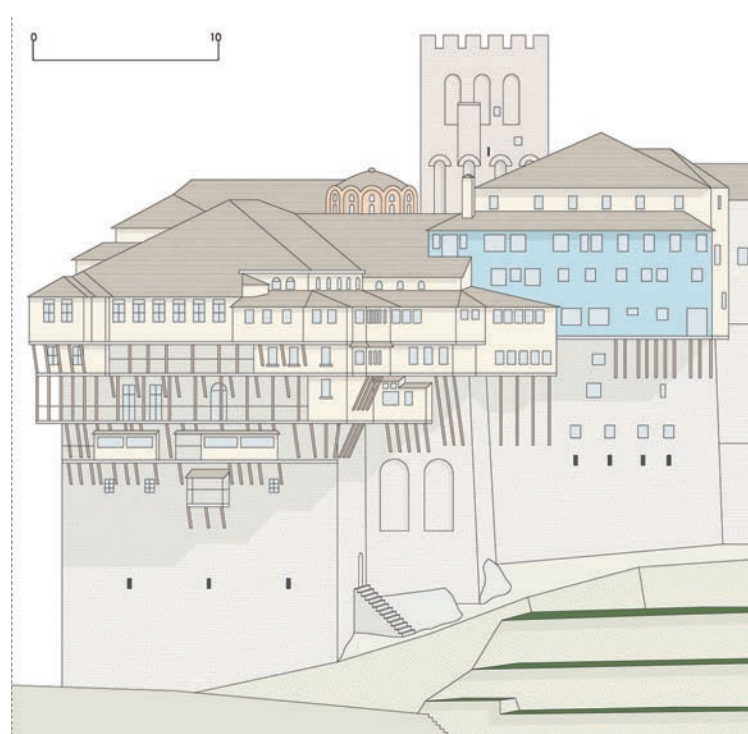
The Monastery of Grigoriou, currently inhabited by a brotherhood of 70 monks, is built by the sea, on the southwest side of the peninsula, between the monasteries of Dionysiou and Simonpetra and is dedicated to St Nicholas. The fifth building by the sea has a parallelepiped volume characterised by projecting wooden galleries decorated with pillars and arches. The structure is characterised by two internal courtyards and an imposing wall at the back that protects the Monastery from landslides from the mountain. The entrance courtyard, facing north, houses the monks' cells and acts as a filter for the second courtyard, characterised by the presence of the main church dating back to the mid-18th century (Fig. 8).



**Figure 9.** The Monastery of St. Dionisio. Detail of the western elevation

The Monastery of St. Panteleimon, built on a flat area by the sea, consists of several buildings: a rectangular main body with several structures such as churches and chapels; an L-shaped building that follows the coastline. The latter serves as a hermitage for monks and pilgrims visiting or praying. The Monastery has 15 chapels and numerous spaces for making sacred objects, such as a carpentry shop. The library contains 1320 Greek and 600 Slavic manuscripts and over 20000 Greek and Russian books. Of great interest is the use of red and green colours in the roofs, terracotta tiles and copper surfaces that contrast with the white of the walls adorned with wooden balconies and galleries (Fig. 9).

The Konstamonitou Monastery is located in a forest 200 metres above sea level, 50 minutes away from the coast. The construction of the small building with a central courtyard is due to a hermit who wanted to spend his time in solitude and prayer in contact with nature. The present complex has undergone numerous changes due to reconstructions following fires: those of the 14th century, 1360 and 1433. Following the reconstructions, the wall face is in local stone, and the roof is in red brick, reducing the presence of wood on the facade and roof to a minimum. In the courtyard is the main church with six copper-clad roof lanterns and a small library building (Fig. 10).



**Figure 10.** The Monastery of Dochiariou. Detail of the western elevation.



**Figure 11.** *The Monastery of St. Gregory. Detail of the western elevation.*

## Conclusion

The investigations carried out analysed the architectural languages and forms of the micro-cities of Athos.

By using photogrammetry, it was possible to detect the buildings unreachable from the ground. The survey phases made it possible to develop original graphic documentation for the knowledge of the places.

Of great interest is the operational process illustrated both on the basis of the problems that emerged and the solutions adopted in the knowledge phases.

For the first time, the research exposes the unpublished instrumental surveys carried out in the community of Athos, which for centuries has been denied access to scholars, tourists, and the curious (Fig. 11).

The instrumental survey activities carried out with the aid of quadrihelix drones, and terrestrial photogrammetry concerned the western part of the third Chalkidiki peninsula: the Monastery of St. Dionysius, the Monastery of Xeropothemus, the Monastery of Zographos, the Monastery of Dochiario, the Monastery of Simonpetra, the Monastery of St. Paul, the Monastery of Xenophon, the Monastery of St. Gregory, the Monastery of St. Panteleimon and the Monastery of Costamonita. The research is configured as a methodological process to be implemented at both small and large scales to survey historical complexes.

Remote sensing systems from drones have made it possible to carry out flights in areas uncovered by the range of regular cameras, guaranteeing an overall knowledge of the property. The data collected constitutes a well-stocked database of metric, artistic and architectural information on the individual Monasteries that can be used for future interventions. In addition to this activity, it is of particular interest to catalogue the architecture, the landscape, and the cities to provide both ordinary and extraordinary maintenance for management and social development.

## References

- Amoruso, G., Apollonio, F., I., Remondino, F. (2010). Caratterizzazione strumentale di sensori attivi a tempo di volo e a triangolazione. Utilizzo di laser scanner su superfici marmoree di epoca romana, Pisa: Scuola Normale di Pisa.
- Apollonio, F., I. (2010). La modellazione digitale. Bologna: Clueb.
- Burridge, P. (1996). Architectural development of the Athonite Monastery. In Mount Athos and Byzantine Monasticism. Brookfield: Ashgate Publishing Company.
- Capuani, M. (1988). Monte Athos. Baluardo monastico del Cristianesimo orientale. Novara: Europa.
- Capuani, M. (1997). Il patrimonio artistico. In Athos, le fondazioni monastiche, un millennio di spiritualità e arte ortodossa. Milano: Jaca Book.
- Corniello, L. (2020). photogrammetric 3d information systems for the management of models of cultural heritage, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLIV-4/W1-2020.
- Crisan N. (2016). Athos. The Holy Mountain. Suceava: Accent Print.
- Della Valle, M. (2007). Costantinopoli e il suo impero. Arte, architettura, urbanistica nel millennio bizantino. Milano: Jaca Book.
- Farides C. (2010). Monte Santo. Il giardino della Madonna. Salonicco: Rekos.
- Menna, F., Remondino, F., Maas, H.G., (2016). Sensors and Techniques for 3D Object Modeling in Underwater Environments. MDPI Publisher.
- Muresu M. (2014). Architettura sacra mediobizantina dal Monte Athos (Grecia), il caso di Ravdouchos. In Archeo-Arte, n 3.
- Pentzikis, G. N. (2003). Mount Athos. Athens: print
- Remondino, F. 2011. Rilievo e modellazione 3D di siti e architetture complesse, in DisegnareCon, dicembre 2011.
- Trumler G. 2009. Athos. L'orto della Madonna. Peania: Adam Editions

**The diffusion of the pious places**

During the Middle Ages, different forms of assistance developed both in urban centres and rural suburbs. The poor lived mainly in the suburbs, where widespread degradation and social unrest were. Furthermore, the living conditions of the medieval populations, marked by the non-observance of hygienic-sanitary rules, facilitated the emergence of pandemics and famines, especially the weaker classes.

During the Middle Ages, an articulated system of hospitality and charity was established that affected the organization of structures for assistance to the needy and pilgrims. In fact, monasteries and churches contributed to the satisfaction of the needs of the poor and the sick of the cities, giving them medicines, food and clothing.

Especially starting from the fourteenth century, new forms of religious assistance spread, leading to an increase in charitable and support works. Multiple groups, made up mostly of laypeople, gathered in brotherhoods. Especially starting from the fourteenth century, new forms of religious assistance spread, leading to increased charitable and support works. Multiple groups, made up mostly of laypeople, gathered in brotherhoods. The relations of the lay brotherhoods with the parishes of the dioceses are developed in different ways in the various Italian areas. In the North, the brotherhoods, over time, also materially detached from the parishes, compromising their role as well in Campania most of the lay foundations remained linked to the parish structure, a relationship that continued at least until the seventeenth century.

In Naples, the archepiscopal Curia was able to impose changes, norms and statutes on the brotherhoods aimed at greater control by the Curia over the brotherhood. The spread of lay brotherhoods or holy places, often inspired by the example of the Franciscans, had marked a decisive turning point in the economy of charity. The word's etymology derives from the Latin *frater*, brother, which gave rise to fraternities, confraternities, Archi-confraternities, congregation, and Italian words such as fraternity and brotherhood archconfraternity and so on. Established to

encourage the increase in worship, lay institutes exercised their functions thanks to the assistance of the diocesan churches and the most important aristocratic families who enriched their revenues with land and property donations. These guilds generally distributed food and clothing to the poor and disadvantaged, administered hospitals and orphanages, marriages and pity's hills, and provided assistance to pilgrims, prisoners and those sentenced to death. The congregations were composed of the hierarchically organized faithful and had as their purpose the exercise of works of piety or charity and the increase of public worship and could have their headquarters in a church, in an oratory or in a chapel. In any case, these were small communities made up of laity: the clergy were present, but in aggregate form, for the preaching and administration of the sacraments.

The origin of the Confraternities is very ancient, and its long history experienced the first period of great success in the thirteenth and fourteenth centuries when the first congregations were born that took shape as true popular movements.

The first Confraternity was the "Recommended of Madonna S. Maria" born in Rome in 1263. Recognized by Clement IV in 1267, it became with the intervention of Innocent VIII in 1486 the Confraternity of the Gonfalone (Fig. 1). The birth of the Archconfraternity of the Gonfalone was due to the initiative of Messer Giacomo, one of the Canons of the Collegiate Church of S. Vitale, who organized a pilgrimage from Rome to the temple of S. Giacomo di Compostela in Galicia and during the journey, he studied the problems that afflicted the Church and society.

**Penitents, battenti, frustati or disciplinati**

To support the rise of the Churches of the Ave Gratia Plena, also known by the acronym AGP, or the greeting that the Angel addressed to the Madonna at the moment of the Annunciation, was lay brotherhoods in relation with the Flagellants, also called Penitents or Battenti o Battuti, Frustati or even Disciplinati, that is religious groups of ecclesiastics and laity dedicated to the cult of the Santissi-

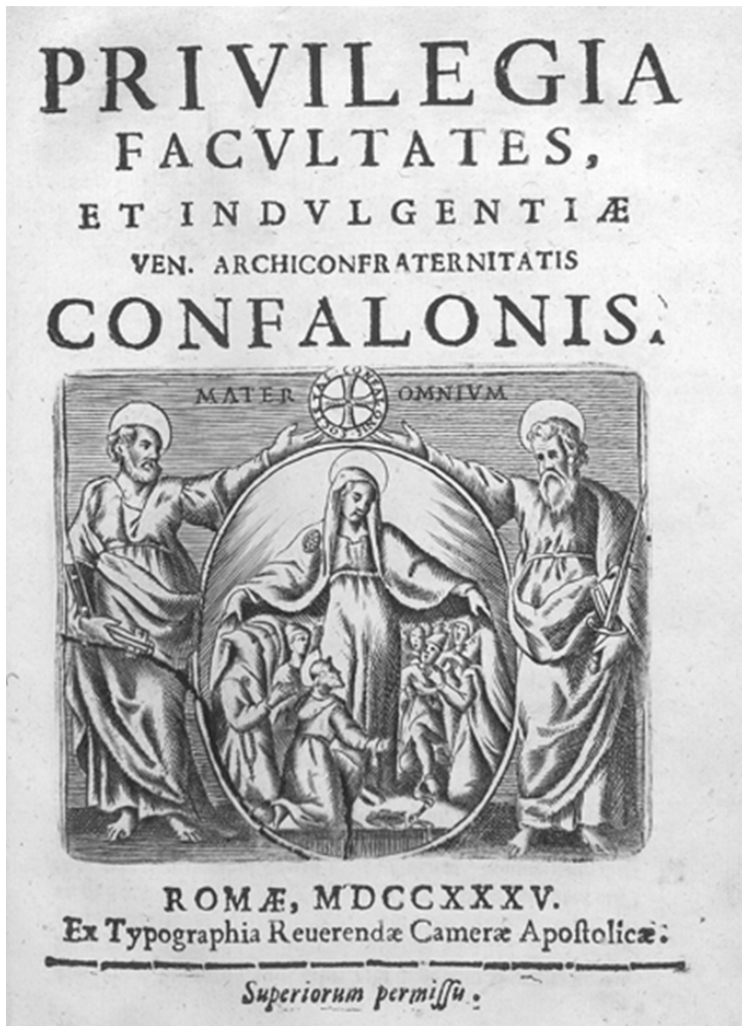


Figure 1. Frontispiece of the Statutes of the Confraternita del Gonfalone, Rome, 1825.

ma Annunziata, widespread in Italy and other European countries from the thirteenth to the fifteenth century (Fig. 2). These lived in communities dealing full-time with the poor and the sick, thus translating into charitable practice the precepts of mendicant spirituality to which they referred without ever having legal independence. The central moment of the associative life of the congregations was the so-called *devotio*, an exclusive rite of the *Disciplinati*, based on the exercise of self-flagellation and the singing of laudes.

The brethren covered with a long sack up to their feet, a hood over their faces that concealed their identity and girded with ropes, scourged themselves during public ceremonies and processions as a sign of penance. The hood, or *buffa*, generally ended in a pointed upper part and



Figure 2. P. Van Laer, *The Flagellants*, Oil painting, c. 1635, Alte Pinakothek, Munich, Bavaria, Germany.

had a long front nock, was sewn to the hood and could be left hanging on the back, raised on the forehead or worn down to hide the face depending on the liturgical and devotional moment. The symbol of the association was painted, embroidered or sewn on the shoulder or the *buffa*.

Although certainly widespread to a lesser extent than previously believed, the public or private scourging of members of the brotherhoods was still in force in the sixteenth century. The Capuchins, in particular, implemented this practice, also called *discipline*. Public scourging was in use among men, women could only perform it in private or they wept, moaned, begged for God's forgiveness outside the Church, while the men inside scourged themselves.

The practice of the *discipline* was probably particularly widespread in the northern regions, as in the South, the interest in these practices is poorly documented. In order to start a process of uniformity of devotional models, all the brotherhoods present in the various dioceses were urged to join the archconfraternities.

Of particular interest was the "White Penitents" movement, which established itself in Italy from the early 1400s and whose followers used to wear a white linen habit with a red cross on the chest and a hood on the face.

Little by little, the Confraternity of the Whites expanded to the South, involving a large number of faithful, so much so that Pope Boniface IX granted indulgences and forgiveness of sins to those who were actively part of this institute. If, on the one hand, the Whites were catalysts of a widespread sentiment of penance, on the other hand, their contribution lasted very little, as in 1399, the plague

decimated the brothers to such an extent that the brotherhood itself disappeared.

In the context of the Confraternities of the Disciplined, Flagellants or Battuti, the “Confraternities of the Laudesi” also spread, known since the thirteenth century, which privileged the themes of the passion of Christ and the pain of the Virgin with a vigorous mysticism, starting to compose on his own and to hand down orally, and then also in writing, collections of spontaneous compositions or praises of devoted souls, mostly in an anonymous form. Despite the assistance of the mendicant orders, at whose churches the Confraternities often headed, the phenomenon was not free from political-social infiltrations and heretical tendencies to the point that, with the bull *Inter sollicitudines* of 20 October 1349, Pope Clement VI prohibited its public manifestations.

The presence of Penitents and Disciplinates is testified by a letter from Innocent VI “*ut inquirat de vita et moribus Flagellantorum*” which reveals the presence of these Congregations in the territories of Salerno, Naples, Benevento and Sicily (Fig. 3).

From the fourteenth to the eighteenth century there was, therefore, a wide diffusion and development of the brotherhoods. Many of them became important and brought a not indifferent contribution not only in the fight against heresies but also in contrasting Protestantism in the various states of the Peninsula. There were numerous companies of religion who, thanks to their financial strength, effectively contributed to the social, artistic and economic development of the cities and towns in which they were founded. They are responsible for the erection of hospitals, hospices for the poor and pilgrims, orphanages and conservatories



**Figure 3.** G. Zocchi, *Piazza della Santissima Annunziata in an eighteenth-century print, oil on canvas, Florence, 1738.*

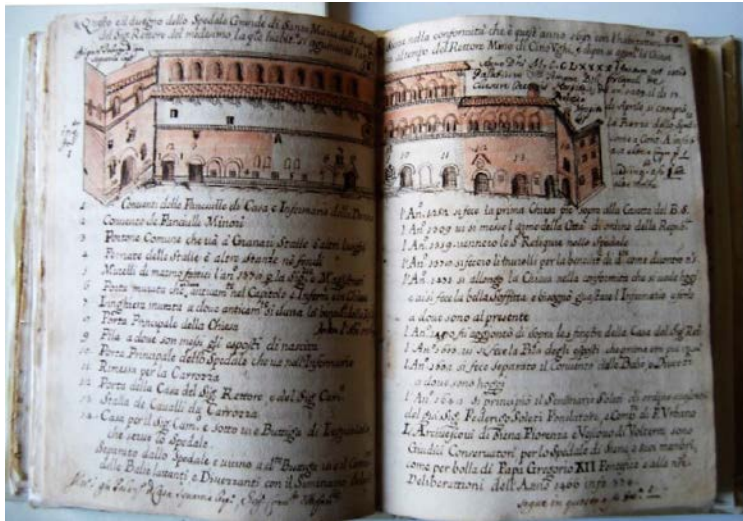
for girls, churches, oratories and monuments, as well as the organization and management of schools to spread the knowledge of trades and religious education, and finally, but not least, to manage the burial places. It is no coincidence, however, that in the sources, both generic terms (*hospitale, hospitium, domus, mansio*) and more specific terms (*xenodochium, brephotrophium*) are encountered to indicate all those entities included under the label of “hospital”. The latter, lacking any particular specialization, performed multiple functions: from material assistance to hospitalization of the sick, from the administration of food to that of medicines and health care, to the hospitalization of contagious patients, to economic support for the marriages of widows and to the care of orphans. The charity found in the brotherhoods a more organic and rational means of distributing assets. The protagonists of the charity were the confraternity hospitals themselves, which at the same time were objects of charity. Legacies and testamentary donations represented an “investment”. For the purpose of soul salvation; for this reason, they were implemented in large numbers for a considerable amount of assets in favour of charities.

The birth of specific structures for assistance in the cities can be traced back to the *xenodochia* understood as rescue centres managed by religious communities or ecclesiastical institutions and aimed at orphans, pilgrims and wayfarers who were offered accommodation and food. These structures, which stood in the vicinity of monastic centres, began to be built in some churches, welcoming orphaned children. The first shelter for abandoned babies was probably established in Milan in 787 by Archpriest Dateo, who, on 22 February in his will, he ordered that a special hospice be established in one of his houses as a place of welcome for abandoned children shortly after birth. Starting from the pontificate of Innocent III between 1198 and 1216, the orphanages were often equipped with a device, called the wheel or go back to exhibited, still visible today in some, that is a wheel rotating on a pin and placed outside the walls of the orphanage, which allowed the mother to leave the child without being recognized, thus avoiding the most common practices of abandonment, on the street or in Church.

Over time the term *xenodochium* disappeared, giving way to the words *hospitalia* that arose along the streets and were intended to welcome the sick, pilgrims, poor vagrants and abandoned children.

Sources indicate the Hospital of Santa Maria della Scala (Fig. 4) in Siena as the oldest charitable institution to host foundlings in Tuscany.





**Figure 4.** G. Macchi, Drawing of the facade of the Siena Hospital, State Archives, Siena, 1695.

The Church of the Santissima Annunziata was added to the hospital of Santa Maria della Scala around 1257, initially born as a hospital chapel but wholly transformed in the second half of the fifteenth century.

In those years, the Compagnia dei Disciplinati di Maria Santissima was also born in Siena, (Fig. 5) from the merger of three distinct nuclei of which two of Flagellants: the Recommended of Jesus Crucified, the Confraternity of the Madonna under the Cathedral and that of N.S. Jesus Christ. Gradually the hospital became secular and, in the fifteenth century, passed under the direct control of the Municipality.



**Figure 5.** Hospital of Santa Maria della Scala, main facade in front of the cathedral, Siena.

From the end of the fourteenth century, the Siena hospital was taken as a model in Italy and Europe. In Naples, the wheel located adjacent to the Santa Casa dell'Annunziata, the largest and most important institute for foundlings in the Kingdom of Naples where abandoned children often came from the various provinces of the Kingdom was located in one of the most crowded streets of the city and the opening was also arranged during the day, unlike the night-only operation in the orphanages of the other cities.

Similarly, in Naples (Fig. 6), also in Florence in the Tuscany of the fifteenth century, in the eastern portico of the Ospedale degli Innocenti, in Piazza Santissima Annunziata, there was the "pile", a sort of basin similar to a stone stoup, placed outside the front porch. Between the end of the 1400s and the early 1500s, it was replaced by a window



**Figure 6.** The "ruota" of the Annunziata Hospital, Naples.

communicating with the women's Church and equipped with a "ferrata", through which it was possible to introduce babies, as per the statute. Inside it corresponded to the perennial setting up of a "nativity scene", which also became synonymous with the place of abandonment. In 1660 the "crib", also known by the people as "ferrata", "hole", and "wheel", was moved to the north end of the portico and remained active until 1875, when the window was walled up (Fig. 7).

In the 15th century, cities such as Palermo and Florence opened their orphanages, respectively the Spedale Grande in 1433 and the Spedale degli Innocenti in 1445. The latter, unlike other Tuscan structures such as the Siennese hospital of La Scala, has the particular characteristic of reserving assistance exclusively for "infants abandoned or exposed from birth or immediately after".



**Figure 7.** The "ruota" of the Spedale degli Innocenti in Florence.

The Spedale degli Innocenti, a ospedale derived from the ancient Florentine dialect, is one of the first Renaissance buildings was founded in 1316. Brunelleschi built it; it included the house of the occult women in labour and the exposed shelter. It was born as a secular institution supported by private donations, particularly the wealthy Prato merchant Francesco Datini. The Silk Corporation and the Florentine Republic also made a great economic contribution, which commissioned Brunelleschi to build the hospice for foundlings. Alongside abandoned childhood, among the most fragile and in need of help were orphaned girls, single women in constant material precariousness and moral danger.

In the impossibility of guaranteeing a dowry to their daughters due to extreme poverty and social disadvantage, the families could ask for help from a dense welfare network made up of the pity and mountains of the poor, but also from the dotal mountains and from the mountains of marriage proper, pious works that bestowed gifts of charity even to girls "without family", foundlings and orphans.

## Conclusions

Most of these institutions offered subsidies resulting from private bequests and testamentary donations: it was part of the Christian pietas to leave assets whose income was destined to favour the marriage of poor girls at one's death.

The criteria of delivery, management, purposes and rituals connected to them varied according to the communities and the chronological contexts considered. Hospitals also dispensed gifts of charity for girls.

## References

- Albini, G. (2016). *Poveri e povertà nel Medioevo*, Carocci Editore, Roma, 2016.
- Andreotti, D., (1869). *Storia dei Cosentini*, volume II, Stabilimento Topografico di Salvatore Marchese, Napoli, 1869.
- Tessaglia, S. (1967) *Oratori e compagnie nel Dizionario storico tematico dei professori di storia della Chiesa*, vol. I. sull'argomento Cfr. M. MARCOCCCHI, *La riforma cattolica: documenti e testimonianze*, vol. II, Morcelliana, Brescia, 1967.
- Black, C. F., (1992). *Le confraternite italiane del Cinquecento*, Milano 1992.
- G. Vitolo, (1984). *Pievi, pievi e chiese riceventi in Campania*, in *Pievi e pievi in Italia nell'Alto Medioevo (XII-XV secolo)*, vol. 2, Roma, 1984.

- Meersseman, G. G., (1958). La riforma delle confraternite laiche in Italia prima del Concilio di Trento, in *Problemi della vita religiosa in Italia nel Cinquecento*, Editrice Antenore, Padova, 1958.
- Mariotti, M. (2002). Situazione e prospettive degli studi sulle confraternite in Calabria (Fonti e bibliografia - aspetti religiosi), in M. MARIOTTI, V. TETI, A. TRIPOLI, (a cura di), *Le Confraternite religiose in Calabria e nel Mezzogiorno. Atti del Convegno di studi (San Nicola da Crissa, 16-18 ottobre 1992)*. Vibo Valentia, Mapograf, 2002.
- Meersseman, G. G.; Pacini, G. P., (1979). *Le confraternite laicali in Italia dal Quattrocento al Seicento in AA. VV., Problemi di storia della chiesa nei secoli XV – XVII*, Edizione Dehoniane, Napoli, 1979, pp. 109- 136.
- Napoletano, D. *Le Confraternite nel XVI secolo: proposta di biografia*.
- Bernardini, M. G.; Ghetti, M. L., (a cura di), (1866). *I Papi della speranza, Arte e religiosità nella Roma del '600*, Gangemi Editore spa, 2014; L. RUGGIERI, *L'Arciconfraternita del Gonfalone (memorie)*, parte prima, 1866.
- Galante, G. A. (1873). *Guida sacra della città di Napoli*, Stamperia del Fibreno, Napoli, 1873.
- G. G. Meersseman, *Ordo fraternitatis. Confraternite e pietà dei laici nel Medioevo*, Vol. 1, Editrice Herder, Roma, 1977.
- Nerbano, M. (2011). *Confraternite disciplinate e spazi della devozione*, in S. Pastore, A. Prosperi, N. Terpstra (a cura di), *Brotherhood and Boundaries. Fraternità e barriere*, Edizioni della Normale, Pisa, 2011.
- Zardin, D. (a cura di), (2001). *Un solo corpo. Le Confraternite: la fede e le opere*, Itaca, Castel Bolognese, 2001.
- Sebregondi, L. (2009). *Arte confraternale*, in M. GAZZINI (a cura di), *Studi confraternali: orientamenti, problemi, testimonianze*. Firenze University Press, Firenze, 2009.
- Ciambotti, M.; Palazzi, F., (2002). *Sgrò, Il ruolo delle Confraternite nello sviluppo delle arti figurative del XV e XVI secolo come emerge dai registri contabili: il caso della Confraternita del Corpus Domini di Urbino*, Atti del Convegno SISR 2018. Editore RIREA. Roma, 2018; Cfr. P. Zovatto, (a cura di), *Storia della spiritualità italiana*, Città Nuova Editrice, Roma, 2002.
- Edmund, Martène; Ursin, Durand, (1718). *Veterum Scriptorum et monumentorum historicum, dogmaticorum, moralium, amplissima collectio*, II., Montalant, Parisiis, 1718, coll. 960-961.
- Angelozzi, G. (1978). *Le confraternite laicali. Un'esperienza cristiana tra medioevo e età moderna*, Editrice Queriniana Brescia, 1978.
- Zardin, D. (1987). *Le confraternite in Italia settentrionale fra XV e XVIII secolo in Società e Storia*, 1987.
- Gazzini, M. (2012). *Ospedali nell'Italia medievale*, in *Reti Medievali Rivista*, 13/1, 2012.
- Imbert, J. (1980). *Ospedale*, in *Dizionario degli istituti di perfezione*, volume VI, Roma, 1980, coll. 992-993.
- Muratori, L. A. (1740). *Antiquitates Italicae Medii Aevi sive Dissertationes*, Mediolani, 1740, coll. 587, 590.
- Da Molin, G. (1993). *Natalità illegittima ed esposizione nel regno di Napoli in età moderna: fonti e valutazioni demografiche*, in *Nati e abbandonati. Aspetti demografici e sociali dell'infanzia abbandonata in Italia nell'età moderna*, Cacucci, Bari, 1993.
- Sordini, B. (2011). *Dentro l'antico ospedale. Santa Maria della Scala, uomini, cose e spazi di vita nella Siena medievale*, Protagon Editori Toscani, Siena, 2011.
- Di Pietro, G.; Donati, P., (1986). *Cronologia ed iconografia storica dall'XI secolo alla fine del XVIII secolo*, in Siena, la Fabbrica del Santa Maria della Scala. *Conoscenza e progetto*. Bollettino d'Arte, volume speciale. Ministero per i beni culturali e ambientali, Istituto poligrafico e zecca dello stato, Roma, 1986.
- Salvemini, R. (2013). *L'assistenza*, in P. Malanima, N. Ostuni, (a cura di), *Il Mezzogiorno prima dell'Unità. Fonti, date, storiografia*, Rubbettino, Soveria Mannelli, 2013.
- Bellosi, L. (1977). *Il Museo dello Spedale degli innocenti a Firenze*, Cassa di risparmio di Firenze, 1977.
- Klapish-Zuber, C. (1996). *Il bambino, la memoria e la morte*, in E. Becchi- D. Julia (a cura di), *Storia dell'infanzia dal Settecento a oggi*, edito da Laterza, 1996
- Bressan, C. (2018). *I trovatelli e la chiusura delle ruote, Tipografia e Stereotipia alla Minerva dei fratelli Salmin Editori, Padova, 18700*. F. CANALI, *L'ospedale degli innocenti a Firenze tra questioni di critica e di restauro: la 'riscoperta' di Brunelleschi dal «ripristinato» alla «liberazione e rimessa in valore»*, in F. CANALI (a cura di), *Bollettino della Società di Studi Fiorentini, Studium. Città, Monumenti e Cultura Tra XVI e XXI Secolo, Miscellanea per i vent'anni della "SSF-Società di Studi Fiorentini" (1997-2017)*, Altralinea Edizioni, Firenze, 2018.

Luigi Corniello, Angelo De Cicco

### Introduction

The research on 3D photogrammetric information systems for the management of digital models of Cultural Heritage addresses several objectives in the field of digitization and three-dimensional modelling of heritage. The study is conducted through detailed and accurate photographic and iconographic documentation, survey and digital documentation with usable models.

The theme of digital modelling is of great importance since it allows us to face, according to disciplinary assumptions, such as technical-instrumental and theoretical applications, the dynamics of drawing related to both traditional and innovative digital representation.

With this science, the aspect concerning the visualization is determined, a fundamental element for the communication of the object examined, through which it is possible to define the final graphic rendering compatible with the purpose of the relevant activity, both relative to the knowledge of the existing and indicative for the protection and enhancement of the asset.

Three dimensional modelling of cultural heritage starting from digital images at different scales and acquisitions with low-cost tools has recently gained attention from the scientific community for the realization of innovative research and advanced digital modelling processes due to the availability of new technologies for the recording, processing, management and visualization of 3D data (Amoruso, Apollonio, Remondino, 2010).

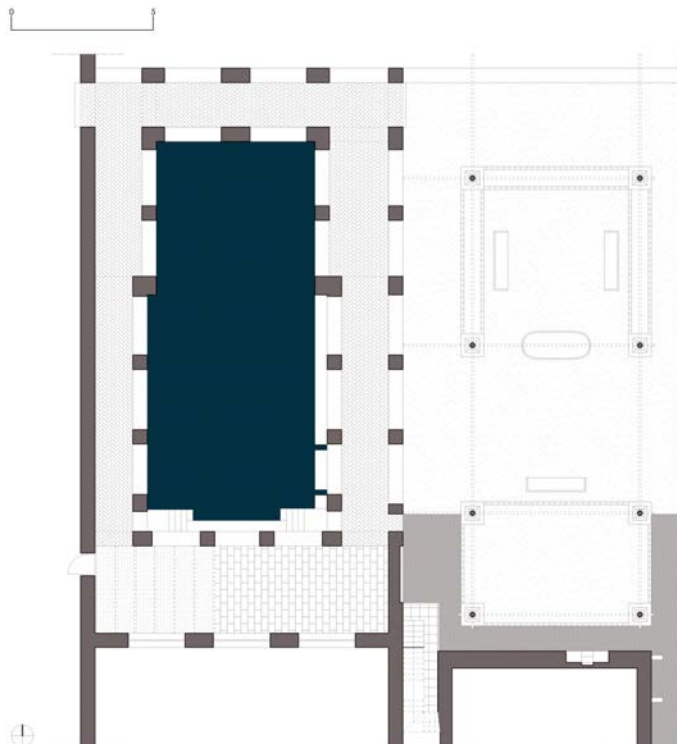


Figure 1. Point of cloud made with photogrammetric representation software. Main prospect of the Tvrdalj Fortress in Hvar.



**Figure 2.** Point of cloud made with photogrammetric representation software for the central building of the Tvrđalj Fortress in Hvar.

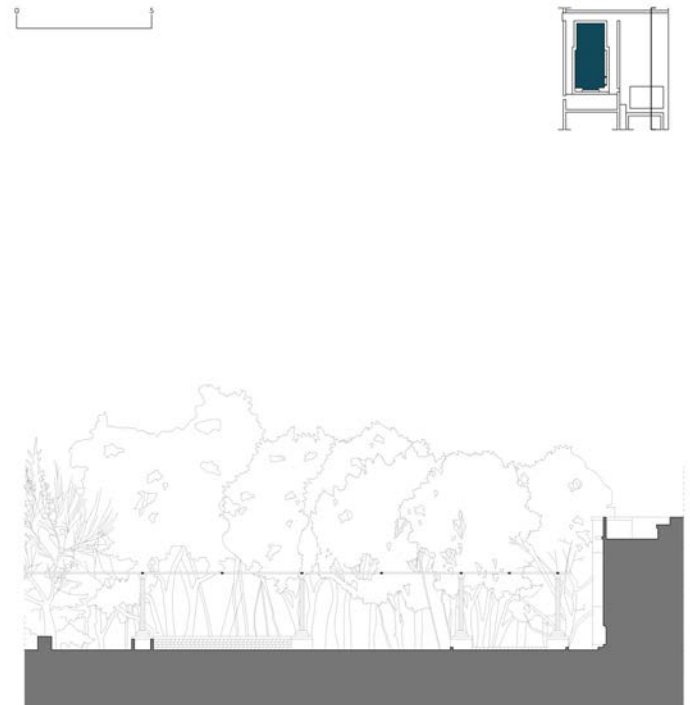
Therefore, the present work aims to document and reconstruct the historical evolution of the Fortress of Hvar Tvrđalj in Croatia (Fig. 1) graphically through a series of digital drawings, but especially 3d photogrammetric modelling systems of outdoor spaces. Particular attention was paid to the digital modelling activities of the fishpond located inside the fortified structure (Fig. 2).



**Figure 3.** The Tvrđalj Fortress in Hvar. General Plan + 1.00.

## The survey and graphic representation

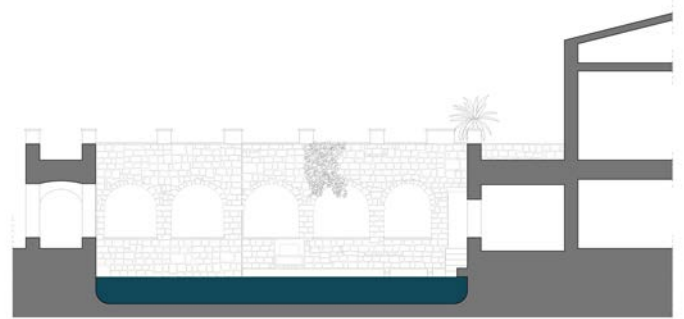
In order to elaborate on 3D digital models, it is useful to clarify the scientific dynamics that regulate the relationship between architecture and graphic representation. The critical description of the architecture, starting from the graphic reading of the typological imprints of the constructions of the past and the morphological configurations, with reference to the discipline of drawing, makes explicit the awareness of the scientific and cultural foundations of representation methods to understanding architecture (Fig. 3). In order to develop three-dimensional models for documentation purposes and graphic representations at knowledge, the final product must include some specific characteristics. Of considerable importance are the precision and reliability of the details, especially in areas of discontinuity, when changing materials or changing geometry. In the field just described, the containment of modelling costs through the use of low-cost tools and software and a rapid data acquisition time, also through the adaptability of the survey techniques to the research context, are of considerable interest to ensure a realistic return even at close range (Fig. 4, 5, 6, 7).



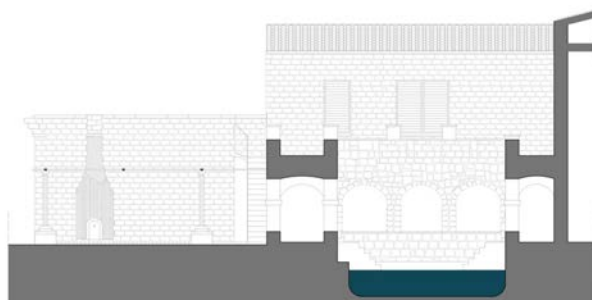
**Figure 4.** The Tvrđalj Fortress in Hvar. The longitudinal section to the east on the water pool.



**Figure 5.** The Tvrdalj Fortress in Hvar. The longitudinal section on the garden.



**Figure 6.** The Tvrdalj Fortress in Hvar. Longitudinal section eastwards on the water pool.



**Figure 7.** The Tvrdalj Fortress in Hvar. Southern sections on the water pool.

New information technologies applied to the knowledge of basic geometry become a tool of restitution, analysis, information of the Hvar Tvrdalj Fortress.

In the illustrated graphic system, the drawing of architecture, that is, the practical one oriented to model the object as a form covers the main critical and theoretical exercise of the method for digital technologies by defining the geometrical issues necessary for the creation of virtual models (Fig. 8).

In this sense, the method of orthogonal double projections, parallel projections and central projections explains its scientific features through their inheritability to bring out the thematic and ideal contents of architecture. Digital representation and the implicit creation of models, playing a graphic role of three-dimensional object reproduction, is an instrument for verifying the congruence of conventional representations, such as plans, sections, and elevations (Fig. 9, 10).

The model is an ideal icon of reality, as far as morphology is concerned, it shows all the characteristics indicated by the drawing, specifying in the best way possible its shape and peculiarities, representing and manipulating actual elements through complex simulations.



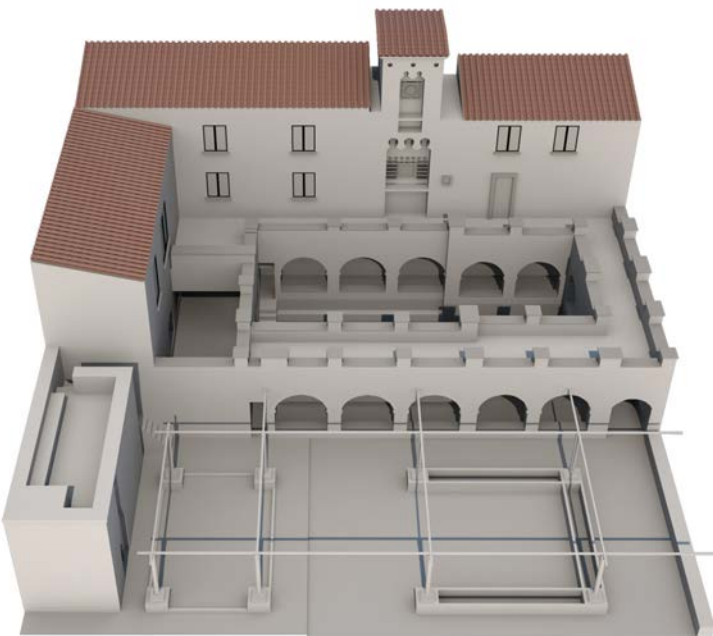
**Figure 8.** The Tvrdalj Fortress in Hvar. 3D digital model realized by digital survey and parametric software. Zenith view of the whole complex and the garden.



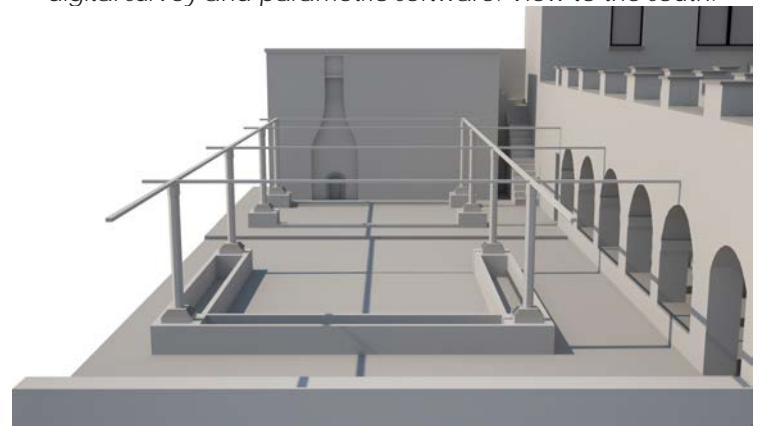
**Figure 10.** The Tvrdalj Fortress in Hvar. 3D digital model realized by digital survey and parametric software. View to the south.



**Figure 11.** The Tvrdalj Fortress in Hvar. 3D digital model realized by digital survey and parametric software. View to the south.



**Figure 9.** The Tvrdalj Fortress in Hvar. 3D digital model realized by digital survey and parametric software. View to the west.



**Figure 12.** The Tvrdalj Fortress in Hvar. 3D digital model realized by digital survey and parametric software. Particular of the garden, south view.

These computer activities determine a dynamic representation of three-dimensional data using articulated visualization techniques and materials, lights, and colours, which reproduce the characteristics of the real world.

Of great interest is the primitive phase of modelling, the activity of three-dimensional transformation of two-dimensional graphs, which allows immediate visualization of geometric shapes and basic volumes. These physical models constitute both geometrical configurations to determine the volumes and bases to interact through photo modelling.

As is well known, in order to develop interactive digital models, basic knowledge about data acquisition through instrumental surveys that can be carried out with passive sensors is necessary when data are acquired through images with inexpensive and very drinkable systems. At the same time, it is possible to intervene through surveys with active sensors where the active instruments detect distances and directly provide three-dimensional measurements of the detected object.

For the documentation and cataloguing of cultural heritage, we have a series of instruments for data acquisition (Manfredini, Remondino, 2010).

The activity of representation of the Fortress of Hvar Tvrđalj was set up by providing, in an initial phase, the execution of a basic survey extended to the architectural organisms and the surrounding green space in order to define a first two-dimensional geometric model; then, in a second phase, were made the survey graphs and the consequent graphic restitution with the measurements of architectural details and the complete survey of the inner tank (Fig. 11, 12).

In addition, adequate and complete photographic documentation and investigated the scarce bibliographic, archival, and iconographic sources was carried out.

Particular attention has been paid to the concept of the photographic image, which, besides representing an absolute database value that can be drawn from even after the survey phase, constitutes a dynamic knowledge tool. The possibility of interpolating this static figurative data with instrumental information technology elements deriving from the technological evolution of recent times is evident.

In parallel to the availability of a wide variety of digital images, numerous photogrammetric software with new automated procedures for image orien-

tation and the generation of digital surface models have been developed in the last few years. In addition, the relevant digital tools provide new technical functionalities for the management and analysis of the collected photogrammetric data and allow direct digital processing.

The digital modelling of the Hvar Tvrđalj Fortress, a Renaissance fortified villa built by the humanist Petar Hektorovic (1487-1572), which includes a lush garden, a dovecote and a fishpond surrounded by arcades where mullet swims still today, made it possible to integrate the disciplinary skills of architectural drawing with the mathematical numerical bases of the latest generation software in order to develop questionable and manageable 3D photogrammetric models in terms of conservation and protection (Fig. 13).

As is well known, photogrammetry is the science that makes it possible to obtain accurate measurements from photographs by transforming two-dimensional information into three-dimensional measurements (Manfredini, Remondino, 2010).

For the digital restitution of cultural heritage, photogrammetry plays a role of considerable interest since the images taken from digital cameras contain the information for the realization of models. The survey campaign is rapid and reduced to shooting photographic images, often at a low cost. Therefore, in the context of this applied research, photogrammetry has the task of establishing a graphic and geometrical relationship between the images taken on-site and the object of the survey in a photographic shot.



**Figure 13.** The Tvrđalj Fortress in Hvar. 3D digital model realized with digital survey and parametric software. Particular the water pool, south view.



Therefore, the photogrammetric technique allows determining technical information to make metric measurements on the object's size, shape, and position starting from measurements taken on images taken from both fixed and mobile supports. It is useful, for the present research, to mention the field of passive optical sensors, as instruments such as cameras that are used to capture the reflection of natural light on the surface of the object to be detected and, when using at least two images with two different points of view, they trigger a stereoscopic vision of a surveying object similar to what happens in human vision.



**Figure 14.** The Tvrdalj Fortress in Hvar. View the interior elevation and the water basin to the northwest.

## Conclusion

Digital modelling through photogrammetric software of the Hvar Tvrdalj Fortress has allowed scientific documentation to create an interactive database. The interaction between the geometric model and the data collected allowed the interrogation of the digital model through the use of 3D parametric software, both for graphic visualization and to plan conservation and enhancement of the asset. Therefore, the research presents a scientific study of a digital photogrammetric survey developed through the creation of 3D digital models on a structure of significant architectural and landscape interest and a cornerstone of the island of Hvar for local tourism (Fig. 14).

## References

- Amoruso, G., Apollonio, F., I., Remondino, F., (2010). Caratterizzazione strumentale di sensori attivi a tempo di volo e a triangolazione. Utilizzo di laser scanner su superfici marmoree di epoca romana, Scuola Normale di Pisa.
- Apollonio, F., I., (2010). La modellazione digitale, Bologna, Clueb.
- Barba, S., Cardone, V., (2013). Modelli grafici dell'architettura e del territorio, Santarcangelo di Romagna, Maggioli.
- Bianchini, C., (2011). Rilievo Modellazione e Studio Geometrico delle Cupole, Roma, Edizioni PreProgetti.
- Brusaporci, S., (2007). Modelli interpretativi dell'architettura medievale, L'Aquila, Arkhè.
- Corniello, L., 2019, 3D surveying and 3D reconstruction of architecture of the Royal Park of Tirana. In: The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, XLII-4/W18, 241–246, 2019
- Manfredini, A., M., Remondino, F., (2010). Modellazione 3D da immagini. Pipeline fotogrammetrica, Scuola Normale di Pisa.

## Introduction

The New European Agenda for culture adopted by the EU in 2018 makes explicit in the "Work Plan for Culture 2019-2022" the vision of a broader involvement of all stakeholders in the topic - from acquisition to dissemination to the enhancement of cultural heritage - divided into five priorities that guide public debate in a new, broader direction for which the Cultural Heritage is not only a way of preserving the memory of the past but part of an organic system projected into the future, in which cultural policies must be linked in terms of competitiveness to the social cohesion and well-being, to the job policies, to the environment.

In this view, the cultural heritage represents an important driver for the life of the communities, and the historical cities assume a central role, being the largest, most robust defence and protection for the community's identity from the imbalances deriving from globalisation. Globalisation has been a powerful catalyst for urban transformation, as it is a generic acceleration and multiplication factor in the modernisation of settlements and urban districts. However, it also presents a series of problems typically linked to it, which occur in forms requiring a more integral approach to architectural intervention.

## The urban identity and the public domain

Among the problems most frequently associated with urban transformations related to the push of globalisation, the imbalances derive from the change of social, cultural, morphological and spatial organisation in the existing urban areas, especially when the start point for redevelopment was contexts with an important legacy of the past. Many are the problematic factors of these interventions, but one of the elements of a major crisis of cities in transition seems to be the transformations of the urban physiognomy and the too fast-changing of the places forming the townscape, as defined by Norberg Schulz: "The spaces where life occurs are places ... A place is a space which has a distinct character. Since ancient times, the

genius loci, or spirit of place, has been recognised as the concrete reality man must face and come to terms with daily life. Architecture means to visualise the genius loci, and the task of the architect is to create meaningful places, whereby he helps man to dwell."



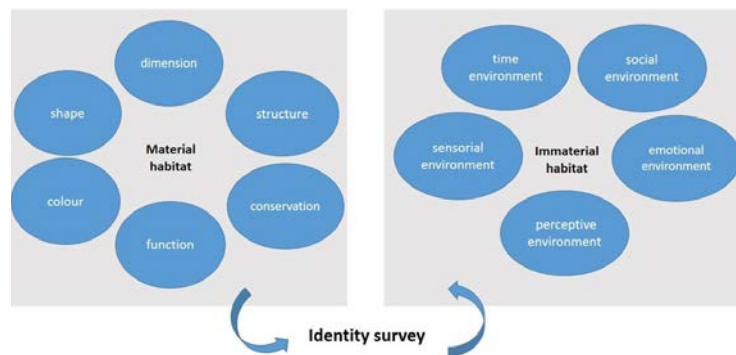
*Figure 1. Panoramic view of Matera, an ancient rupestrian Italian city; an example of historical vernacular architecture and dense townscape.*

This phenomenon has a strong impact because it is reflected in the estrangement of the inhabitants in today's cities and is due in large part, though not only, to the decay of public spaces especially due to privatisation and disappearance, obsolescence and loss of identity that input at risk the most delicate contexts, such as the historic cities. The public domain, most of the part we can see in the city in our daily social life, is "the common ground where people carry out the functional and ritual activities that bond to the community, that is in the normal routines of daily life or periodic festivities"; the urban experience is well realised if there is a harmonious coexistence of physical components (buildings and open spaces) that foresee and favour the realisation of the social environment too, allowing for those who frequent the public domain the orientation and identification, from which the attribution of meaning and belonging to that particular place are developed.

When public space does not allow orientation and identification, this attribution of meaning does not occur, and the connective space remains relegated to the sole function of mobility for the pure crossing of the city. Therefore, the public spaces should not be considered only as of the resulting empty space between the buildings, but they constitute the scene where people meet and where the broader social relationships can be generated. These elements transform residents from city users into inhabitants of the city and are capable of transforming the surface of a square into a complex space and transforming a building aggregate into a townscape. A positive public domain is therefore characterised by the presence of a network of public spaces that meets a series of requirements; it is consistent, carefully designed to balance all the formal, functional, aesthetic aspects and realised with design quality, because only in a public domain that favours relationships and interaction between people and with a liveable space can the sense of the community be formed. Often many recent urban transformations of fast modernisation are badly and poorly designed, sometimes they are spontaneous or not governed (as in the case of the imbalances due to the excessive or insufficient presence of people; we refer here to the opposite problems that are created in historical cities that lose their identity due to mass tourism, for example in Florence and Venice, or happens in the depopulation and in the abandonment of the Italian Apennines villages). However, all these different cases came from breaking the space-time unity and continuity of cities development and public domain, together with the loss of the urban form that had in the past slowly stratified the identity and the genius loci of historical cities.

### The analysis approach of architectural 'identity's survey'

Given the powerful presence of the material and immaterial architectural values settled from the time in these "identity places", the historical cities play a role of defence and protection of their communities, becoming both memory's witnesses and repositories of a strong potentiality. Basing on these premises, we intend to test the architectural survey as a discovery tool of the potentiality of the historical townscapes. Considering the architectural survey as the technical discipline providing the first analysis and knowledge's phase of every transformation project, the deep understanding of townscapes can pass only by a more integrated representation able to holistically describe both the material data (in its visible characteristics of size, shape, materials) and the immaterial elements of its genius loci (the features defining in such a peculiar way the character of an urban environment; the function of a place, the chronological dimension of its life rhythm in the day or in



**Figure 2.** The Identity's survey model connecting the interpretation of material and immaterial habitat.

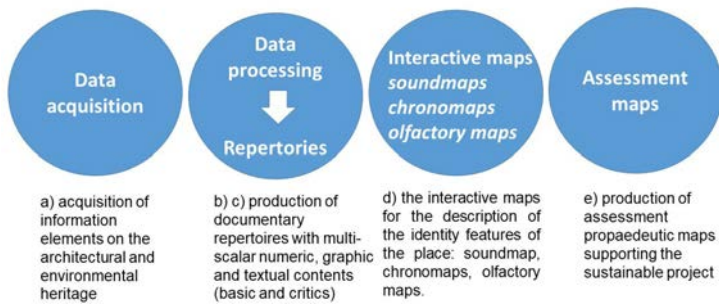
the seasons, the social typology of the inhabitants); all inextricable factors of urban identity and driver of sustainable development.

If we aim for more sustainable urban transformations, the traditional instrumental and methodological variables of the architectural survey can be further supplemented by a series of representations capable of accounting for the physical characteristics of the building and its predispositions to resilience deriving from its immaterial dimension. The scientific framework of the "Survey of architecture and environment" discipline has recently increasingly become complex and constantly evolving.

The digital revolution of the last two decades has brought many instrumental innovations into its own field, allowing us to join it with other technological resources (i.e. IOT and AI) and update the output's spectrum. In this sense, in the last years, the paper's author's research group has formulated and tested the method of "Identity's survey".

An extensive literature has focused on the approach and methodologies to study, survey, and represent the historical settlements by well-established workflow we can update, attempting to apply a discretisation more pertinent to the multidimensionality of the cities in transition.

- a) Acquisition of information elements on the architectural and environmental heritage;
- b) Data processing;
- c) Production of the numeric, graphic and textual documentary repertoires with multi-scalar contents: basic, when related to the description of natural and artificial volumes, and critic, when related to the thematic elaboration of basic information;
- d) Production of the interactive maps for the description of the identity features of the place: sound maps, time maps, olfactory maps;
- e) Propaedeutic assessment maps supporting the sustainable project.



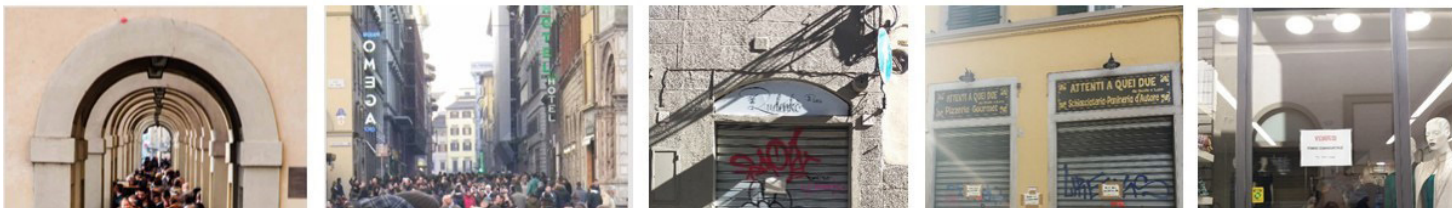
**Figure 3.** The workflow of the identity's survey model. The identity's survey workflow is therefore structured as follows:

## Case Study

Some case studies have been developed in different contexts to test the "Identity survey" and its propaedeutic function in sustainable transformations. The project was conceived to map through architectural surveys and advanced representations the transformations that some places in the historic centre of Florence face from some years following mass tourism, which has profoundly transformed the physical context, putting livability into crisis.

Here we report the experience of the campaign carried out on a sample case located in the historic centre of Florence, Piazza San Pier Maggiore. The study examines a central and profoundly representative urban piece of the Florentine local genius, examined in the material and immaterial characteristics that conform the perception of those places and is confronted with more strictly disciplinary critical nodes, such as the insufficiency of "expressivity gap" that separates the specialised language and experience: in this gap is inserted the discipline of "Survey and Representation" to attempt the construction of a technical image that is less fragmented and closer to our daily perceptive experience.

Piazza San Pier Maggiore occupies a special place among the liveliest and most attractive places in Florence on this side of the Arno: in fact it is just a few steps from the Duomo, but in the direction that opens up to an urban quadrant until a few years ago little affected by the large tourist flows and today heavily affected by "airification" phenomena because it is subject to the arrival of tourism-related activities that have replaced trade and services to residents: poor restaurants and souvenir shops have supplanted food



**Figure 4.** Tourists in Florence's midtown and the impact of aerification in the city.



**Figure 5.** The square of San Pier Maggiore in the historical urban fabric of Florence.

shops, the neighbourhood newsagent, the historic fabric and clothing shops, the artisans; on the upper floors, the larger apartments have often been split up to maximise the rent coming from the short lease, while a large share of the resident inhabitants has been replaced by the rapid rotation incoming tourist. The square is located at the confluence of territorial directions of the medieval city and it is therefore the knot of urban signs striking us in all their symbolic and spatial density.

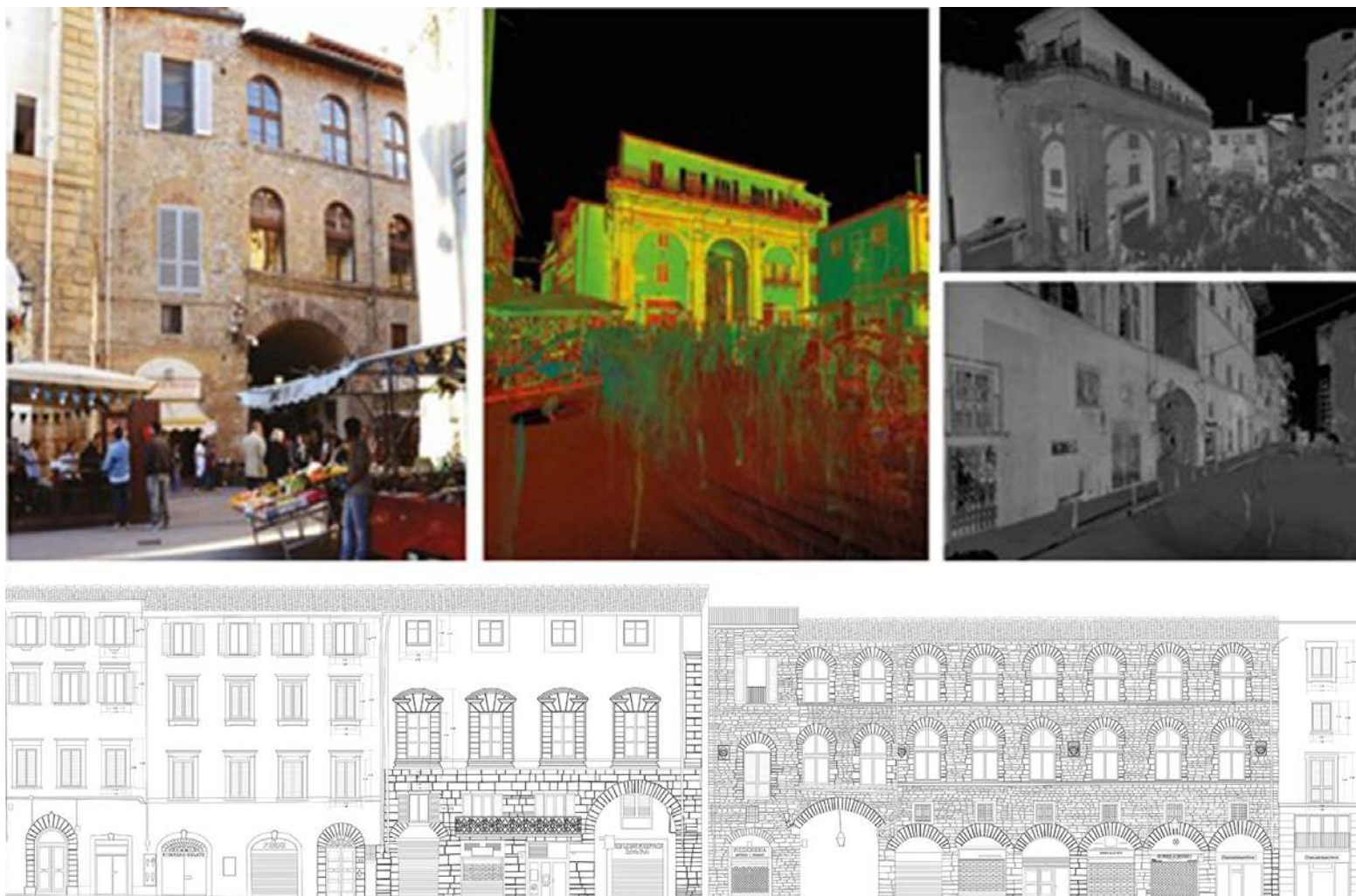
The methodological workflow described above has been used to build the 3D model and drawings.

The architectural survey campaign was carried out with integration between the laser scanning acquisition for the capture of morphometric data, a quick photographic campaign for the documentation of

the material features of the road fronts necessary for the texturing of the 3D model, a sound survey to produce a sound map or a work that can give back the auditory sensations perceived on the real place. The sound's representation of the environment is of great importance to us because it allows us to significantly increase the realism of virtual reconstruction and the subsequent immersive experience.

This allows the environmental representation to set up the research products from an exclusively visual point of view and complement other forms of representation that include different sensory experiences and the features of the synchronic and diachronic physical impact with the place the social interactions.

The research is still ongoing and proceeds according to the program in Figure 6.



*Figure 6. The work program for the identity's survey of the square San Pier Maggiore.*

## Results and conclusions.

### The identity's survey for the sustainable project

The redevelopment and renovation projects in the historic city are too often still framed in the sense of only physical sustainability, which includes many factors such as indoor comfort, energy impact and the choice of materials and processes to achieve a cycle of lifeless expensive for the environment. However, there are also the aspects that determine the realisation of an environment that the inhabitants perceive as pleasant and livable even in the aesthetic, symbolic dimension and that favour the maintenance of the sense of belonging to the place that so strongly qualifies the experience of living in the historic city. Entering into this process, greater attention to the sense of place and the identity of places could help to recover a more holistic design approach and encourage urban transformations that can be experienced positively by the inhabitants. Therefore the recovery of the fracture in the space-time unit that can be pursued by a multi-level design also of the public domain is, in our opinion, an important key that would favour the evolution of the concept of sustainable intervention going even beyond the physical and the performance aspects of the single building. In this sense, the cities in transition could aspire to anchor themselves to the sustainable transition we have before us as a strategic goal of the next decade.

## References

Amendola, Gianfranco (2006). *La città vetrina. I luoghi del commercio e le nuove forme del consumo*. Napoli: Liguori.

Bauman, Zygmunt (2014). *La solitudine del cittadino globale*. Milano: Feltrinelli.

Brusaporci, Stefano (ed.), (2015). *Handbook of research on emerging digital tools for architectural surveying, modeling, and representation*, Hershey: Igi Global.

Chiavoni, Emanuela, Docci, Mario, and Filippa, Monica (eds.), (2011). *Metodologie integrate per il rilievo, il disegno, la modellazione dell'architettura e della città*, Roma: Gangemi.

Degen, Monica Montserrat, and Rose, Gillian (2012). "The sensory experiencing of urban design: the role of walking and perceptual memory". *Urban Studies* 49 (15): 3271-3287.

Denard, Hugh, (ed.), (2009). "London Charter for computer-based visualisation of cultural heritage". Accessed August 31, 2019. [http://www.londoncharter.org/fileadmin/templates/main/docs/london\\_charter\\_2\\_1\\_en.pdf](http://www.londoncharter.org/fileadmin/templates/main/docs/london_charter_2_1_en.pdf).

"Draft Council conclusions on the Work Plan for Culture

2019-2022". Accessed August 31, 2019. <http://data.consilium.europa.eu/doc/document/ST-13948-2018-INIT/en/pdf#http://data.consilium.europa.eu/doc/document/ST-13948-2018-INIT/en/pdf>.

ICOMOS (2011). "The Valletta Principles for the safeguarding and Management of Historic Cities, Towns and Urban Areas". Accessed August 31, 2019. [https://www.icomos.org/Paris2011/GA2011\\_CIVVIH\\_text\\_EN\\_FR\\_final\\_20120110.pdf](https://www.icomos.org/Paris2011/GA2011_CIVVIH_text_EN_FR_final_20120110.pdf)

Ioannides, Marinos, Fink, Eleanor, Brumana, Raffaella, Patias, Petros, Doulamis, Anastasios, Martins, Joao, and Wallace, Manolis (eds.), (2018). *Digital Heritage Progress in Cultural Heritage: Documentation, Preservation, and Protection, Proceedings, Heidelberg: Springer International Publishing*.

Knox, Paul, and Taylor, Peter (eds), (1995). *World Cities in a WorldSystem*. Cambridge: University Press.

Microsoft Development Team (2019). "Visual Studio Documentation". Accessed August 31, 2019. <https://docs.microsoft.com/it-it/visualstudio/?view=vs-2019>.

Norberg-Schulz, Christian (1979). *Genius loci. Towards a phenomenology of architecture*. New York: Rizzoli.

Oktay, Derya (2017). "Reevaluating urban identity under changing circumstances: the case of Samsun, Turkey". *Urban design and planning, Themed issue on urban identity in the era of globalisation, part 2, vol. 170 issue DP5 (October): 189-204*.

Puma, Paola, (ed.), (2018). *Firenze, la trasformazione del centro antico*. Edifir: Firenze.

100 resilient cities (2019). "Buildings and resilience". Accessed September 11, 2019. <http://100resilientcities.org/wp-content/uploads/2019/09/Resilience-POV-built-environment-FINAL.pdf>

### City and archaeology

The foundation of the cities we live in, the European ones and especially the Mediterranean ones, dates back to ancient times. Their morphological and spatial richness is due to their construction process made of continuous stratifications over the centuries. This process allows comparing the city to a text that is not simply expanded but also and above all rewritten over time. Knowing these relationships' complex order and our cities' history concerns the so-called "urban archaeology", which emerged around the 1970s. According to professor Sauro Gelichi<sup>1</sup>, before this date, there was still a lot of confusion about the concept among the various European archaeologies that kept on practising urban archaeology on often completely incidental forms.

The archaeology practised within the cities with "continuity of life" certainly involves a specific approach compared to that used for abandoned cities, whose excavation strategies are closer to those applied to rural settlements. In recent decades, if on the one hand archaeological excavations have allowed a significant knowledge increase relating to many Mediterranean cities' history and transformations, they have on the other, often produced unpleasant conditions from an urban point of view. The archaeological ruins' discovery within the consolidated urban fabric produces, indeed, many issues that too often generate urban spaces lacking in quality. "Revealed" through often unplanned excavations, the archaeological traces appear in fragmentary and incomplete forms or as "alienated inlays", often representing real breaks in the urban form.

Archaeologists have often defined excavations as "wounds"<sup>2</sup> because they cause morphological interruptions within the city's continuous development. Some more necessities concerning to a pragmatic level must be added to these "theoretical" issues. Ancient places within the stratified urban fabric involve recurrent design conditions and needs such as the reconquest of the link between ancient and current soil due to the differences in altitude between the many stratifications, the area's limits

definition, the view, the protection, the crossing of the excavated areas.

In the face of this problems' complexity, the musealisation project of archaeological ruins cannot always be considered a satisfactory answer. Probably only the culture of architectural projects, based on historical and archaeological knowledge, may offer possible solutions. The present study aims to offer a contribution for the definition of a useful method for the architectural project within the stratified city's archaeological places; a method that considers the ruins as a value -not as a limit - assuming the objective of establishing a new order between the urban strata. Starting from a highly representative case study -the area of the Imperial Forums in Rome - and analysing some contemporary projects that have proposed a re-interpretation of this place, the study aims to recognise and understand the theoretical principles and composition's techniques in them implied.

### Rome: "palimpsest" city

«... *There is no need to remember that all these remains of ancient Rome are scattered in the tangle of a large city that arose in recent centuries, from the Renaissance onwards. Something ancient is undoubtedly still buried in the soil of the city or under its modern buildings. This is how the preservation of the past introduces itself to us in historical places like Rome*»<sup>3</sup>. In his analogy between the psyche and the Eternal City, Freud aims to emphasise how the unconscious and the experience of an individual return visible in the present through the work of psychoanalysis. Similarly, ancient Rome's traces, «something ancient still buried in the soil of the city», become visible in the present through the archaeological excavation. Freud's intuition on Rome's psychic rather than physical nature is an example of this city's incredible condition, in which the contemporary *forma urbis* coexists with something apparently disappeared, but which actually continues to exist.

Rome, like most of the Mediterranean cities, owes its beauty and morphological complexity to its multiple and continuous stratifications. Its plan offers an image made

up of the combination of parts responding to different settlement logics. Rodolfo Lanciani's map of ancient Rome (which contains its main transformation's phases, from the ancient period to the medieval and Renaissance one up to the end of the 19th century) shows the traces' coexistence and the rewritings happened in different eras. In this sense, the condition of Rome and, more specifically, of places where the ruin occurs can be referred, almost everywhere, to that of the "*palimpsest*" (from greek *πάλιν* + *ψηστός*, scraped again): a place that had a fixed in an ancient form interpretation and which has gone through a succession of other interpretations, at different times, which have modified its relationships, features and forms. It is difficult for these places to recognise a defined within a single formal paradigm condition.

The effective metaphor allows us to express the incredible condition that marks the Roman beauty and made its long history possible. Paradigmatic places such as Piazza Navona, Piazza Augusto Imperatore, the Velabro Valley, have recorded over the centuries urban transformations of which they have preserved and handed down traces up to the present day.



**Figure 1.** *Forma Urbis Romae*, excerpt. Rodolfo Lanciani, 1893-1901.

## The imperial forums area's stratified orders

The need to define a field of view large enough to preserve the sense and scale of the city and, at the same time, small enough to allow analysis on the architectural scale led to the selection of the Imperial Forums' area as a case study. Indeed, it is possible to consider this area as Rome's synecdoche since it contains all the characters and historical events of the Eternal City.

Over the centuries, it has recorded all the most important historical transformations of the city. While a relation of continuity had linked the ancient, papal and modern city, in contemporary times, the desire to affirm a new face for the "*laical capital*" led to a radical break with the past. The huge topographical transformations and the new traffic arteries' construction, started in 1870 and ended only in the 1930s with the Via dei Monti's (the current Via dei Fori Imperiali) construction, have radically changed the structure of this part of the city. In particular, the opening of the new road axis in the Fascist era led to the demolition of the Alessandrino district by the "regime's pick" and to the excavation of an entire hill (the Velia), producing the definitive loss of the original spatial orientation of the Forums' valley.

Over the last century, archaeological investigations have progressed. The new excavations have undoubtedly allowed progress in the field of the philological reconstruction of the area's palimpsest, but, at the same time, they have caused lacerations within the contemporary city's fabric that claim an architectural project capable of establishing a "renewed Order" among the urban strata. Nowadays, the Imperial Forums' area appears, using a famous expression by Marc Augè, as a "*non-lieux*", a container for tourists and a space removed from public use.

The problem of Rome's central archaeological area has been a constant in the Italian cultural and scientific debate since the 1980s. Its importance, in the specifically architectural field, has been formalised by many publications and conferences, including two monographic issues of the magazine "*Parametro*" and the recent competition for Via dei Fori Imperiali launched in 2016 by the *Accademia Adrianea di Architettura e Archeologia*, which constitutes the subject of this research.

In this particular area, we recognise two problems' categories originated from the archaeological excavations' presence within the urban fabric: not just practical issues -linked to the crossing of the area in a north-south direction, once possible through the streets of the *Alessandrino district*, to the connection between the levels of the contemporary city and the ancient ones, to the definition of the limits of





**Figure 2.** Roman Forum, October 2020. Picture by the author of the present essay.

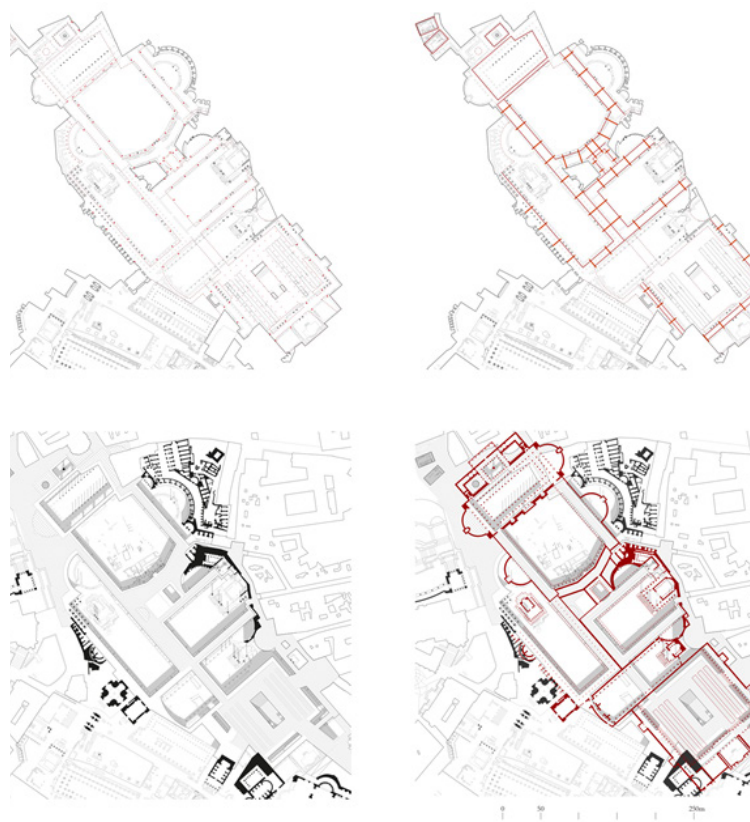
the excavation areas, to the discontinuous fruition of the ruins and to the view of the excavations-, but also deeper issues related to what kind of connection to established with the Ancient. All the ruins, from the Alessandrino district's ones to the Formus' ones, appear as "alienated" fragments, incapable of revealing the greatness of the past Orders that compose the complex palimpsest of the area to establish meaningful relationships with the adjacent urban fabric. Starting from the complexity of this extraordinary place, some contemporary architects have tried to reinterpret it. The two analysed projects were presented in response to the call for *Via dei Fori Imperiali* organised in 2016 by the *Accademia Adrianea di Architettura e Archeologia*. In particular, the project by Linazasoro & Sánchez Arquitectura, Emanuele Fidone, Bruno Messina and Fabrizio Foti and that of Luigi Franciosini and 2TR Architettura represent two different ways to establish a relationship with the palimpsest. Both proposals, while arriving at very different formal outcomes, share common premises. First of all, the assumption of a clear point of view, which looks at the ruins as fertile forms, "*treasures of accumulated memory and resources of perennial rebirth*". Considering the ruins as precious resources to define the space of the city implies that the archaeological places cannot always be converted to museums of themselves. One of the two projects' common objectives is to return this wonderful place to the city.

### **The memory of the forums' order**

In the group's project headed by the Spanish architects Linazasoro & Sánchez, the formal paradigm taken as reference is the Imperial Forums' structure. The authors refer to a distinct phase in the city's history (unveiled through the demolitions and excavations of the 1930s). The area was occupied by a paralactic sequence of urban rooms facing only the sky. The aim of the project is to make clear the composition's principle of the ancient Forums by recalling their spatiality. To reach this goal, the preliminary operation is clearly the elimination of *Via dei Fori* and the remains of *Via Alessandrina*. The two road layouts do not correspond, in fact, to the Forums' substructures, making their original spatial orientation obscure and cutting them transversely. The project proposes a new paths' network at the level of the contemporary city that follows the ancient imperial enclosures' structure.

Physically insisting on the tracks of the ancient *porticos*, the new structures allow, at the archaeological level, to delimit the empty spaces corresponding to the forensic squares. The new plan coincides with the underlying Roman structure. The empty spaces of the Roman squares coincide with the project's open spaces, while the ancient portico's are replaced by "modern arcades". The system supporting the new paths is essentially composed of an inverted beam that carries pillars and main and second-

ary beams. The inverted beam's footholds coincide with the ancient columns' bases, which are already designed to support heavy loads. However, to respect the archaeological remains' fragility, the footholds are reduced to a minimum number. At the archaeological level, although the ancient enclosures are recalled through the height of the new concrete beams, the project builds an original spatiality, in which it is possible to see the excavation area in all its extension. Although the "modern portico's have proportions and measurements of the ancient ones in the plan, their height is instead deduced from the level of the contemporary city. The height strictly marked by the new paths' network is the current *Via dei Fori* and defines a continuous horizon on which the layered city extends. It is possible to say that the project defines a new Order (suggested by the ancient) and makes the proportions and measurements of the ancient ruins more visible.



**Figure 3.** Linazasoro&Sánchez Arquitectura, Emanuele Fidone e Bruno Messina. Plans of the project. Critical re-drawings by the author of the present essay, 2020.

## The reconstruction of the topographical continuity

The proposal of the group headed by Luigi Franciosini together with the Roman architecture Studio 2TR, on the other hand, made the premise that it is not possible to establish an exclusionary hierarchy between the orders in that place its own starting point. The project does not follow a formal paradigm referred to as a precise moment of history. However, it looks at the condition of topographical continuity that has always characterised this part of the city. In fact, since the earliest times, the valley was a natural link between the eastern hills and the Tiber to the west. Ancient pastoral paths and later narrow streets between the buildings of the *Alessandrino* district followed the orographic forms, modelling themselves according to their positions and altitude. This balanced relationship between nature and architecture was definitively compromised in the modern age due to the violent transformations carried out from 1870 up to the "sventramenti" of Fascism.

The break of the central archaeological area, in the east-west direction, has been further enhanced by the increase of archaeological excavations over the last few decades. Therefore, the primary aim of the project is to restore the topographical continuity that has characterised the valley of the Forums since its origins. The project coincides with a large plate that connects the different heights and collects transverse positions and paths by means of ramps and stairs. The new urban ground reports, in a renewed way, traces referable to different eras. Specifically, the roof has large cuts that match, where possible, with the voids of the ancient imperial squares. It also coincides with ramps and stairways, thought to follow the ancient streets of the *Alessandrino* district. Even in this project, as in the previous one, the supports of the vaulted system at the base of the large plate are reduced to the lowest possible number to respect the fragility that characterises the archaeological soil. Frequently, the supports themselves coincide with the walls or colonnades of the ancient Forums. A further technique used by the authors, able of reconnecting the project to the tradition of the Roman restorations of the early 1900s, in particular to the experiences of Giacomo Boni, is the use of *ars topiaria* to reconstruct ruined architectural elements.

## The necessity of the project

Although the trouble of operating in a stratified place, affected by the presence of archaeological ruins, requires

any time a unique answer, properly connected to the particularity of the case, the proposed projects clearly show how the transformation implemented is based on deep theoretical thought. It coincides with a systematic reflection that, although clearly recognisable, regrets any kind of regulatory limitation since it is capable of making itself explicit through the uniqueness of the occasion. The selection of different projects in relation to the same place made it possible to reflect on the richness of the responses and a common dual tendency. In fact, they relate to the place where the ancient discloses itself by combining a hermeneutic with a transformation tension. To the deep sensitivity in recognising the formal orders and the pre-existing characters, they relate an indispensable invention whose adequacy is defined in the correspondence to what pre-exists.

By attributing to the term “*invention*” its etymological meaning of “unprecedented discovery, the result of a profound investigation”, and despite the multiple material constraints of the context, they do not lead to any formal fascination or alienation, defining an adequate transformation that “*does not want to deviate from its own material and utilitarian heritage and indeed makes it the subject of its own formativity*”. The new form, which the project necessarily determines, is not shaped as a spontaneous self-production of sensitive data or protocol formulas but rather as a suggestion of the orders, variously hidden by antiquity.

## Note

<sup>1</sup> Sauro Gelichi, “*Città pluristratificate: la conoscenza e la conservazione dei bacini archeologici*”, in *Archeologia e urbanistica: International school in archaeology, Certosa di Pontignano, Siena 26 gennaio-1 febbraio 2001*, edited by Andreina Ricci (Firenze: All'insegna del Giglio, 2002), 61-76.

<sup>2</sup> Andreina Ricci, *Attorno alla nuda pietra: archeologia e città tra identità e progetto* (Roma: Donzelli, 2006), 66.

<sup>3</sup> Sigmund Freud, *Opere, X. Il disagio della civiltà* (Torino: Bollati Boringhieri, 1978), 562.

<sup>4</sup> Franco Purini, “*Memorie Verdi*”, in *Lotus*, no. 157 (Maggio 2015): 7-25.

<sup>5</sup> Marc Augé, *Nonluoghi. Introduzione a una antropologia della surmodernità* (Milano: Elèuthera, 2009).

<sup>6</sup> Francesco Venezia, *Che cosa è l'architettura: lezioni, conferenze, un intervento* (Milano: Electa, 2018), 15.

<sup>7</sup> Massimo Fagioli, “*La ricostruzione del senso*”, *Aiòn*, no.21 (2018): 12.

## References

Basso Peressut, Luca e Pier Federico (2017). *Piranesi Prix De Rome. Progetti per la nuova via dei Fori Imperiali: Aiòn*. Braudel, Fernand, (2017). *Il Mediterraneo: Bompiani*.

Carandini, Andrea (2012). *Atlante di Roma antica: Mondadori Electa*.

Freud, Sigmund (2010). *Il disagio della civiltà: Einaudi*.

Grassi, Giorgio (2000). *Scritti scelti 1965-1999: Franco Angeli*.

Insolera, Italo e Francesco Perego (1983). *Archeologia e città. Storia moderna dei Fori di Roma: Editori Laterza*.

Krautheimer, Richard (1981). *Roma. Profilo di una città, 312-1308: Edizioni dell'elefante*.

Linazasoro, Josè Ignacio (2015). *La memoria dell'ordine. Paradossi dell'architettura moderna: LetteraVentidue*.

Monestiroli, Antonio (2002). *La metopa e il triglifo. Nove lezioni di architettura: Laterza*.

Morachiello, Paolo e Vincenzo Fontana (2009). *L'architettura del mondo romano: Laterza*.

Rogers, Ernesto Nathan (1997). *Esperienza dell'architettura: Skira*.

Venezia, Francesco (2011). *Che cosa è l'architettura. Lezioni, conferenze e un intervento: Mondadori Electa*.

Yourcenar, Marguerite (2005). *Memorie di Adriano: Einaudi*.

Zanker, Paul (2013). *La città romana: Laterza*.

Gelichi, Sauro (2001). “*Città pluristratificate. La conoscenza e la conservazione dei bacini archeologici.*” In *Archeologia e Urbanistica. International school in archaeology. Certosa di Pontignano (Siena), 26 Gennaio-1 Febbraio 2001*, a cura di Andreina Ricci, 61-76. Edizioni all'insegna del Giglio.

Moccia, Carlo (2017). “*Il nostro è un tempo straordinario.*” In *Adecuación del Castillo del Cerrillo de los Moros : architettura tra traccia e memoria : Linazasoro & Sánchez*, a cura di Claudia Sansò. Clean.

Corboz, André (1985). “*Il territorio come palinsesto.*” *Casabella*, no. 516 (Settembre).

De Solà Morales, Ignasi (1985). “*Dal contrasto all'analogia. Trasformazioni nella concezione dell'intervento architettonico.*” *Lotus*, no. 46.

Ferlenga, Alberto (2013). “*Imparare dalle rovine.*” *Engramma*, no.110.

Purini, Franco (2015). “*Memorie Verdi.*” *Lotus*, no. 157 (Maggio): 7-25.

## Introduction

The main feature of the 21st century is globalisation. It is universally acknowledged that this phenomenon will affect every country despite its political or economic system. It has affected the way we design and construct new buildings, the same way it has affected the way we intervene in cultural heritage buildings.

Despite popular belief, older buildings are capable of adapting to the new energy efficiency norms. Therefore, the challenge is to achieve the wanted effect without damaging the architectural and historical value of buildings as well as retain feasibility. Integrating multi-criteria approaches, at the same time, ensuring long-term maintenance of existing buildings, is a challenge that needs to be faced by both the present and future generations.

It should be pointed out that the author's intention is not to promote another EE or sustainable development principle but to research possibilities to promote complete refurbishment measures, which include repair of the building, strengthening and sustainable refurbishment. The paper aims to show a multidimensional sustainable approach to the refurbishment of the Ovcha Kupel Bath in Sofia Bulgaria.

## The bath of Ovcha Kupel

### Urban context

The refurbishment project of the Bath in Ovcha Kupel requires detailed analysis about the building and the surroundings. To understand the context of where the building is located, we needed to study the factors that will influence our future project. The building of Ovcha Kupel Bath is in the southwest part of Sofia. Very close to one of the main entrances of Sofia city. It is in a neighbourhood called "Ovcha Kupel", from where the name of the Bath is also taken. Near the building is one of the biggest sports complexes and the Stadium "Slavia". The place is well known by young people for sports activities. The neighbourhood is mainly residential, and it has educational and social functional buildings. It is surrounded by a public park that was semi-public in terms used by the Bath's customers and maintained by the government in the past.

## Historical background

By the middle of the XIX century, in the region of Ovcha Kupel existed a small hot spring. After the devastating earthquake in 1858, the water fountain from the seismic crack erupted and formed a big gryphon lake. Initially, the flow of the spring group was large but subsequently decreased to about 3.5 L/s. Since the end of the XIX century, mineral water was used for balneotherapy.

In 1915, the spring was captured with a concrete pit, grounded in Neogen deposits and exploitation level 3.5m underground. Between 1958 and 1963, a drilling hydrogeological study was carried out. Three drillings were made near the natural spring, where the temperature of the water and the healing minerals were discovered.

## Sustainable strategies

### Climate analysis

The first step towards defining the sustainable strategies was a profound climate analysis and all the natural resources that the site and building offer. From the urban scale analysis, it is seen that the wind in Sofia has a north-west direction. Therefore the façade with will be most influence from it will be the main one facing the street. Even though the trees around make kind of a natural barrier against it. In the analysis, the River Vladayska is taken into consideration, which is flowing. We are very close to Ovcha Kupel Bath because we would like to turn it a benefit in our sustainable strategies, keeping in mind that water flow is a constant free energy flow. The Vladaya River springs north of Cherni Vrah. Her bed at first was poorly outlined, but the area "Vetrovala" under the "Kumata" hut is expanding and acquires a shape of the shape, after which the waters enter the sea. At the last bay (Golden Bridges), she makes a turn to the northwest.

After Vladaya entered the Vladaya Pass, and from there – in the features of the city of Sofia. Before it flows into the Iskar River, it accepts the Sushhodolska River.

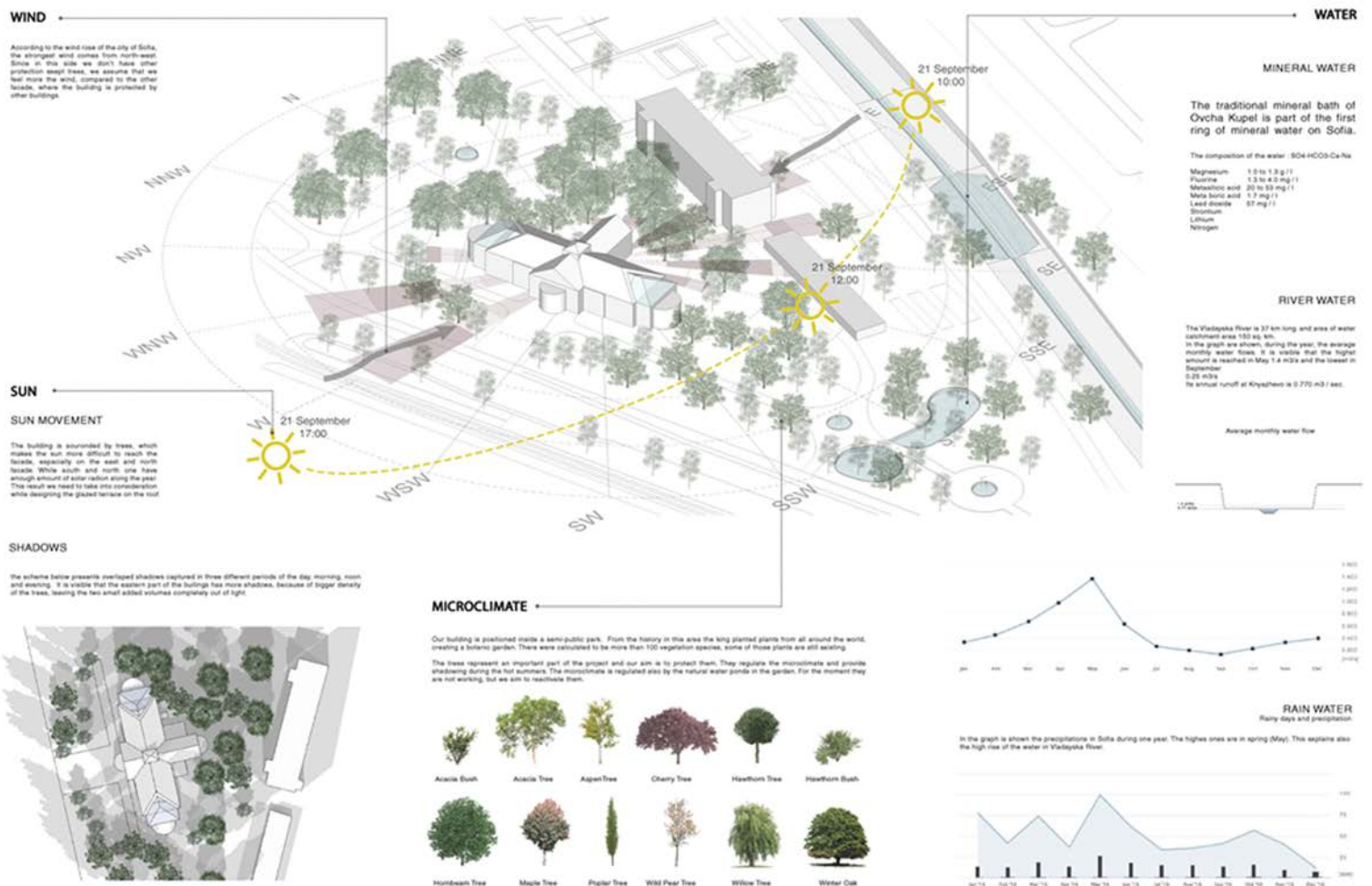


Figure 1. Schematic Climate Analysis

The Vladayska River is 37 km long, and the water catchment area of 150 sq. km. Its average annual runoff at Knjazhevo is 0.770 m<sup>3</sup> /sec. From the data available from the municipality, the extracted information states that the river is long 37km, with an area of water catchment of 150 km<sup>2</sup>. The highest level of water flow is in May - 1.4 m<sup>3</sup>/ s, which corresponds with the rainiest months according to rainfall analysis and the lowest in September, respectively, because of the summer season and lack of precipitation.

### Strategies according to sun radiation

The old Bath building location and surroundings influence the receiving sun radiation on the surfaces and respectively affect the thermal condition in the interior. The sun analysis is an important part of our sustainable strategies

in choosing the best materials, windows, and strategies, so we provide a pleasant, healthy and comfortable environment for the users and conserve the existing features of the building. The radiation study is made in SunHours, a plugin for SketchUp, a visualisation of how the sunlight interacts with our building. Figure 3 shows the total amount of hours of sun per year falling on the facades. The biggest amount of sun strikes the south part and a bit less the west one. The second scheme (Figure 3 right ) shows how the north part is in shadow during most of the year, not only because of lack of sun but also because of shadow from the very near, positioned big trees. As mentioned above, solar radiation, the shape of the building, the position it and surrounding influence the facades of the building and define different characteristics about humidity, air temperature, wind and irradiation.

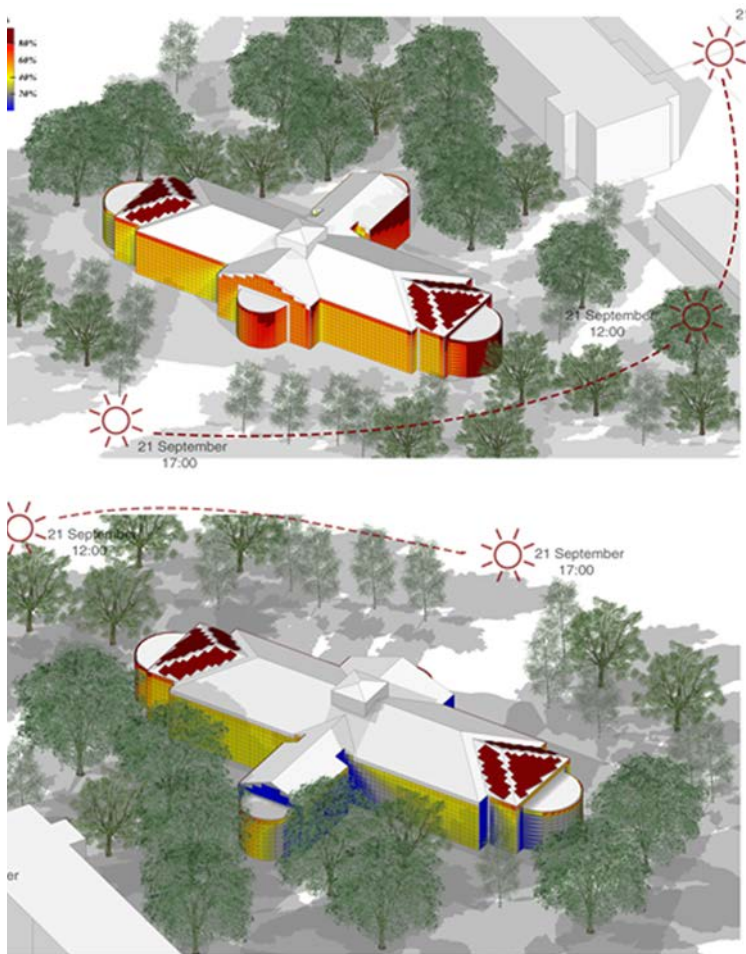


Figure 2. Radiation analysis on both sides of the building

From the wind rose, it is observed that the face that is more impacted by wind is the south and west. The hospital covers the building from the North and East, which means not impacted by wind.

The north and north-east parts are completely covered by trees, which leave the building in shadow and low temperature during most of the year. This creates high humidity and leaves space for problems in the walls. South and west are exposed to high radiation. The southeast part is the one that shows a more complex situation because it takes irradiation from the sun, but because of the trees, some part of it remains in shadow.

High air temperatures are shown in the south and west, whereas in the north, the air temperature drops because of the above reason. More detailed, we decided to study Zone 1- south wing of the building - during the summertime, when the outside temperature its` highest value. For

us, this part is quite essential because of the glazing. The results show quite a big difference compared to the south façade. In this case, we have chosen two different profiles of the window. For the South-west the windows with U-value= 1.2W/m<sup>2</sup>K and for the north-east (cold windows with U-value=0.9W/m<sup>2</sup>K.

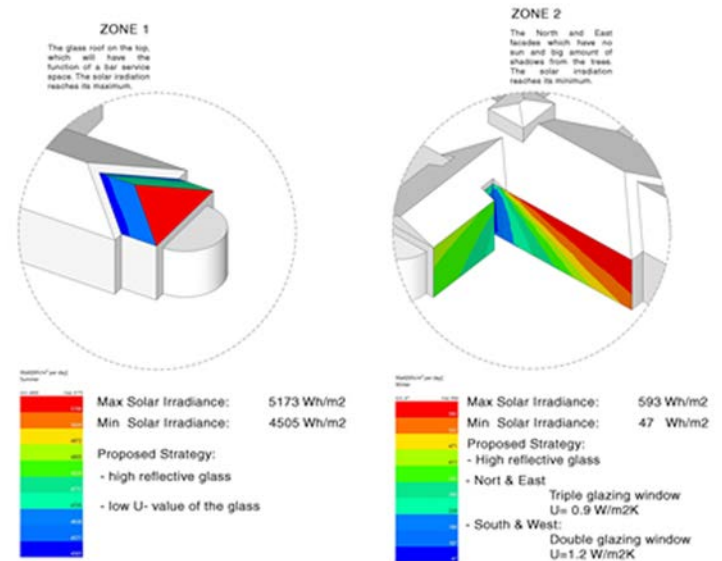


Figure 3. Zone 1

Figure 4. Zone 2

### Sustainable strategies according to water

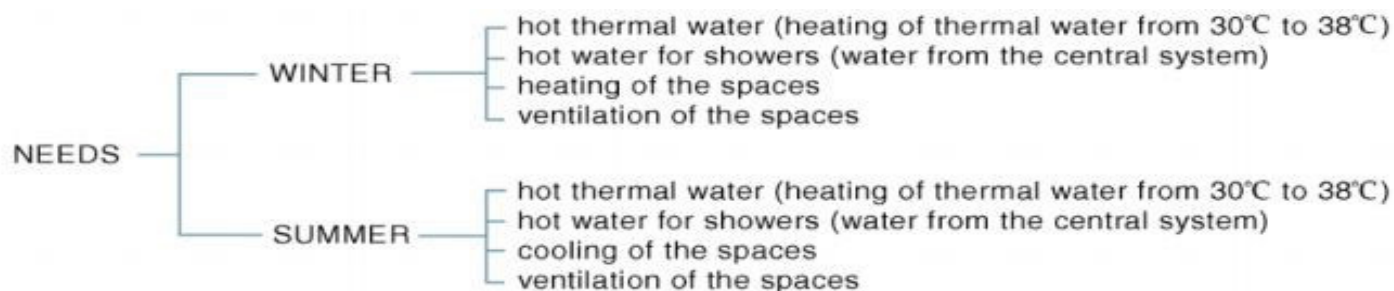
One other part of the project is implementing a Micro-Power plant near the river, which generates energy from the derivation of the river. The strong point of hydropower is that it runs 24h a day, seven days a week. The energy production (in kWh) will therefore be important considering the amount of money invested but will still be directly proportional to the flow of your stream. The operation of the turbine is quite simple. It has only one moving part, extending its operating life, energy production and thus requiring very little maintenance.

### Heating, cooling & ventilation implementation

One of the reasons The Bath of Ovcha Kupel was closed was the very high energy demand needed to maintain the building working. As a public bath, how was its function in the past? The income of the Bath was way smaller than the expenses of it. A combustion system solved the post-heating of the mineral water and the building itself with the coil. The natural airflow did the cooling and ventilating.

As mentioned before, the mineral water spring in Ocha Kupel provides a primary water temperature of 30°C. With a flow rate of 12 l/s. Spas and pools fed by water at T<38°C and T ≤ 35°C, respectively. In our project, the heating, cooling and ventilation systems and solutions play an essential role in sustainable strategies. To calculate the energy consumption needed for services, we assumed the hours when the different functions of the building would be used. The scheme shows the needs of building for thermal comfort and well-functioning spaces during the winter and summer periods.

The first part of the analysis was to calculate the distribution and need for water. We divided them into two main categories- one supplied by mineral water and one supplied by normal water from the municipality.



Mineral water is needed for the swimming pools and bath treatments. The sanitary units will have supplied by normal water. We are interested, and we calculated the total amount of mineral water flow rate so that we can compare it with the mineral water flow rate assuming it as income.

### Thermal water flow rate

According to the usage and hours during a working day, Figure 133 showing the amount of mineral water in m3/h for satisfying needs. The total flow rate of mineral water is equal to 43,2 m3/h and maximum consumption is predicted to happen in the afternoon with 39,5 m3/h. For the night hours and very early morning, there is still consumption at its minimum because of the constant circulation of the water in the pools.

### Correlations

There are three main correlations between the water flow rate from the source and the one needed for the ser-

vices. The first case is when the source does not provide us with enough flow rate for the needs. It needs an extra supply from the external source than the mineral water spring. The second one is when we have a peak of consumption in a couple of hours, but the mineral water source is significant enough, so we can compensate it with storing water during the hours when the consumption is lower than the amount coming from the source. The third case is when the needed water never reaches the maximum of the mineral water supply. From the results above, our situation deducts from the third case. As mentioned before, the mineral water spring in Ovcha Kupel provides a primary water temperature of 30°C. With a flow rate of 12l/s. Spas and pools fed by water at T<38°C and T ≤ 35°C, respectively.

### Power for heating and ventilating spaces

During the winter period, the spaces with different building functions must be heated to reach the users' thermal comfort. The heating power demand was calculated for each room with the following formula:

$$Q = (\sum U_i \times S_i) \times dT \text{ [kW]}$$

### Power for cooling and ventilating the space

During the summer period, some of the spaces demand cooling whether all of them must be ventilated. We consider in our calculations to cool only the civil spaces. About the ventilation, the n value changes based on the function of the space as considered in the heating and ventilation winter mode. Calculations were made with the following formulas:

$$Q = U_i \times S_i \times dT \text{ [kW]} \quad \text{Cooling}$$

$$Q = Vol \times n \times c_p \times dT \text{ [kW]} \quad \text{Ventilation}$$

The cooling and ventilating power was summed and visualised in the graph for each hour Were; we see that the maximum cooling power demand is 142 kW.

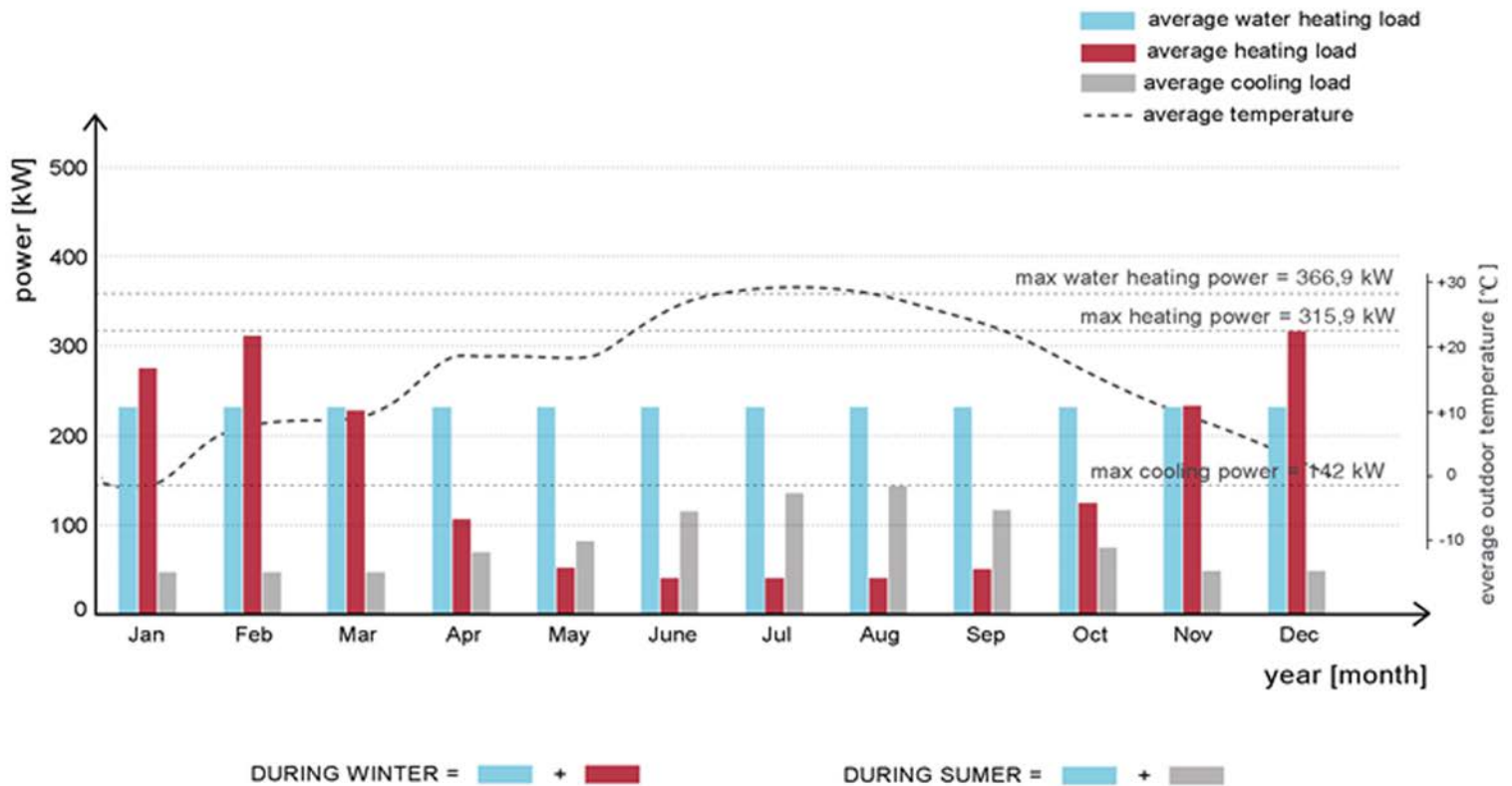


Figure 5. Annual Load

In summer, the difference between power consumption during working hours and when the building is not open is not that drastically because of the constant need for working ventilation and the limited spaces that need cooling.

### Annual load profile

The annual load profile represents the average heating, cooling and ventilation load in kW during each month of the year. As well as the power needed for preheating the mineral water before the thermal treatments (shown in Figure 138). The analysis of power demand for the services and needs of the building was made to understand what exact system we need for providing sustainable decisions. Therefore, from the results of the analysis is visible that we need our system to consist of summer and winter mode.

In the winter, we need the power to heat the water for the pools from 30 to 38 degrees Celsius for the big pool and 30 to 45 degrees Celsius for the small pools.

We want to use floor heating as a heating method, where water from the shared network is circulating inside pipes located on the floor. The ventilation will be carried by air handling units plus the natural ventilation in the ample pool space provided by two existing chimneys. In the summer, cooling and ventilation will also be provided by air handling units. One of our benefits is that the water coming from the spring has already high temperature and the wastewater leaving the pool. After studying well different sustainable options and systems, we decide to combine the two modes of heating and cooling in one system using highly efficient heat pumps and exchangers. The summer mode is connected to the evaporator in the heat pump, and the heating one plus the preheating of the mineral water is connected to the condenser. The heat pump recovery will exchange the average water used for the floor heating and the thermal water from the spring, which needs to be heated from 30 C to 38 C. The wastewater will be used as a thermal energy source to warm up water from 20 to 25 degrees, which will enter the heat pump and supply it with thermal energy.



## Internal insulation Strategy

Older, heritage and traditional buildings are usually constructed from vapour-open materials such as brick, stone, timber frame, wattle and daub or cob with lime or earth mortar in the joints, and plaster, render or paint made from lime on the walls. All these materials are breathable, so allow moisture to pass through them, and then this moisture evaporates either externally or internally. This keeps the building dry because externally, the heat from the sun and the wind will dry out the building fabric and internally, the moisture will evaporate because of ventilation from air circulating the building, which comes in through the windows, doors, chimneys and roof eaves. Older buildings often do not have a damp proof course installed either, and so this contributes to rising damp in the walls which will also evaporate when conditions are favourable. In the Ovcha Kupel Bath case, we choose to use internal insulation to prevent any façade changes connected to the shape and elements.

The internal insulation needed detailed calculations and careful choice of materials. As we know, internal insulation has lower performance in thermal insulation and moisture proofing than external one. In our case, it is even more complicated because, in the space of the pools, the moisture will have a higher level than a standard civil space.

## Conclusions

The advantages of realising the project can bring positive outcomes from the local community to the single investors. By sustainably using the existing natural resources and revitalising the building, the project aims to make cultural heritage buildings more resilient.

## References

Aslasyan Krikor, Асласян Крикор “ Баните в стара София “ Доклад, Report, 2013, Sofia, Bulgaria  
Bevington Cristian, Levin David, Robinson Peter, Davis Paul, Abbott Justin, Simkins Paul, “Water Sensitive Urban Design in the UK –Ideas for built environment practitioners” 2013, London, England.  
Conti Paolo, October 2013, the Energy balance of the Italian hydrothermal spa system  
Energy Saving Trust, 2005, Advanced insulation in housing refurbishment. (CE97), EST  
Energy Savings Trust, 2006, Practical refurbishment of sol-

id-walled houses. (CE184), EST  
Menerga GmbH, Muelheim an der Ruhr “Indoor swimming pool air conditioning | 2013/01/EN | Subject to technical modifications. ©Germany  
Penchev Pavel, Velichkov Velichkov, „Съвместен проект на българска асоциация по подземни Води (бапв) и Столична община, оп „туристическо обслужване” 2015  
Ricart Cristina, Schweiger Hans, “EINSTEIN Audit Summary Report”, Barcelona (Spain) - Berlin (Germany) March 2012;  
SteelSectionsEC3ENG  
[http://bgapv.com/uploads/files/33\\_mineral\\_book\\_01.pdf](http://bgapv.com/uploads/files/33_mineral_book_01.pdf)  
<http://io.morphocode.com/sofia/>  
<http://stara-sofia.com/banite.pdf>  
<http://stara-sofia.com/banite.pdf>  
<http://stara-sofia.com/karti.html>

## Introduction

The definition of scientific investigation methodologies inherent to recent urban heritage, created in the twentieth century, requires analytical procedures that make it possible to understand the processes of modernization by examining the steps that lead to the current situation as an indispensable basis for moving towards their redevelopment.

The focus on contemporary architectural heritage, which lacks the historical distance that allows its legitimate recognition, has led to specify the cultural and social values that characterize it. This objective has given rise to the “National Census of Italian architecture of the second half of the twentieth century” undertaken by the Ministry for Cultural Heritage and Activities for the knowledge and enhancement of contemporary architectural works, which since its inception in 2002<sup>1</sup>, continues with implementation, updating and deepening of the individual works in relation to the urban context to which they belong<sup>2</sup>.

The Directorate General for Contemporary Art and Architecture and Urban Peripheries DG-AAP, in addition to the mentioned objectives, has extended its attention to the redevelopment and recovery of urban peripheries, orienting the expansion and strategies for the promotion of urban heritage contemporaries.

The program of recognition and documentation of the architectures built in Italy from the post-war period today continues extensively with further in-depth analysis and with the dissemination on the Net, established through the creation of a site in constant implementation.

The cognitive process, favoured by the evolution of the regulatory provisions that have extended the concept of urban heritage to include the neglected suburbs, provides an important documentary basis gathered in a national overview from which it is possible to make comparisons and differences of the local realities.

The documentation is essential to understand the values of urban heritage located in contexts and territories that express the contributions of modernization. Territorial architectural creations distinguished based on the different cultural areas, extensible beyond national borders, which have not

always received homogeneous historiographical attention, in which political, geographical and local realities have intertwined, to be taken into consideration in order to obtain a shared identification of cultural property as a public value of a globalised system.

The research was measured from the outset with the problem of defining the time frame of reference, which, in the context of historical investigation, appeared to be a limit to be defined with solid reasons being by its very nature a fleeting and sliding margin over time. To define the “zero point” of the exploration activity at the end of the Second World War was identified, that is, the period of the beginning of the reconstruction, which coincides with the restart of building production, technological innovation, housing policies, a rethinking of architectural and urban planning discipline.

## Objectives and survey methodology

The methodology used for the territorial surveys of the National Census was based on an articulated and coordinated set of activities that can be summarized in three phases: the first concerned the selection of buildings and urban areas of significant historical-artistic interest; the second was the filing; the third focused on the promotion, dissemination and exploitation of results.

The selection procedure was based on identifying criteria through reflections and debates between the Ministry and the universities that carried out the local research. The identification of objective parameters, not easily attributable to a unified system due to the lack of already consolidated historiography, has imposed the identification of shared criteria capable of determining the values and certifying the recognition of interest in the most recent works of contemporary architecture (Guccione, 2009).

The study method, established with the aim of standardizing the different regional researches, has defined a series of quality criteria capable of selecting works in a coherent and homogeneous way on the national territory.

The parameters for the certification of the quality and interest of a building are part of a quantitative type (bibliographic recurrence, for example) and partly of a critical

type (capacity for technological innovation, renewal of typological schemes, solution of technical or social problems. etc.).

In particular, the bibliographic checks take into account the “critical acclaim” of architectural work, the citations in specific publications, and of recognized national and international value, while the historical-critical criteria examine elements linked to historical and architectural events, to the evolution of the cultural and disciplinary debate, to the significant role played by the work in the context, the notoriety and relevance of its author.

Therefore, the initial census was carried out on these methodological bases, which made it possible to identify the works in the “selection” phase, obtaining a list of architectures to be resumed in subsequent phases for additional in-depth studies to implement the Ministry’s database. The detailed studies concern the single works, and through specific local research, they integrate the knowledge of lesser-known designers who have worked in the provincial cities, producing significant works for the architectural and territorial urban culture.

The survey methodology described formed the basis of the census of the late twentieth-century architecture, currently available on the site [www.sitap.beniculturali.it/architettura](http://www.sitap.beniculturali.it/architettura) which makes it possible to search for works with queries by Name, Worker, Type, Region, Category, and Year. The contribution refers to the experience conducted in Abruzzo by combining the general aspects, methodologically shared, with the insights and local readings that add specificity to collective work referring to contemporary globalization, which requires further cognitive approaches extending to a broader, more widespread and capillary urban heritage.

### Insights on the topic

The results of the first part of the research disclosed through the publication “Architecture in Abruzzo and Molise from 1945 to today” “Selection of works of significant historical and artistic interest by Caterina Palestini and Carlo Pozzi, officially presented to regional institutions, towns and the workers of the sector in order to raise them aware and inform them about the topic of study, is now addressing the many cases to be investigated to ensure the necessary knowledge and enhancement<sup>3</sup>.

Assuming this indispensable institutional work as a basic reference, as the starting point of research that is not to be considered complete, but as a constantly updated support, the current investigation focuses on the specific knowledge of the individual works.

If in the first phase of the investigation, the objective had been to propose a first survey of the architectures present in the Abruzzo area-realized with the location, photographic documentation and brief information on the work, published in an easy and immediate reading guide capable of disseminating the results of the research, identifying their overall values, the current phase is the one that goes into detail, in the process of knowledge and enhancement of individual cases (Palestini, Pozzi, 2013).

The analytical investigation of the individual architectural episodes present in the young provincial cities in the Abruzzo really assumes an essential meaning, specifically concerning the moment of their greatest urban growth, which took place precisely after the Second World War the transformation towards contemporary language was defined. (Palestini, 2015)

### Buildings for cultural promotion

The proposed in-depth study considers three public works indicative of the theme concerning urban heritage. They are buildings intended for the promotion and cultural services in Abruzzo, designed in expansion areas in the outskirts of Vasto, Sulmona and Avezzano by Paolo Portoghesi and Vittorio Gigliotti.

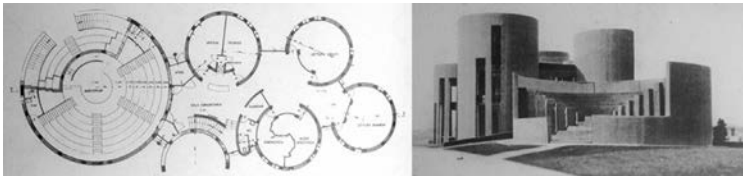
The investigation of the case studies was conducted through the drawing, in its dual role as a tool for the analysis of the completed work, which is traced through the survey, and the original project, which leads back to the understanding of the compositional idea and its possible transformations. Examining the architectures, created by comparing them with the initial drawings of the architects, offers confirmation of the state of affairs. The original panels also make it possible to rediscover a documentary corpus, also made up of alternative solutions left on paper, helpful in understanding the choices made, the motivations and the cultural context from which the built works derive.

The analysis concerns explicitly three works, united by cultural connections, arising from the formal and structural choices born from the professional partnership of two Roman designers: the architect Paolo Portoghesi and the engineer Vittorio Gigliotti, built between 1970-80.

There are three similar buildings intended for cultural promotion, set up by the Abruzzo Region to promote and support the training policies of the territory distributed in provincial districts. Built initially in marginal areas of the cities, today they testify to the constitutive phase of the postwar modernization and urban planning process in which the aim was to re-establish the social and territorial policies of our Country.

## ***“Giuseppe Capograssi” Cultural Promotion Agency of Sulmona***

The Cultural Services Centre of Sulmona, the seat of the library named in 2012 to the philosopher and jurist “Giuseppe Capograssi”, is located in the eastern expansion area of the city connected to the historical centre in 1962 with the homonymous bridge built over the Vella stream designed by Riccardo Morandi. The large and innovative pre-compressed reinforced concrete infrastructure that enshrined modernity today suffers the negative effects of the collapse of the Genoa bridge by the same developer but, despite this, it remains an important viaduct designed to connect the new part of the Peligno centre, where places the Cultural Centre with an adjoining library, with entrance into the square of Piazzetta Venezuela (Fig. 1,2,3).



**Figure 1.** Cultural centre “G. Capograssi” Sulmona (AQ) Original project.



**Figure 2.** Cultural centre “G. Capograssi” Sulmona (AQ). Source: Photo 2008.



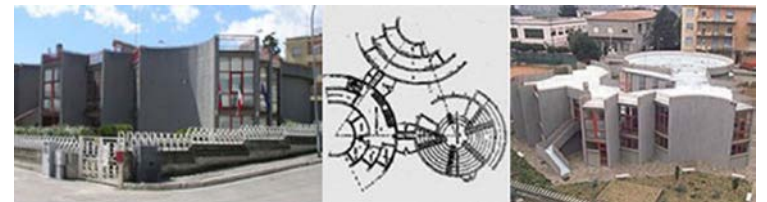
**Figure 3.** Cultural centre “G. Capograssi” Sulmona (AQ). Source: Photo 2021.

The body with a reinforced concrete structure is defined by concatenated cylindrical volumes that converge towards a large circular audience that acts as a cavea for the external multifunctional area.

The relationship with the surrounding urban fabric is fragmentary; the building saturation of the little planned district makes the reading of the work complex, inspired by Baroque plasticity, which maintains a perceptive relationship with the surrounding greenery and the naturalistic backdrop of Mount Morrone, which acts as a scenographic landscape backdrop. The building has been closed since 2016 following the Amatrice earthquake that partially hit Abruzzo, based on checks on seismic vulnerability, and today it is in a state of neglect which has recently prompted an interpellation addressed to the Prime Regional Minister so that the use and usability of the multifunctional spaces of the so-called “Palazzo Portoghesi” are restored to avoid further deterioration of the structures and the book heritage contained therein.

## ***Agency for cultural promotion in Michetti Square in Vasto***

The experiments on the use of the curved line also connote the other two similar cultural poles. The building of Vasto, similarly located in an area initially decentralized from the historic core – in which sports facilities, schools and health laboratories Asl are currently located – is similarly set on concentric circles from which derive the volumes that in elevation define the lively articulation of the spaces. One of the three bodies appears modulated in the shape of an amphitheatre with annularly hollowed tiers in the circular perimeter placed to delimit the auditorium for outdoor performances (Fig. 4).



**Figure 4.** Cultural Centre Vasto (CH). Source: Original project with historical photos (1990).

The entire structure is in exposed reinforced concrete with practicable roofs, conceived as an external extension of the spaces for cultural use. The still-active centre was put back into operation after the extraordinary maintenance works were completed in 2013 (Fig. 5-6).

## ***Agency for cultural promotion “Ignazio Silone” of Avezzano***

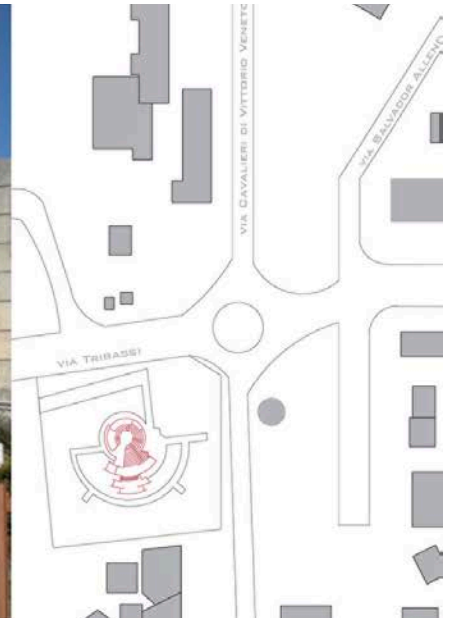
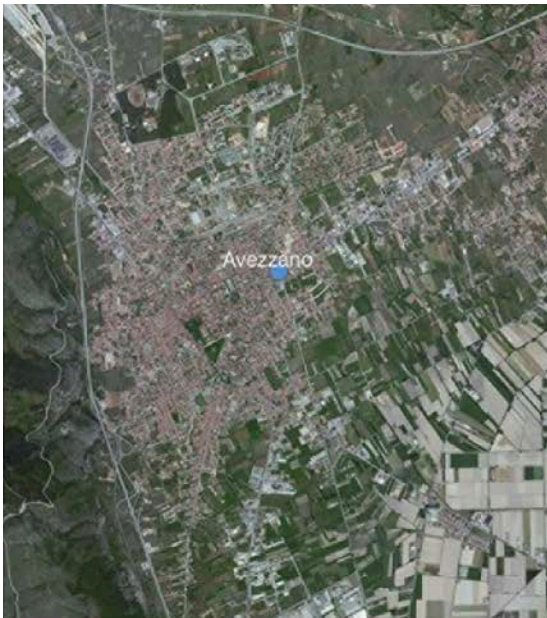
The Avezzano Cultural Services Centre replicates the choice of the suburban layout in the area planned for the modern expansion of the town, where the modern Teatro dei Marsi is now located.



**Figure 5.** Cultural Centre Vasto (CH) with sports facilities in the same lot. Source: Photo 2021.



**Figure 6.** Cultural Centre Vasto (CH). Source: Photo 2021.



**Figure 7.** Via "I. Silone" Avezzano (AQ) Localization

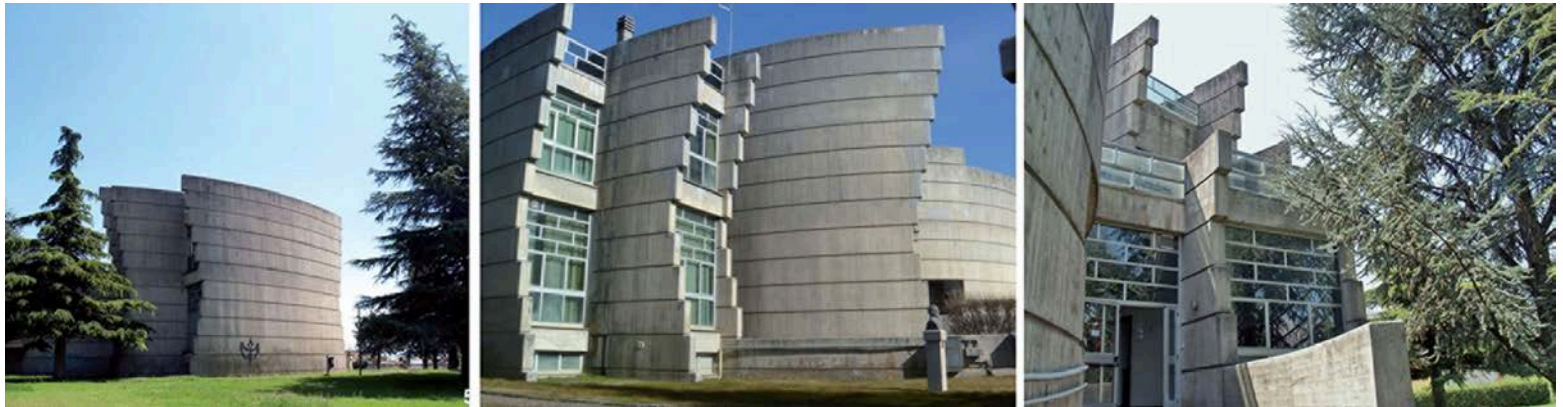
It started in 1971 and completed in 2006, as opposed to the historic Ruggeri theatre in Castello Square, and a series of school buildings, offices and the new open-air market (Fig. 7).

Like the previous ones, this structure is based on a circular layout, on a sequence of concentric circles which, like ribbons, envelop and open up the interior spaces (Fig. 8, 9, 10, 11, 12).

The author's words define the idea from which the shape springs "... concentric circles that expand infinitely overlapping each other exactly as happens when you throw a handful of pebbles into a pond and are delighted to admire the concentric waves that fade and intertwine."

Conceived with the intention of relating the interior space to the exterior, the marked bands of fair-faced concrete are able to perceptually produce the effect of fragmentation, finding a particular connection between the building and the environment.

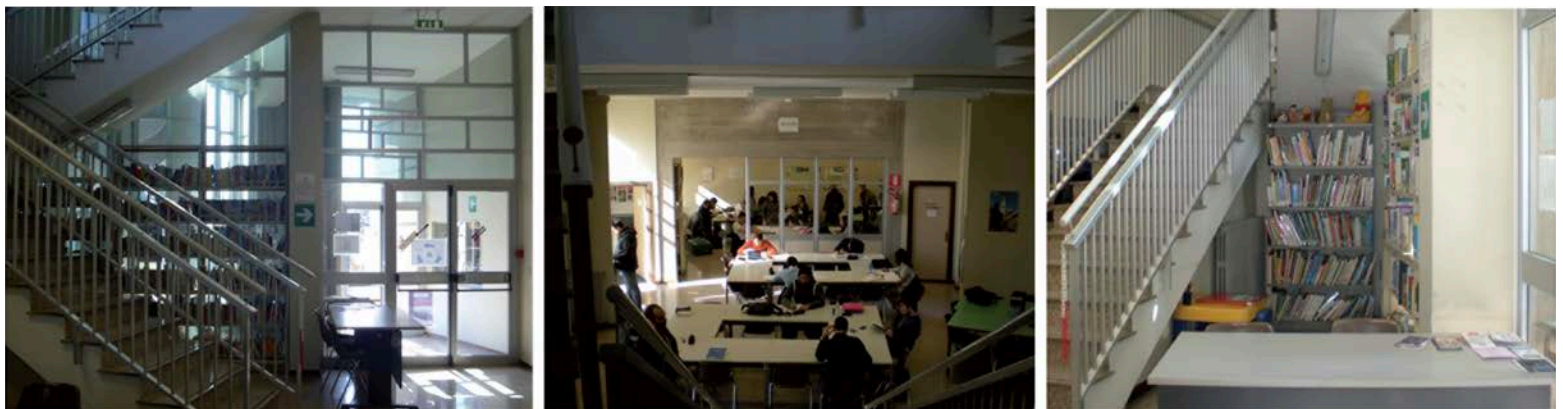
The building in its marked modernity symbolically evokes the ancient, is associated with ruin as explained by Paolo Portoghesi himself, who assimilates it to the figuration of the temple: "a destroyed temple, earthquake, opened like an overripe fruit, like the symbolic pomegranate, because in the religion of our time there are no priests, no faithful, no chambers or corridors, the temple is both a theatre with an assembly, a fortress and a panoramic" (Pisani, 1991).



**Figure 8.** Cultural Centre "I. Silone" Avezzano (AQ) Photo documentation of the exterior. Source: Photo 2019.



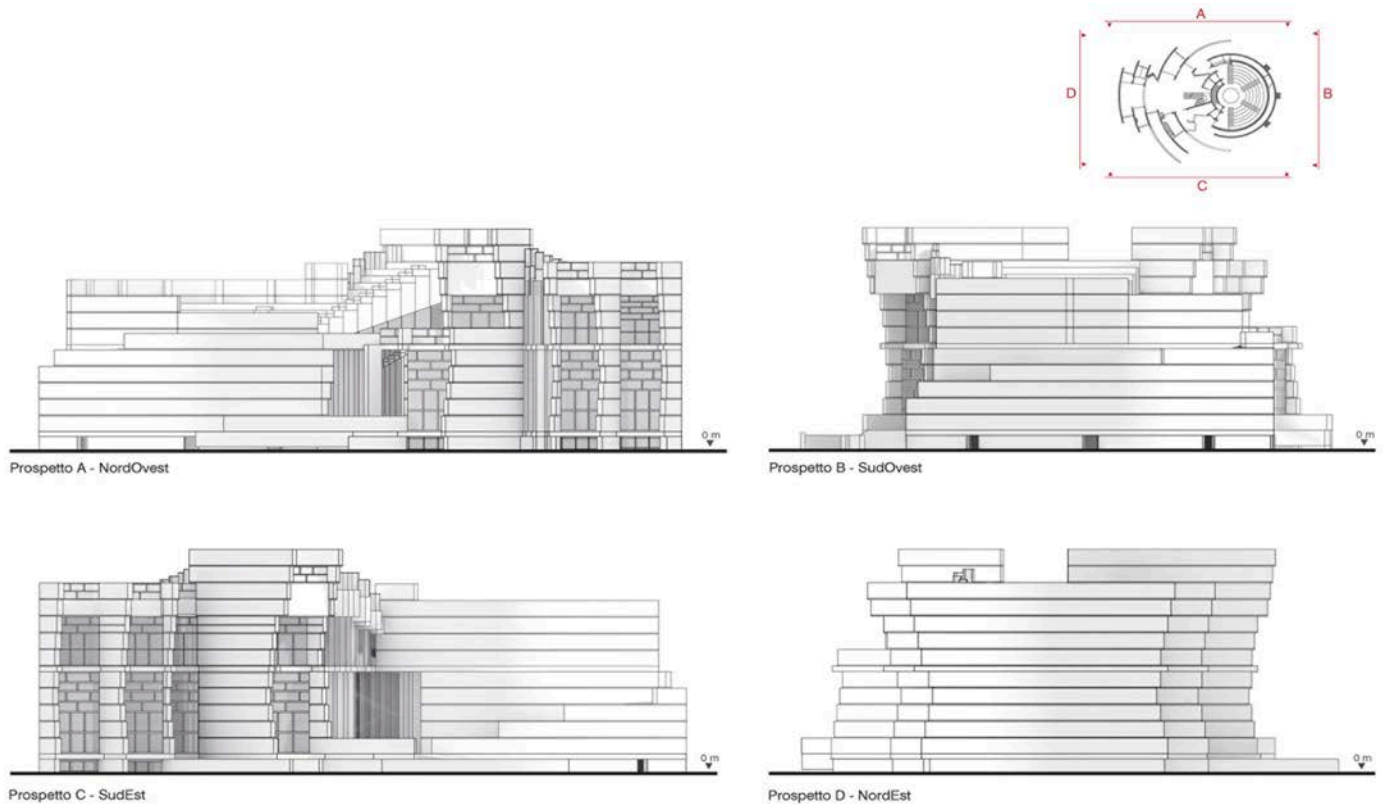
**Figure 9.** Cultural Centre "I. Silone" Avezzano (AQ) Photographic documentation of interior spaces Auditorium. Source: Photo 2019.



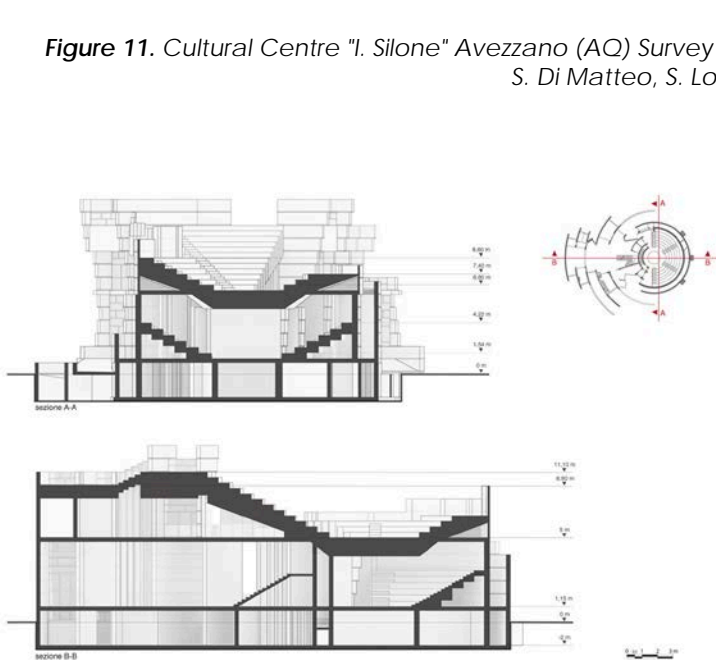
**Figure 10.** Cultural Centre "I. Silone" Avezzano (AQ) Photographic documentation of internal spaces Library. Source: Photo 2019.

The multi-purpose centre, similar to the other episodes considered, is equipped with a library, study rooms, meeting rooms and spaces for performances; the larger circumference, in this case, houses

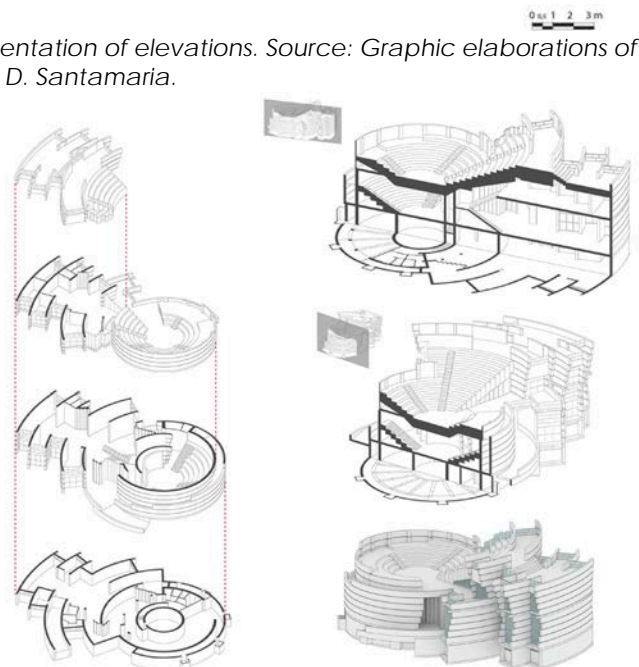
the auditorium on the first floor and the open-air amphitheatre, which acts as a cover for the upper level.



**Figure 11.** Cultural Centre "I. Silone" Avezzano (AQ) Survey and representation of elevations. Source: Graphic elaborations of S. Di Matteo, S. Lombardozi, D. Santamaria.



**Figure 12.** Cultural Centre "I. Silone" Avezzano (AQ) Survey and representation Sections. Source: Graphic elaborations of S. Di Matteo, S. Lombardozi, D. Santamaria.



**Figure 13.** Cultural Centre "I. Silone" Avezzano (AQ) Three-dimensional analysis. Source: Graphic elaborations of S. Di Matteo, S. Lombardozi, D. Santamaria.

## Conclusions

The theme of the knowledge of urban heritages spread throughout the territory cannot have a time limit given the number of architectural episodes produced in the twentieth century often neglected by the administration who do not understand their architectural and urban values. Many of these underdeveloped architectures have been protagonists of the modernization process, particularly in the provincial cities, in a phase of growth and urban planning that often failed to integrate them as expected in the design phase, making them remain isolated in the oblivion of the suburbs, surrounded by intensive building that has saturated the spaces with subdivisions without rules.

The examples described are evidence of this, and although they bear the signature of prestigious designers, they are involved in the process of scarce attention and lack of protection that more generally concerns newly built architecture. Therefore, the episodes reported by the national census require, as has been repeatedly asserted, specific investigations to not remain ignored in the contexts in which they live together.

In this sense, the contribution focuses on these three singular public buildings intended for social and cultural promotion, examined through surveys and analytical readings. In particular, for the Cultural Services Centre of Avezzano, a graphical analysis was carried out on the geometric and compositional layouts that generated the work, verifying the compositional practice that unites the three structures with the theories expressed by the developers. The comparison between the project and the current state made it possible to detect the transformations that took place during construction; three-dimensional models also allow exploring and analytically understanding architectural spatiality (Fig. 13).

In conclusion, the attention on the urban heritage of the twentieth century leads to the revaluation of the architectural works present in the territory, addressing the protection and enhancement of works that are still poorly considered.

## Note

<sup>1</sup>The census launched in 2002 by the then DARC, Architecture Service, was initially presented at the 2004 Venice Biennale in the exhibition "Sguardi contemporanei" 50 years of Italian architecture. The research is still ongoing with updating and completion programs managed by PABAAC, Architecture Service and contemporary art.  
<sup>2</sup>In 2013 a new research contract was signed between the Department of Architecture of Pescara and the Minister of

Cultural Heritage and Activities, for the updating of the Census with principal investigators: prof. Caterina Palestini for Architectural Survey, prof. Carlo Pozzi for Architectural Composition; prof. Claudio Varagnoli for the Restoration.

<sup>2</sup>In 2013 a new research contract was signed between the Department of Architecture of Pescara and the Minister of Cultural Heritage and Activities, for the updating of the Census with principal investigators: prof. Caterina Palestini for Architectural Survey, prof. Carlo Pozzi for Architectural Composition; prof. Claudio Varagnoli for the Restoration.

<sup>3</sup>The publication was presented on June 18, 2013 in Pescara, in the presence of the Director of the Cultural Heritage Service of the Abruzzo region, the councilors for Culture of the Province and the Municipality of Pescara, to the Delegated Councilor for the recovery and enhancement of the historical heritage of the city with the interventions by the Superintendents of the two regions Alessandra Vittorini for Abruzzo and Carlo Birrozzi for Molise, Margerita Guccione Director of MAXXI Architecture and Maria Grazia Bellisario Director of Architecture Service and contemporary Art PaBAAC – MiBAC.

<sup>4</sup>The graphic elaborations coordinated by the author were carried out with the collaboration of S. Di Matteo, S. Lombardozzi, D. Santamaria.

## References

- Pisani, Mario (1991). *Paolo Portoghesi opera e progetti*. Milano: Electa Mondadori
- Guccione, Margherita, a cura di (2009). *Documentare il contemporaneo*, Roma: ed. Gangemi.
- Palestini, Caterina, Pozzi, Carlo (2013). *L'architettura in Abruzzo e Molise dal 1945 a oggi. Selezione delle opere di rilevante interesse storico artistico*, Roma: ed. Gangemi.
- Palestini, Caterina (2015). *Safeguarding and intervention: research on the reuse of the architectural heritage of the 20th century. Salvaguardia e intervento: ricerche sul riuso del patrimonio architettonico del novecento*, in *III Congreso sobre Documentación, Conservación, y Reutilización del Patrimonio Arquitectónico y Paisajístico*, pp. 1152-1159. València: Editorial Universitat Politècnica de València.



The background is a dark grey to black gradient. It is filled with a complex, overlapping pattern of light grey hexagons. Some hexagons are solid, while others are outlined. Dashed lines connect various vertices of the hexagons, creating a network-like structure that suggests interconnectedness and a cycle of relationships.

# Chapter 3

Phenomena of regeneration,  
revitalisation,  
recycle and re-use



**Introduction**

Today the usual approach to the urban regeneration of built heritage has been absorbed by a wider vision of urban transformation.

The notion of heritage itself has been extended considerably, as well as the assets that characterise it, including abandoned spaces, modern building complexes, unused infrastructures and former industrial areas (Fontanari and Piperata, 2017).

On one side, built heritage plays a new role in the urban development process driven by digital technologies and infrastructures implementation. On the other side, the design process is increasingly used as a tool to promote visions and innovative approaches based on culture and creativity.

These changes are renewing the urbanisation models based on heritage consumption and are producing new dynamics to afford urban challenges and environmental issues.

Three ongoing global processes underlie this shift:

1. Today, the global economy is increasingly connected to the power of cities. That is, being cities the places of production of the global economy, the competition between metropolitan areas is getting stronger and stronger.
2. Communication technology and robotic automation are radically changing the production process and the localisation models of productive activities and workplaces towards mixed and shared environments.
3. A “new era of infrastructure investing” is coming. This is expected to generate substantial investments in fixed capital, with a 70% increase in global construction products in the decade from 2015-2025 (Clark et al., 2012).

Within this macro-phenomena, urban regeneration is absorbed by a broader process of complex urban transformations management, which includes new infrastructures, facilities, open spaces and land use re-organisation. Nevertheless, built heritage still plays an important role in this urban development process trend:

- As one of the primary resources in the strategic planning for the promotion of the attractiveness of urban areas, linked with cultural and creative economy;
- As a starting point for the transformation of abandoned areas, enhancing the immobilised fixed capital contained in the underused built environment;
- As a tool to attract investments to the cities.

Moreover, heritage can be considered by multiple perspectives: social, anthropological, cultural, linguistic, religious, and is intertwined with different phenomena of contemporary life, such as tourism, leisure, sport, etc. and concerns both buildings and traditions, natural sites, cities, as well as human activities. Heritage is both tangible and intangible.

As a consequence, the paradigm of “conservation”, in the era of information technology, global trade and infrastructures, is changing and needs to be observed in parallel both with the changing values of the contemporary society and with the most important urban questions related to the environment, mobility and social inequality (Secchi, 2013).

**Tourism a new threat?**

Over tourism has radically changed our cities and their historical centres, both physically and sociologically.

The diversified forms of the tourism industry are increasing the fragmentation of the ways of living, working and using space, often generating a strong pressure on historical centres and emphasising the conflicts between temporary and stable residents regarding the use of spaces and services.

Firstly, the vast, pervasive and differentiated phenomenon of “apartment tourism” or “home-sharing”, encouraged by economic means, cultural attention and personal behaviours, mainly concerns the historical centre’s building stock, activating a process that combines depopulation and gentrification aspects. Social networks and ad-hoc platforms have rapidly bloomed in the last ten years, allowing anyone to rent or share their own property for a limited period, focusing on the idea that guests can live

(or have the illusion to live) a short-lived experience as citizens of a unique place. Airbnb was founded in 2007 and today has more than 7 million real estate listings in more than 100.000 cities in 191 countries. It accommodates more than 500 million travellers worldwide.

From a sociological point of view, this "temporary stay" is altering the main city centres' reality, threatening their consolidated urban and cultural identity.

On the one hand, this trend radically changes the way of living and using historical centres; on the other hand, our planning approaches and tools are often inadequate. It is necessary to look at these phenomena having in mind that a new way of living and using the urban heritage is emerging, which is parallel to the rise of a new city users' global community. This structural process represents a different vision of the historic city and urban heritage that planners and architects can no longer ignore.

### **From historic centre to historic city**

Within urban areas, global competition, culture, arts and heritage are strategic tools for cities.

The contemporary planning approach incorporates cultural heritage as a fundamental component for urban areas regeneration, increasing creative sector, promoting arts and culture. This approach has shifted the attention of planners from historic city centres to historic cities, focusing on their conservation on two main aspects:

1. The connection between heritage and people's sense of place, and;
2. The introduction of new categories of heritage.

Today, historical centres are no longer sufficient to satisfy the increasing demand and to cope with the pressure of more and more city users and global consumers (Koolhaas, 1996; Dobbs et al., 2016). In the Italian experience, the preservation has been extended from the high-quality historic buildings (monuments, palaces, etc.) to the entire historic urban fabric. Several European cities applied the notion of heritage, both preserving and transforming marginal areas, former industrial sites, unused ports and railway stations, considered as drivers for sustainable, social, economic and urban development (Labadi and Logan, 2016).

The cultural value of some of the tangible remnants left in these areas is generally acknowledged as an instrument to imagine new futures for cities.

In the last decades, brownfields have been increasingly transformed into booming urban districts, often activated starting from bottom-up initiatives promoted by the

local cultural scene, emerging creative and innovative activities, young professionals looking for new ways of living and working, boosting both the social-cultural life and economy of their cities.

Considering all these issues, preservation of historical heritage should become less selective, including all those tangible and intangible elements that can play an essential role in the urban evolution and development as evidence of his social, economic, and cultural history.

### **Re-inventing functions for urban heritage**

In the most innovative cities, sharing economy and urban commons governance are closely intertwined (Huron, 2017).

The impact of digital technologies on building stock, infrastructures and environment as well as on working activities and people's behaviour is becoming stronger and stronger.

Moreover, new business models for the production and consumption of goods and services are rapidly transforming cities and the use of services in terms of shared spaces and facilities (Bianchetti and Sampieri, 2014).

In few years, we moved from a dominant model based on electronic and digital technology to a new one based on Nano-tech, biotech and robotics. The growing importance of artificial intelligence is reorienting the entire building construction sector and creating new living conditions expectations in terms of services accessibility, urban comfort and leisure opportunities.

Therefore, a new season for urban facilities and services management is rising.

By the next 15-20 years, urban mobility, energy supply and IT sectors will definitely give back to historical centres the role of "urban core" (Graham and Marvin, 2001). The so-called "smart city" realisation is having a strong physical impact on cities in terms of new infrastructures and connections. In most cases, an efficient infrastructure, services, and facilities network is already served in central urban areas. In those places, the new IT trends are blooming, modifying the physical space in terms of infrastructures and buildings implementation and adaptation.

Consequently, in many European cities, people are returning to live in historic centres looking for more comfortable living conditions, higher quality of life, easy access to services, low traffic, bicycle and pedestrian paths, efficient public transport, etc.

In this scenario, historic centres play a significant role as urban centralities and contribute to guarantee a better future perspective in terms of sustainable development. Nevertheless, this trend strongly impacts urban heritage in terms of physical transformation, forcing planners and architects to consider it a process of re-inventing urban functions more than urban regeneration.

Today's cities have to rethink themselves to succeed in the global urban competition, producing new visions for their future. In this sense, due to their morphological characteristics and ability to adapt to new lifestyles, central areas are proving to be the places where this process is taking hold.

### **New heritage, new design**

Cities have to reinvent themselves to succeed in the international urban competition.

In many cases, this attention has driven local administrators and policymakers to look at new visions and future perspectives, often aimed at more resilient and sustainable urban models. Built heritage plays a key role in this process. As for its morphological characteristics and the capacity to adapt to the new living and working conditions represent a crucial tool for the future urban transition (Bandarin and Van Oers, 2015).

On the other hand, the notion of heritage has become wider, including not expected areas within the main urban and metropolitan regions worldwide. In Rio de Janeiro or Casablanca, tour operators organise guided tours in informal settlements. Modern social housing neighbourhoods are increasingly requested by young professional couples belonging to the middle class. Abandoned industrial areas are rethought as new urban centralities. In 2014, the Municipality of Milan started the mapping of abandoned and degraded buildings and areas with the aim of mending and regenerating the urban tissue of the existing city (SIT Comune di Milano, 2014). In most of these cases, we can observe the rising of innovative approaches in design and preservation practices connected to urban or buildings transformation and regeneration.

Usual planning practices clash with contemporary urban and environmental matters based on suburbanisation and natural resources consumption. On the contrary, technological innovations are introducing changes in urban life, giving new impetus to cities and suggesting new approaches to urban transformations.

### **Heritage and sense of place**

Many cities are promoting the central role of heritage in all its forms. From monumental to vernacular architecture, along with tangible and intangible cultural heritage, cities use existing resources to enhance their vibrant urban identity and quality of life. As intangible heritage, the historic built environment contributes to reinforcing the local identity and the general sense of community place. On the other side, it has to be noted that the values that people give to the historic built environment vary considerably (Benevolo, 2003). That is, people's daily lifestyles highly condition the perception of the built heritage value. Anyway, people's unintentional ways of experiencing places can give a role to those places, for example, by transforming informal practices into usual ones. This dynamic is strictly connected with the idea of "third space": a place where humans, even in today's digital age, seek in-person interaction and fellowship, gather, debate, and trade within built spaces (Soja, 1996).

The emerging of a new people's awareness of heritage raises new questions related to preservation ideas in the metropolis of the XXI century. What new forms of heritage conservation are emerging within a constantly evolving globalised society? How can people migrate around the world from one environment to another, preserving their own lifestyles and beliefs about what has value and what does not? The answers to those questions have still to be investigated.

### **Conclusions**

Changes in urban regeneration are giving rise to new challenges and opportunities in terms of potential solutions in the "public-sector crisis age".

Vacant buildings and areas re-activation and reuse, in a mixture of formal and informal activities, temporary uses and sharing practices, bottom-up initiatives and top-down plans, as well as the combination of old fashion and new design, have become the keystone for sustainable urban development. These mixed areas evolve and are developed out of their historical and social milieu, thus cultivating inspiring living and working environments and an authentic sense of place.

This catalytic effect is dependent on the successful interaction of low-budget / high-culture (reuse of vacant spaces and buildings by "urban pioneers") and high-budget / low-culture (development of new high-end infrastructures).

All over the world, several transformation projects in cultural heritage areas give lessons to learn. Generally, they can be considered interventions that go beyond regeneration processes. At the same time, regeneration is focused on the impellent necessity of intervention and often consists of replacing damaged parts of a body (a building, a site, a landscape) with copies similar to the original. Instead, transformation is permeable to the emerging changes and needs of contemporary society. It includes the possibility of setting up broad urban development visions, maximising the enormous potential of the existing historical heritage. Therefore, this tendency points out that we are moving more and more from urban regeneration towards more comprehensive forms of urban transformation in today's urban development.

In the most competitive and innovative cities, historic centres already represent the driver for a sustainable urban development process. On the other side, attention towards unused places, abandoned buildings, former industrial areas, etc., together with the recognised importance of intangible heritage and "sense of place", represents the fil rouge that binds urban conservation to the contemporary city development.

By observing best practices emerging in many urban areas and small historical centres, we must think that the city is still a place to be designed and not just to be preserved (Secchi, 2010).

## References

Bandarin F. and Van Oers R. (Eds). (2015). *Reconnecting the City, The Historic Urban Landscape Approach and the Future of Urban Heritage* Chichester: John Wiley & Sons.

Benevolo L. (2003). "The City as an Expression of Culture: the Case of 14th century Urbino." In *World Heritage Papers, n.9, Partnership for World Heritage Cities*, 17-20. Paris: UNESCO World Heritage Centre.

Bianchetti C. and Sampieri A. (2014). "Can shared practices build a new city?" *Journal of Architecture and Urbanism*, 38(1): 73-79.

Clark G.L., Monk A.H.B., Orr R. and Scott W. (2012). "The New Era of Infrastructure Investing." *Pensions: An International Journal*, 17: 103-111.

Dobbs R., Manyika J., Woetzel J., Remes J., Perry J., Kelly G., Pattabiraman K. and Sharma H. (2016). *Urban world: The global consumers to watch*. McKinsey Global Institute.

Fontanari E. and Piperata G. (Eds). (2017). *Agenda RE-CY-CLE. Proposte per reinventare la città*. Bologna: il Mulino.

Graham S. and Marvin S. (2001). *Splintering Urbanism: Net-*

*worked Infrastructures, Technological Mobilities and the Urban Condition*. London: Routledge.

Huron A. (2017). "Theorising the urban commons: New thoughts, tensions and paths forward." *Urban Studies*, 54(4): 1062-1069.

Labadi S. and Logan W. (Eds). (2016). *Urban Heritage, Development and Sustainability: International Frameworks, National and Local Governance*. London: Routledge.

Koolhaas R. (1996). *Generic city*, Tokyo: TN Probe.

Secchi B. (2010). "Un atteggiamento critico verso il passato". In *Andriani C. Il patrimonio dell'abitare*. Roma: Donzelli Editore. 9-14.

Secchi B. (2013). *La città dei ricchi e la città dei poveri*. Bari: Laterza.

SIT Comune di Milano, (2014), "Aree ed edifici degradati e abbandonati". Last modified October 14, 2019. Accessed March 22, 2021.

<https://geoportale.comune.milano.it/MapViewerApplication/Map/App?config=/MapViewerApplication/Map/Config4App/405&id=ags>

Soja E.W. (1996). *Thirdspace: Journeys to Los Angeles and Other Real-And-Imagined Places*. Malden: Blackwell.

## Introduction

For the last several decades, there has been increasing interest among urban designers and planners on how the city's urban form - its location, size, density, land use patterns, infrastructure systems, and building and landscape types - can contribute to urban sustainability. Many argue that a contained, well-connected, mixed-use city is the most sustainable urban form. Research suggests that a compact city offers opportunities to reduce fuel consumption for travelling, like homes, work, and leisure facilities are closer together. They are also favoured by many in the field of urbanism because urban land can be re-used while rural land beyond the urban edge is protected. Economic benefits are also suggested due to high concentrations of people supporting local economics and easier access to services and facilities. Compact cities with higher densities are also associated with diversity and cultural development (Talen 1999; Duany, Plater-Zyberk and Speck, 2001), and a stronger sense of attachment to place (Nelessen, 1994; Diamond and Richardson, 1997).

Although the compact city requires us to ignore the causes and effects of decentralisation and the benefits it may bring (Thomas and Cousins, 1996, p. 56), urban design of compact cities can contribute to a more sustainable way of life, particularly in industrialised societies. However, since cities are all different in form and structure owing to a host of place-specific factors, it cannot be expected that they should all fit the same formula when it comes to the question of a sustainable urban form. The degree of compactness and/or de-fragmentation should therefore be context-sensitive (Oktay 2017).

In the first two decades of the 21st century, the post-industrial urban conditions in most cases in the world cities can be identified with the following characteristics: As the industry has closed, brownfield sites on inner-city locations (and waterfront lands in some cases) have become available for large-scale urban redevelopment.

However, the transformation of these frequently polluted brownfield sites requires sensitive adaptive re-use and huge investment. A comprehensive master plan for revitalisation is frequently missing for smart densification of the suffering city core. This requires political leadership to attract investment and a holistic understanding of the principles of sustainable urbanism.

There is usually a good urban fabric of existing buildings associated with the core and the brownfield sites, sometimes heritage-listed warehouses, or large industrial structures, flexible and easily adaptable for conservation to new uses. As the residents vacated the central areas and moved to suburban areas owing to various problems they faced in central areas, city centres have become more problematic places; the buildings, be it industrial or not, have been emptied, they have lost their functions, shops have closed, and most of the entertainment activities have moved away from city centres (Manzelat & Oktay, 2019, p. 24). However, there have been campaigns in certain cities to bring people back to the city centre, and there is some evidence that people are moving back to the old central quarters to live close to work and entertainment.

Within this context, urban regeneration in the derelict areas of the central core has been encouraged by many localities to attract people back to cities and persuade others not to leave and captured in its most explicit form in construction works and aesthetic investment in central areas of cities. However, it is questionable whether these activities are leading to actual lasting change, whether they contribute to the making of successful places, and whether the impacts of regeneration compromise the sustainability of the area or city. In terms of sustainability, successfully implemented urban regeneration projects demonstrate that holistic approaches deal with the following issues:

1. Densification through 'brownfield development';
2. Recycling historic complexes/buildings;
3. Liveable public spaces;
4. Good mixed-use and promotion of culture, and
5. Ecological sensitivity.

## **Densification through ‘Brownfield Development’**

The term ‘brownfield’ could be defined as any land which has been previously developed, including derelict and vacant land, which may or may not be contaminated. Brownfield development, which is strongly linked to the concept of sustainable development, is the redevelopment of formerly industrially used, derelict sites and docklands, emerges as an effective tool to prevent urban sprawl through densification and de-fragmentation, and can be considered central to sustainable development as it helps reduce urban sprawl and prevent the greenfield development. Brownfield development would also eliminate negative imagery connected with an industrial heritage as old industrial centres are frequently defined in the media by severe economic and social deprivation, vandalism, public disorder, pollution, and a lack of civic amenities (Oktay, 2012a). As Williams and Dair (2005) suggest, sustainable brownfield development has been produced sustainably (i.e. in terms of design, construction and participation processes) and enables people and organisations involved in the end-use of the site to act in a sustainable way (Williams and Dair, 2007, 28). The objectives of the brownfield development could be defined as minimising the use of resources, minimising pollution, protecting biodiversity and the natural environment, protecting the industrial heritage, and protecting the cultural environment (Dixon 2007). A careful brownfield development facilitates mix-use, takes advantage of compact building design, creates housing opportunities and choices, creates walking distances, fosters distinctive, attractive communities with a strong sense of place, preserves open space, farmland, natural beauty, and critical environmental areas, provides a variety of transportation choices, makes development decisions predictable, fair, and cost-effective (Tregoning, 2006, 41).

It should be accepted that a specific legal arrangement at the local and central government levels is necessary to develop appropriate solutions for the sustainable development of brownfield. In line with this, regulations concerned with contamination, liability, and public participation must be added to the environmental legislation as observed in the exemplary cases in the developed countries.

### **Recycling historical complexes and buildings**

Historic quarters retain and preserve the city’s memory and offer physical uniqueness to the townscape; hence they are highly effective in the construction of urban identity in people’s minds.

They should not only show the value of tradition and culture but should also adapt to the changes of modern lifestyle through the improvement of basic infrastructure and environmental quality.

However, although certain revitalisation projects are being planned to develop and promote commercial activity in many historic quarters in the world to revitalise physical structures and regenerate social and economic activity, many of them do not use holistic approaches that consider the physical, social, and economic sustainability of the quarter. Sustainable revitalisation in this context means generating economic development through regeneration of the local traditional life and activities and/or restructuring the quarter’s economic base and requires a thorough analysis of social and economic structure, as well as the detailed analysis of the heritage buildings and necessitates a participatory framework and collaboration with other stakeholders.

How to incorporate historic qualities, elements, and features with design begins with understanding their significance today. For contemporary application projects, the criteria of ‘style, scale and proportion’ generally represent the basis upon which design in the historic environment is judged. Accordingly, the historical status of the existing buildings should be shown respect and these buildings should be considered as valuable ‘built resources’ and utilised with adaptive re-uses [i] In this context, the scale and proportion of the new buildings should be subservient to the old, and the newly proposed, re-used or infill structures/ buildings should not be the replicas of the historic buildings but be designed within a contemporary architectural approach.

### **Liveable public spaces**

Although public spaces form a crucial feature of sustainable and liveable cities, contemporary urban environments frequently lack enough space kept aside for them, and most of those spaces which are introduced as ‘public spaces’ miss spatial, ecological and social qualities and cannot be considered ‘liveable places for people. Since ancient times, public space has contained the essence of urbanity, and it should be well understood that it is not possible to improve the existing condition of the public spaces if they are viewed and evaluated as separate entities ignoring their organic relationship with the city (Oktay, 2002).



To this point, there should be a mention of the current corona virus COVID-19 pandemic period. As the research and documentation on changes in cities over the past decade reveal, the current pandemic period does not look much different than what was experienced before in many cases in terms of limitations, social interaction in housing environments, opportunities for community development, social divisions of tangible and intangible kinds, lack of efficient use of public spaces, and so forth. These problems have existed since the beginning of the 'Modernist' urban planning period and make a serious threat to urban life.

The poor quality of the public realm and the built environment is directly related to the poor quality of the social life of a city and so should provide the moral, social, psychological, and economic stimulus for an attempt to revive the social life of cities (Jacobs, 1961). It should, therefore, not be forgotten that for a more sustainable urban context, acknowledging urban space as a vital part of urban regeneration with its own specific sets of functions is very important. In the context of a particular quarter, urban space should be conceived of as an outdoor room, somewhere to relax and enjoy the urban experience. In this context, culture should be a vital component of the urban public realm as its spaces, streets, and squares all help create a city's identity.

### **Good mixed-use and promotion of culture**

As observed in many cities, central areas have lost their liveability and have become mono-functional places due to various reasons. As the residents vacated the central areas and moved to suburban areas owing to various problems they faced in central areas, city centres have become more problematic places; the buildings have been emptied, they have lost their functions, shops have closed, and most of the entertainment activities have moved away from city centres. All these factors have transformed the central areas into unsecured places, especially at night. As such, the city centres have lost their liveability due to functional, physical, and financial obsolescence.

A sustainable community endeavours to promote multi-functional settlement models rather than mono-functional, providing compact urban centres with a broad range of services and amenities nearby. This reduces the need for vehicular and public transport, thereby decreasing demands on infrastructure and energy resources while promoting pedestrian accessibility and community.

Good mixed-use is sought in urban areas for those environments to be lively, safe, sensorily rich, choice laden, economically, and spatially efficient and ecologically diverse; sustainable as far as the built environment can believably be. Culture in combination with the built environment helps to create places with identity. Culture can also help provide the critical mass that makes an area work, both socially and economically. The timeframe for cultural consumption is not limited to the pattern of the normal working day. In other words, cultural activity can be used to create a '24-hour living city' as the basis for an evening economy as it can attract people not only into different places but also at different times through such things as longer shop-opening hours, evening theatre and music performances, and extended licences for bars and night-clubs.

### **Ecological sensitivity**

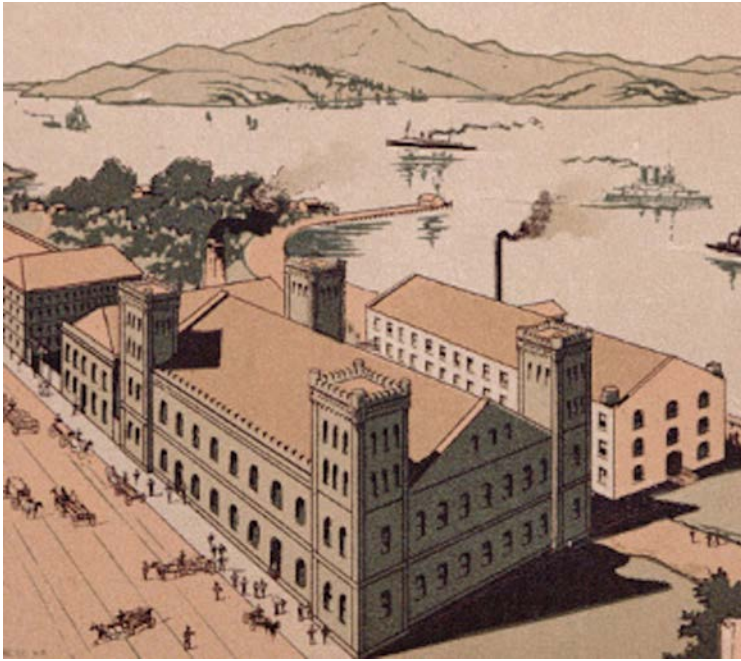
During the environmental transition, cities could attempt to keep as many as possible of the environment-sustainability ingredients. The increase of densities, combined with urban regeneration strategies for neglected inner-city areas, are good solutions in terms of ecological sustainability and valuing the existing built resources. It is always less environmentally damaging to stimulate growth within the established city centre, rather than sprawling into new, formerly unbuilt, agricultural areas.

When integrating new buildings, renovating and/or recycling the existing ones, the aspects to ecological sensitivity are the use of natural sources and energy, the use of local and regional materials of natural character, conformity of the building to its environs and the climate, the flexibility to adapt to changing conditions over time, and the wide variety of spaces extending from interior spaces to open spaces through various types of semi-open spaces. Decisions regarding the design of public spaces need to be taken on ecological grounds, concerning their orientation, landscaping, protection from wind, as well as the well-informed choice of materials.

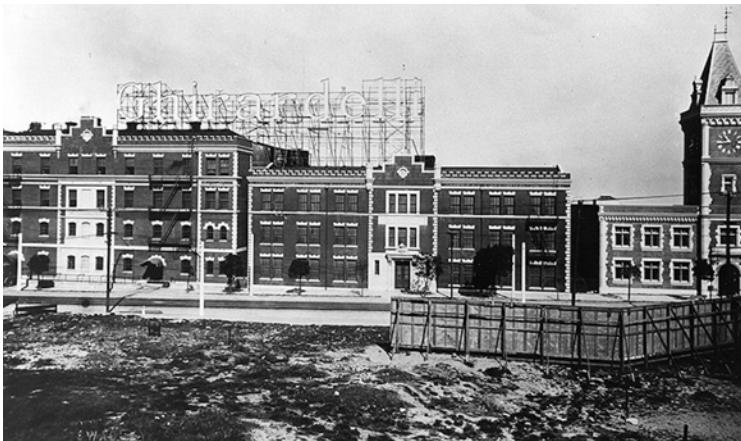
### **Exemplary cases: Ghirardelli Square, San Francisco, USA (1962-7, 1982-4)**

Ghirardelli Square, considered the first successful adaptive re-use project in the US, has a history spanning over a century and covers three continents. It was a set of industrial buildings - a chocolate factory, a mustard factory, a wool mill, and a rebuilt box factory in the earlier times - linked by several courtyards.

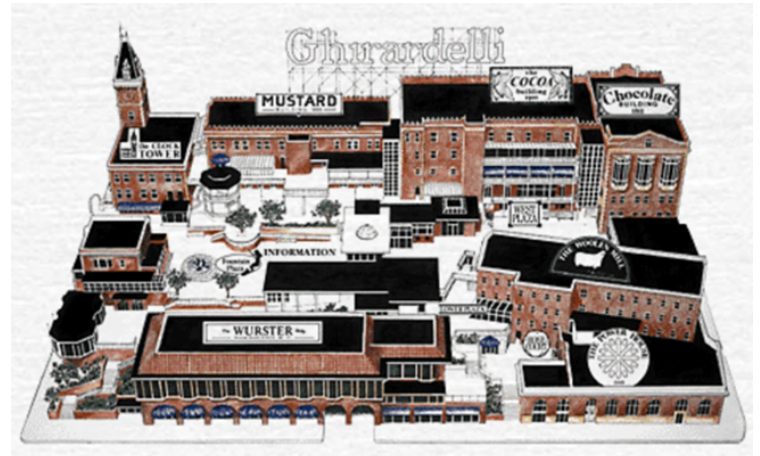
Today's speciality retail and dining complex, housing shops and restaurants, redesigned by Wurster, Bernardi and Emmons, became a precedent that many other designs throughout the world have followed. The renovated and recycled complex, considered a festival shopping centre with successful management promoting cultural activities, became a trendy place well used by San Franciscans and tourists alike and became an exemplar of what could be done with robust industrial buildings (Fig. 1-6).



**Figure 1.** The original Pioneer Woollen Building on San Francisco's northern waterfront before the Ghirardelli Chocolate Company took it in 1893. Source: <https://www.ghirardelli.com/about-ghirardelli>.



**Figure 2.** Ghirardelli Factories at the beginning of 1960s. (Source: <https://www.ghirardellisq.com/history>)



**Figure 3.** The layout of Ghirardelli Square after adaptive re-use on the industrial site.



**Figure 4.** The view to Ghirardelli Square from the street. Source: Author's archive, 1996.



**Figures 5.** The internal view of Ghirardelli Square. Source: Author's archive, 2008.



**Figure 6.** Aerial view of Ghirardelli Square. Source: <https://www.ghirardellisq.com/>.

The historical background of Ghirardelli Square reveals that the chocolate factory was sold and transferred to San Leandro in the 1960s. A group of San Franciscans, fearing the industrial complex might be demolished, purchased the property. By rehabilitating the warehouses, unique shops and restaurants created within the old factory, combining the latest in retailing and refined cuisine with the flavour of old San Francisco. The project officially opened on November 29, 1964. Today, Ghirardelli attracts visitors with its lively retail mix while maintaining Ghirardelli's tradition as a trendsetter for the rest of the world. In 1982 the owners applied for and were granted National Historic Register status, a move that ensured the preservation of Ghirardelli Square for future generations. Ghirardelli's presence in San Francisco landmarks, shops, and restaurant menus has constructed a positive and nostalgic image in the people's minds. People from all over the world flock to San Francisco to tour Ghirardelli Square and try Ghirardelli products in booths and many San Francisco residents cherish the name Ghirardelli.

#### **Bulvar shopping and recreation centre - Samsun, Turkey (1887, 2009-2012)**

Bulvar Shopping and Recreation Centre is one of the successful brownfield development projects in Turkey, through which the city of Samsun has enlivened its decaying city centre. The project, based on a successful adaptive re-use scheme in the former Regie Tobacco Factory complex, the first industrial complex in the city, was awarded in the ICSC European Conference in 2013 the "Best Shopping Centre Honorary Prize" and the "Best Rehabilitation Project Jury Special Prize" among the newly developed projects in the category of medium scale. The Regie Tobacco Factory was built in 1897 by the Regie Management. It was the symbol of Samsun's agricultural history for 85 years and had a strong effect on people's daily lives, collective memory, and urban identity (Figs. 7-8).



**Figure 7.** Regie Tobacco Factory: the first industrial complex in the city, 1887 'Post card'. Source: Samsun Metropolitan City Municipality Archive.



**Figure 8.** Regie Street in the 1880s Source: Samsun Metropolitan City Municipality Archive.

After 12 years of abundance following its closing in 1994, the factory has successfully transformed into a multi-functional commercial and recreational complex between 2009 and 2012 and opened in July 2012 as a multi-functional commercial and recreational centre, following the restoration works Torunlar GYO and Turkmall.

The complex, covering an area of 17.500 meter-square, was built with reinforced concrete and a masonry construction technique designed with a courtyard plan system within a hierarchy of outdoor spaces of different sizes. In all the blocks in the complex, the floor covering is wooden, and the roof covers are traditional style tiles. In all blocks, doors and windows are wooden, and stairs are reinforced concrete.

Today's Bulvar Shopping and Recreation Centre, developed from Regie Tobacco Factory as a multi-functional complex (2009-2012) and linked to the main square, mark the city centre by providing a popular place for gathering, shopping, dining, and passing the time (Figs. 9-12).

The most outstanding feature of this lively complex is its human scale form comprising several plazas, courtyards and pedestrian streets interlinked to each other and defined by active edges provided by cafés, restaurants, and shops.

The complex, the major public space of the city, could be considered the living heart of the city that is missing in many cities in Turkey and other countries, and the development of the pedestrian street in the complex is a very successful example of transformation without damaging its identity. The complex, which has become a multi-functional trade, shopping and recreation centre, makes a solid contribution to the identity, function and vitality of Samsun city centre today while contributing to the city's social and economic transformation (Oktaç, 2019).



**Figures 9-12.** The successful adaptive re-use scheme: from Regie Tobacco Factory (Source: Samsun Metropolitan City Municipality Archive) to Bulvar Shopping and Recreation Centre (Source: Author's Archive, 2015, 2019).

## Conclusions

Successfully implemented urban regeneration projects demonstrate that a holistic approach is essential for sustainable development. In this context, the first necessary step involves 'densification through brownfield development', providing that historical complexes and buildings are properly re-used, public spaces are retrofitted as liveable places, good, compatible mixed-use is provided, culture is promoted, and ecological sensitivity is safeguarded. Ecological sustainability efforts must be embedded in all phases of urban regeneration and recycling old and historic buildings to safeguard sustainability. Further, the environmental legislation must be supported with additional regulations concerned with contamination, liability, and public participation issues, as the experiences in the developed welfare countries demonstrate.

The exemplary cases of urban regeneration through brownfield development reveal that the project's success continues only if there is good management promoting social and cultural activities.

## References

- Breheny, Michael J. (1992). *Sustainable development and urban form: an introduction*, in Breheny, M.J. (ed.) *Sustainable Development and Urban Form*. London: Pion.
- Diamond, Henry L. & Noonan, Patrick F. (1996). *Land use in America*. Washington DC: Island Press.
- Dixon, Timothy (2007). *The property development industry and sustainable urban brownfield regeneration in England: An Analysis of Case Studies in Thames Gateway and Greater Manchester*, *Urban Studies* 44(12): 2379-2400.
- Duany, Andres, Plater-Zyberk, Elizabeth and Speck, Jeff (2001). *Suburban nation: The rise of sprawl and the decline of the American dream*. New York: North Point Press.
- Granger, Rachel (2010). *What now for urban regeneration? Urban Design and Planning – Proceedings of the Institution of Civil Engineers* 163(1): 9-16.
- Gehl, Jan (1987). *Life between buildings: Using public space*. New York: Van Nostrand Reinhold.
- Jacobs, Jane (1961). *The death and life of great American cities*. New York: Random House.
- Lang, Jon (1985). *Urban Design: A typology of procedures and products*. Oxford: Architectural Press.
- Lehmann, Steffen (2010). *The principles of green urbanism*. London: Earthscan.
- Manzelat, Reihaneh R. & Oktay, Derya (2019). "The quest for livable city centres: A study in Famagusta (Gazimağusa), North Cyprus", *Journal of Civil Engineering and Architecture*, 13 (2019), 23-30. DOI: 10.17265/1934-7359/2019.01.003
- Nelessen, A. C. (1994). *Visions for a new American dream: Process, principles and an ordinance to plan and design small urban communities*, Chicago: American Planning Association.
- Oktay, Derya (2019). *Urban transformation and identity in Samsun, Turkey: A future outlook*, *Open House International*, 44(4) (Special Issue on Urban Transformations in Rapidly Growing Contexts, ed: M. A. Salama): 27-35.
- Oktay, Derya (2017). *A critical approach to sustainable urbanism: lessons from traditional and contemporary paradigms, in land ownership and land use development: The integration of past, present, and future in spatial planning and land management policies* (eds: E. Hepperle, R. Dixon-Gough, R. Mansberger, J. Paulsson, J. Hernik and T. Kalbro), Zurich: vdf Hochschulverlag AG an der ETH, 295-306.
- Oktay, Derya (2012a). *Urban regeneration and place-making for sustainability*, *Recycling Common Ground* (ed: C. Lamanna). Florence: Alinea Editrice, 20-27.
- Oktay, Derya (2012c). *Human sustainable urbanism: in pursuit of ecological and social-cultural sustainability*, *Procedia - Social and Behavioral Sciences*, 35, 2012, 16-27. <https://www.sciencedirect.com/science/article/pii/S1877042812004703>
- Oktay, Derya (2012b) *Livable public urban spaces as essentials of human sustainable urbanism*. *Proceedings of AESOP 26th Annual Congress (Digital)*, METU, Ankara, 11-15 July 2012.
- Oktay, Derya (2002). *The Quest for Urban Identity in the Changing Context of the City: Northern Cyprus*. *Cities* 19(4): 31-41.
- Sennett, Richard (1999). *The challenges of urban diversity". In city and culture: cultural processes and urban sustainability* (ed: L. Nyström), 128-134. Stockholm: The Swedish Urban Environmental Council.
- Talen, Emily (1999). *Sense of community and neighbourhood form: An assessment of the social doctrine of new urbanism*. *Urban Studies*, 36, 1361-79.
- Thomas, Louise & Cousins, Will (1996). *The compact city: a successful, desirable and achievable urban form*. In M. Jenks, M. Burton, E. and K. Williams (eds) *The Compact City: A Sustainable Urban Form*. London: E & FN Spon.
- Tiesdel, S., Oc, Taner, and Heath, T. (1996). *Revitalising Historic Quarters*. Oxford: Architectural Press.
- Tregoning, H. (2006). *It's sprawl, but it's my sprawl*. In M. Moor and J. Rowland (eds) *Urban Design Futures*. New York: Routledge.
- Williams, Katie & Dair, Carol (2005). *Sustainable land re-use: the influence of different stakeholders in achieving sustainable brownfield development in England*. Working Paper No. 4, Cities Unit, Oxford Institute for Sustainable Development, Oxford Brookes University, Oxford.

*Pierfrancesco Fiore, Emanuela D'andria Begoña, Blandón-González*

### The depopulation of small Municipalities in inland areas

In Italy, as in other European Countries, small towns, especially those in rural inland areas, have been the scenario of constant migratory phenomena that have occurred over time in alternating phases.

Nowadays, in Italy, out of 7,954 Municipalities, about 5,543 are considered 'small', having a maximum number of inhabitants lower than 5,000 (Law no. 158/2017). This value is particularly significant, especially when compared to the population living there, which is about 17% of the national total (Nesticò et al., 2020).

Other European Countries, where the urban centralisation phenomenon has been more intense, also show remarkable data. One example is France, where 95% of the Municipalities have no more than 5,000 residents. In these places, 39% of the national population resides, and actions are currently underway to encourage cooperation between Municipalities.

Spain is the European Country that probably suffers most from the abandonment of its inland areas. The "Empty Spain" (Del Molino, 2019) involves a large part of the territory that crowns the Madrid region and hosts just over seven million inhabitants on an area of about 270,000 km<sup>2</sup>. In general, the causes of marginalisation are the limited employment opportunities, the gradual reduction of services and the shortage of adequate infrastructure. These are compounded by the decentralisation of many small Municipalities away from the cities, with more available facilities and the inadequacy of the built heritage to meet the new housing needs (Coletta, 2010).

The abandonment of inland areas also leads to the gradual disappearance of a vast immaterial and material heritage, an identity palimpsest that characterises not only the territory's inland areas but also the Countries as a whole (Fiore, D'Andria, 2019; Pirlone, 2016).

In the light of these considerations, it seems extremely important to act systematically in order to limit the strong demographic 'bleeding' of which small Municipalities are the protagonists.

A return to small towns can help improve lifestyles, promote

the territory's tangible and intangible assets and reduce the congestion of the cities (Cortesi et al., 2009).

There is a renewed sense of community and belonging on a social level, which is now rarely felt in large cities (Nesticò et al., 2020).

For these reasons, in recent years, strategies have been developed in order to valorise inland areas and their heritage.

A relevant example is the 'Strategia Nazionale Aree Interne' (SNAI), which, since September 2012, has been undertaken in Italy by the Ministry for Territorial Cohesion. SNAI's initial action was to map all inland areas on a national scale, taking into account the distance, measured in minutes, between the major 'Service Provision Centres' and the small Municipalities. This study made it possible to divide inland areas into 'intermediate', 'peripheral' and 'ultra-peripheral' classes. SNAI currently operates in 72 selected areas in order to allow, in the long term, the inversion of the current demographic dynamics and to mitigate marginalisation through interventions aimed to implement the quantity and quality of essential services and to promote development projects that valorise their heritage (De Rossi, 2018; Lucatelli & Monaco, 2018).

Together with SNAI, there are also many other initiatives underway that show how the regeneration of small towns is becoming a topic of wide international interest because of the opportunities it offers, also due to the greater attention paid to cultural heritage, landscape values, history and environmental quality: all essential elements to encourage investment, tourist use and reuse (Fiore, 2017).

### The European SMART villages experience

The age in which we live is characterised by rapid changes, mainly due to the new globalisation dynamics, which, on the one hand, have created more opportunities, but on the other hand, have led to new problems concerning the environment, the preservation of identity features and the abandonment of areas that offer fewer facilities.

The issue of valorising and repopulating small towns is increasingly emerging as a response to these problems,

with the aims of re-establishing a territorial balance, re-evaluating environmental, socio-economic interests and safeguarding a widespread historical, architectural and artistic heritage of particular interest.

Villages can once again take on a central role in the relaunch of the territory and, at the same time, promote new fruition models of the historic built and landscape, consistent with the demand and needs of current life, thus avoiding further land consumption (Fiore, 2017; D'Andria et al., 2021).

If, therefore, we think about the dynamics with which our society is evolving, is it possible that the small towns could represent the future of 'healthy' living, on a human scale, but also places of alternative and innovative work, intending to relocate the man on the territory?

An answer to this question was given to us by the European Commission, which, in 2017, presented the 'EU Action for Smart Villages' with strategies aimed at improving the quality of life in small rural towns. The plan provides a first definition of 'Smart Villages' as "rural areas and communities which build on their existing strengths and assets as well as new opportunities to develop added value and where the traditional and new networks are enhanced by means of digital communications technologies, innovations and the better use of knowledge for the benefit of inhabitants" (ENRD, 2018, p.7).

- In general, the main characteristics of Smart Villages are: *Involvement of the population*: local inhabitants are active in finding concrete solutions to the most pressing problems and new opportunities that are gradually emerging for rural areas; *Use of digital technologies*: technology, as one of the many tools available for the valorisation of rural areas, is the basis for the Smart Village management;
- *Crossing municipal boundaries*: some strategies are designed for the village alone, while others extend to the surrounding area, taking into account the relationships between medium-large Municipalities and small towns;
- *Creation of new cooperations*: an important focus is the creation of collaborative networks between different rural stakeholders, Municipalities, private and public sectors;
- *Proposal of 'ad hoc' strategies*: each village is considered unique as it is characterised by a tangible and intangible heritage that outlines its exceptional and unrepeatable identity. Therefore, any intervention must start from full knowledge and consideration of local peculiarities and resources: «There is no standard

model or solution for smart villages – it is about local people taking stock of local assets, drawing on the best available knowledge, and taking the initiative» (ENRD, 2018, p. 7).

At the core of the Smart Villages concept is the desire to put new technologies at the service of small towns and rural communities without losing the value of cohesion and business initiatives coming from local inhabitants (Visvizi et al., 2019; Doloi, 2018).

According to the Italian 'Piano Nazionale Innovazione 2025', «concentrating innovation in small towns will attract more innovation, the innovative companies will attract other innovative companies, the digitally switched administrations will contaminate the neighbouring administrations with modernity».

In this context, the European Network for Rural Development (ENRD) played a key role, which, in 2018, as part of its 'Smart and Competitive Rural Areas' initiative, included the 'Smart Village' programme. The aim is to fund pilot projects designed to create 'Smart Villages' by improving logistics, sharing data on rural areas and developing appropriate business models applicable to small realities. «In doing so, the deep differences between rural areas were taken into account [...]. There are no standard models or solutions: these are inhabited places by people and communities with specific needs and potential. The starting point for this reflection is, therefore, a development approach that focuses on the so-called territorial capital, i.e. the set of specific social, environmental, economic, cultural and institutional resources that distinguish each place» (Simonato, 2019). ENRD's goal is to share data and experiences in order to gain significant insights to improve the implementation of European rural development.

Furthermore, in 2020, the European Commission's Directorate-General for Agriculture and Rural Development (DG Agri) launched the 'Smart Rural Call' to identify potential small Municipalities to be converted into Smart Villages. These, once selected, have the opportunity to undertake a transformation process (Fig. 1), during which they will receive expert assistance in developing and implementing innovative local strategies. To date, among the twenty-one small Municipalities selected, only Ostana (Province of Cuneo, Piedmont) is Italian (Fig. 2).

Thus, the increasingly shared idea is that the use of digital technology in these places can be the engine of a changing economy, adapting well to the small scale, so as to reduce the large gap between city and countryside, with the difference of having, in inland areas, a more sustainable environmental and social context.

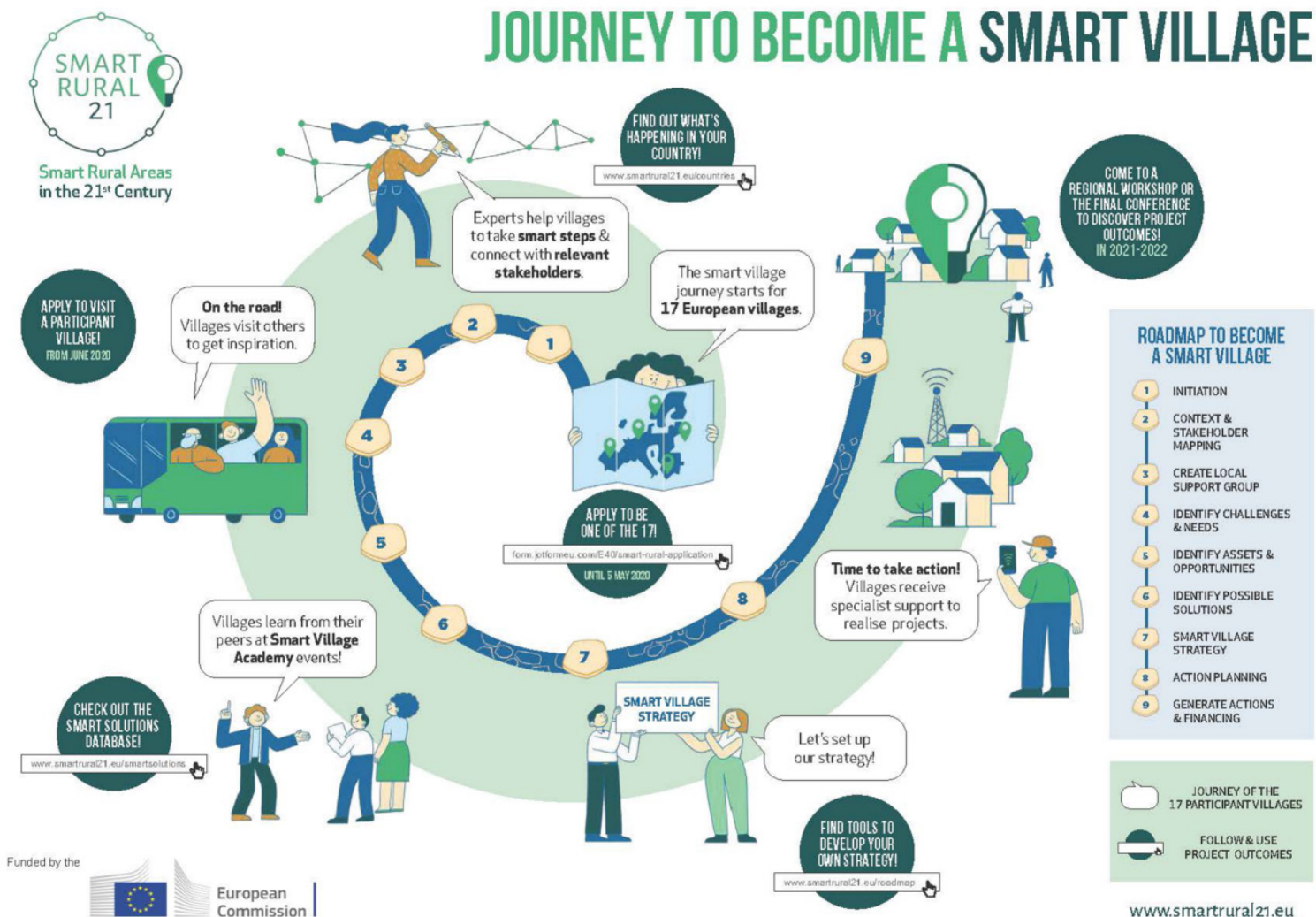


Figure 1. The procedure foreseen by the 'Smart Rural Call' to transform a small Municipality into a Smart Village. - Source: Website Smart Rural 21, <https://www.smartrural21.eu/>

In fact, Smart Villages are also intended as a link between small towns and major cities: "it is not just a case of overcoming the urban-rural divide, but of harnessing the unique potential of each for mutual benefit" (ENRD, 2018, p. 11). To this end, many projects are based on cooperation between these different realities with the aim of promoting a widespread development of services and infrastructure. An interesting example is the 'City-Countryside Reciprocity Contracts' that France adopted in 2015 to support inter-municipal partnerships designed to encourage cooperation between metropolises, medium-sized cities, small towns and rural areas (Detry et al., 2019).

Brittany was the first Region to sign a 'Contract', committing to actions aimed at rebuilding the link between rural and urban areas. The operations covered the economic, social, health, cultural, environmental and energy sectors, with the drafting of a common roadmap for the entire Region containing a general plan of action that currently includes 30 projects at the final stage.

The success of this initiative lies in its willingness to go beyond political alliances, involving the local population in defining shared objectives to be implemented through a long-term development strategy. In addition, a decisive factor was the mixing of several funding sources, not only from the Region but also from the State and the EU.



### Newly selected villages

- 📍 Alsunga (Latvia)
- 📍 Ansó (Spain)
- 📍 Babina Greda (Croatia)
- 📍 Brestovo (Bulgaria)
- 📍 Ostana (Italy)
- 📍 Penela (Portugal)
- 📍 Profondeville (Belgium)
- 📍 Remetea (Romania)
- 📍 Šentviška Gora (Slovenia)
- 📍 Sollstedt (Germany)
- 📍 Stanz im Mürztal (Austria)
- 📍 Tomaszyn (Poland)
- 📍 Torup (Denmark)
- 📍 Uppony (Hungary)
- 📍 Virtsu (Estonia)
- 📍 Vuollerim (Sweden)

### Pre-selected villages

- 📍 Mukařov (Czechia)
- 📍 Dingle (Ireland)
- 📍 Mouans-Sartoux (France)
- 📍 Kythera (Greece)
- 📍 Raudanmaa (Finland)

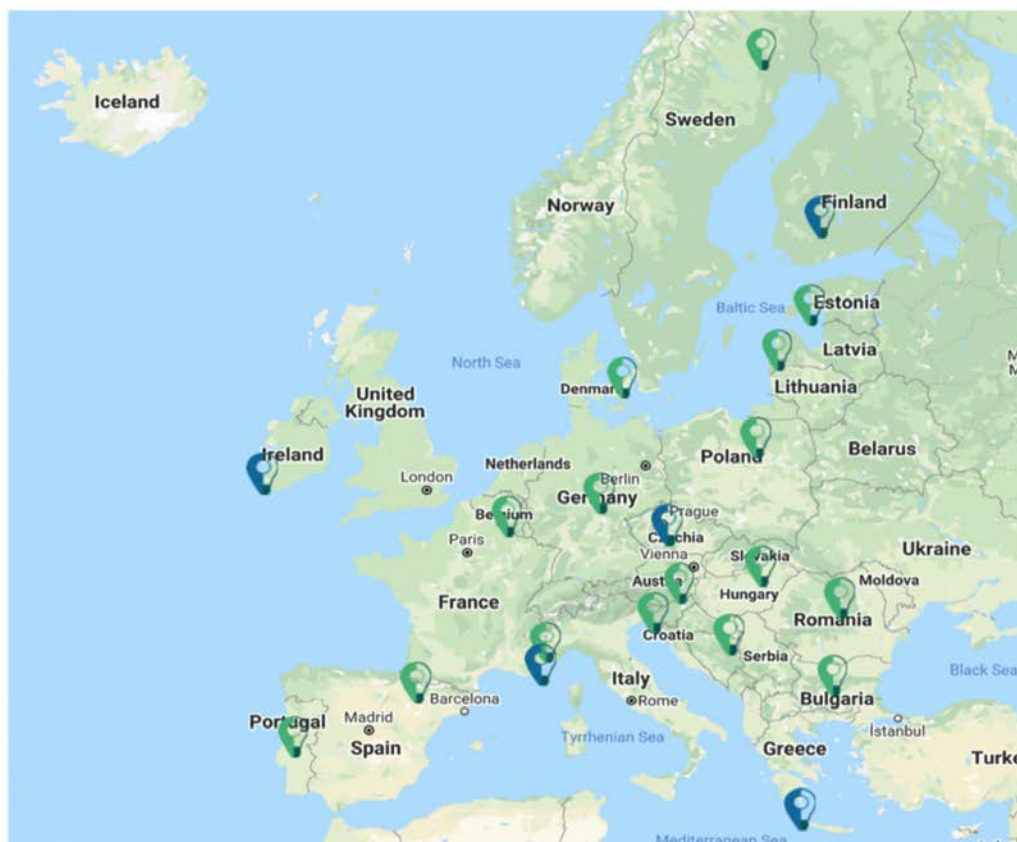


Figure 2. The 21 European small Municipalities selected by the 'Smart Rural Call'. - Source: Website Smart Rural 21, <https://www.smartrural21.eu/>

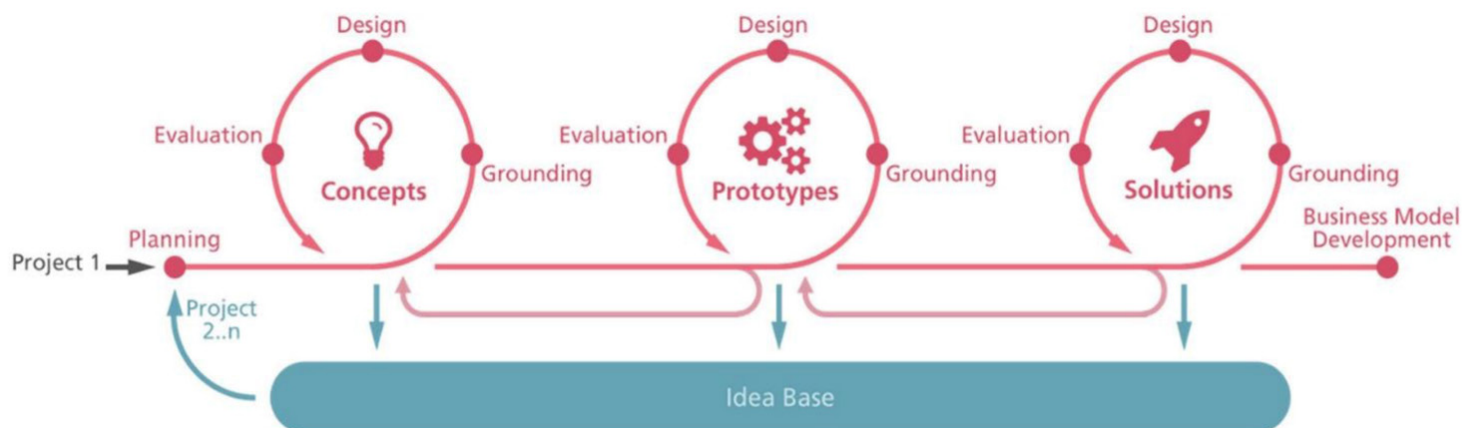


Figure 3. The 'Living lab' approach: the three phases. – Source: The European Network for Rural Development, Digital Villages. Germany. Working document, online Pdf: [https://enrd.ec.europa.eu/sites/enrd/files/tg\\_smart-villages\\_case-study\\_de.pdf](https://enrd.ec.europa.eu/sites/enrd/files/tg_smart-villages_case-study_de.pdf)

Among the many European initiatives related to the digitisation of villages, there are also others of considerable interest. The 'Digital Neighbourhoods' project, currently underway at the University of Plymouth (England), investigates, through case studies in Cornwall, the positive implications of the use of digital technology in inland areas: starting with analyses to identify a pattern of social connections, researchers explore the role of superfast broadband access in rural neighbourhoods and the use of community social networks to access public services, such as libraries. With its 'Smart Countryside' project, Finland gives digitalisation a key role in the development of rural services, aiming to reduce the time gap between them and the citizen, thus cutting costs and having a positive impact on the productive organisation of the countryside. However, the study revealed the general incompetence of the local population and companies in the use of digital tools. Hence, the goal is to bring people closer to the new possibilities offered by these means, with the drafting of open access recommendations and the setting up of targeted training courses. At the same time, widespread measures are being taken, such as the installation in Lapland of cloisters equipped to provide a digital medical service using fibre optic connections: patients can use the services themselves thanks to video links with doctors and nurses undergo blood tests, cardiological and pulmonary checks.

Among the different initiatives, there is also the German 'Digital Villages', created in 2015 by the Ministry of Internal Affairs and Sport and the Fraunhofer Institute for Experimental Software Engineering (IESE). Specifically, the project involves three pilot areas, Eisenberg, Göllheim and Betzdorf-Gebhardshain, where digital tools have become key elements in promoting new ideas for volunteering and local commerce. In fact, thanks to the set-up of an online platform, innovative solutions are tested, both for the supply of goods and for the improvement of mobility and administration.

The adopted approach is that of the 'living lab' which is divided into three phases (Fig. 3): the first includes the participation of the population for the evaluation and/or selection of concrete ideas to be developed; the second concerns the setting up of prototypes to be improved according to the needs and further proposals of the users; the third involves the definition of the final digital solution, usually represented by mobile applications or virtual services.

To date, the apps in use are: BestellBar (an online marketplace including all typical local activities); LieferBar (an app. that generates deliveries, managed by volunteers); DorfNews (a local news portal that automatically updates news with both web and social media data); Dorffunk (a portal dedicated to local events, carpooling and volunteering); StuDi (an app. that allows health monitoring through the technological implementation of the home environment and the connection of individual housing units with the nearest care and first aid infrastructure).

## Conclusions

According to the above, it can be said that the depopulation of small Municipalities in inland areas can be effectively contrasted by appropriate strategies, based on actions with medium and long term effects, also using the new digital tools ('smart villages') skilfully.

However, as formulated by the EU, the Smart Village model needs to be recalibrated to the particular realities of each place, according to the specific regional conditions that characterise their urban, social, economic, and cultural features.

Basically, it is necessary to carry out a process of identification and knowledge to understand the "genius loci", seen as the most complete synthesis of the main aspects of a given place.

The need to implement the European model arises for several reasons: first of all, the necessity to go beyond the mere definition of innovative business/production structures that risk confining the valorisation issue of small Municipalities to limited fields of action. Therefore, it is important to look at the 'fragilities' of places and the measures needed to mitigate them to guarantee sufficient levels of security, work, and services. At the same time, it is essential to highlight the 'opportunities' that unexpressed resources can offer, with a view to resilience and regeneration.

In this sense, attention should be paid not only to the possibilities offered by places, considered as key elements for the creation of new economic solutions but also to cultural heritage, landscape values, history and environmental quality, intangible assets, ancient knowledge, traditions, excellent wine and food products, craft trades, etc; all factors that can be seen as resources or 'potential', i.e. valid tools to encourage repopulation, economy, tourist use, safeguard.

It is then crucial to consider both the village-countryside relationship and the village-sea relationship, characteristic of some European realities such as Italy, Spain, France, etc., with all the implications that mark their working and business activities. In this context, it can be said that not all small coastal towns are tourist destinations, but some have great weaknesses, and others have unexpressed potential. Many coastal villages are, in fact, affected by problems related to natural risks, but also to tourist overcrowding, which can distort places even more than environmental problems.

## References

- Berizzi, C., Rocchelli, L. (2019). *"Borghi rinati. Paesaggi abbandonati e interventi di rigenerazione"*. Padua: Il Poligrafo.
- Coletta, T. (2010). *"I centri storici minori abbandonati della Campania"*. Naples: Edizioni Scientifiche Italiane.
- Cortesi, C., Romana Stabile, F., Zampilli, M. (2009). *"Centri storici minori. Progetti per il recupero della bellezza"*. Rome: Gangemi.
- D'Andria, E., Fiore, P., Nesticò, A. (2021). *"Historical-Architectural Components in the Projects Multi-criteria Analysis for the Valorization of Small Towns"*. In Bevilacqua, C., Calabrò, F., Della Spina, L. (Eds.), *New Metropolitan Perspectives. Knowledge Dynamics and Innovation-driven Policies Towards Urban and Regional Transition*. Vol. 2 (pp. 652-662). Cham: Springer.
- Del Molino, S. (2019). *"La Spagna vuota"*. Palermo: Sellerio Editore.
- De Rossi, A. (2018). *"Riabitare l'Italia. Le aree interne tra abbandoni e riconquiste"*. Rome: Donzelli.
- Detry, N., Gron, S. (2019). *"Centri minori. Esperienze in Italia e in Francia-Enjeux Majeurs. Expériences en Italie et en France"*. Santarcangelo di Romagna: Maggioli.
- Doloi, H. (2018). *"Planning, Housing and Infrastructure for Smart Villages"*. London: Routledge.
- European Network for Rural Development. (2018). *"Borghi intelligenti. Nuova linfa per i servizi rurali"*. The European Union.
- Fiore, P. (2017). *"Valorisation of the abandoned minor centers: analysis, proposals and case study"*. In AA.VV. (Eds.), *Diagnosis, Conservation and Valorization of Cultural Heritage* (pp. 140-153). Naples: AIES – Beni Culturali.
- Fiore, P., D'Andria, E. (Eds.). (2019). *"Small towns...from problem to resource. Sustainable strategies for the valorization of building, landscape and cultural heritage in inland areas"*. Milan: FrancoAngeli.
- La Nave, M., Testa P. (2015). *"Atlante dei Piccoli Comuni 2015"*. Rome: IFEL, Fondazione ANCI.
- Lucatelli, S., Monaco, F. (2018). *"La voce dei sindaci delle aree interne. Problemi e prospettive della strategia nazionale"*. Soveria Mannelli: Rubbettino.
- Nesticò, Antonio, D'Andria, Emanuela, Fiore, Pierfrancesco (2020). *"Small towns and valorization projects. Criteria and indicators for economic evaluation"*. *Valori e Valutazioni* 25, 3-10.
- Nesticò, Antonio, Fiore, Pierfrancesco, D'Andria, Emanuela. (2020). *"Enhancement of Small Towns in Inland Areas. A Novel Indicators Dataset to Evaluate Sustainable Plans"*. *Sustainability* 12, 6359.
- Paoletta, A. (2019). *"Il riuso dei borghi abbandonati. Esperienze di comunità"*. Cosenza: Pellegrini Editore.
- Pirlone, F. (2016). *"I borghi antichi abbandonati. Patrimonio da riscoprire e mettere in sicurezza"*. Milan: FrancoAngeli.
- Simonato, Alessandro. (2019). *"Villaggi intelligenti: il Piano d'azione europeo"*. *Aggiornamenti Sociali* (November): 779-780.
- Visvizi, A., Lytras, M., Mudri, G. (2019). *"Smart Villages in the EU and Beyond"*. Bingley: Emerald Publishing.

Manfredo Di Robilant

### Walls as elements of architecture

In their quality of elements of architecture, walls have the peculiar character of being trans-scalar (Koolhaas et al., 2014). Walls can pertain to the scale of architecture, the scale of the city, and the scale of territory. A wall can be a partition, the perimeter of a building, the limit of a city, and the boundary between nations, civilizations, and political systems. On a smaller scale, walls can be considered ineluctable elements for creating shelter, intimacy, and cosiness, all attributes of homeliness. In an ideal scale of home-defining elements, walls possibly come immediately after the roof, as implicitly suggested in the notorious etching by Charles-Dominique-Joseph Eisen, on the frontispiece of the second edition (1755) of Marc-Antoine Laugier *Essay on Architecture*, an icon that became deeply encrypted in architectural culture. The etching by Eisen followed the tectonic bias of Laugier's book so that the perimeter of the 'primitive hut' depicted is only suggested by the projection of the roof and by the four trunk columns on the angles that sustain the vegetate roof (Hermann 1962, 1985).

However, walls become crucial when it comes to a less idyllic or didactic state. They protect, shelter, and define what is in and out in all terms. Rayner Banham, in the incipit to his seminal book on *The Architecture of Well-Tempered Environment* (Banham, 1969), also deals with primitive imagery: a tribe that has to choose between spending energy to temperate cold during a night: they can either burn a fire or they can build a shelter, and implicitly embedded in the concept of shelter there is perimetral wall, in order to mitigate cold.

From the need to mitigate cold to the presumption of 'being indoor, at home', the distance has proven narrow in the history of humankind, and as soon as more complex urban societies developed, walls became an inevitable attribute of cities. It would be difficult to imagine early urbanization without city walls. They established the dominion of the city's rulers over the space they enclosed and provided defence from attacks. The most ancient texts, whether religious or mundane, are filled with city walls being attacked.

In the Iliad, when the besiegers realize they cannot destroy the walls of Troy, they invent the infamous trick of the horse; in the Bible, the Israelites destroy the walls of Jericho by sounding their trumpets, and not because of a military manoeuvre. Of course, this happens with the intervention of God. These two examples prove how sturdiness is the most relevant attribute of walls at the scale of the city.

### The case of Lazarat

The walls of Lazarat are rather inconspicuous compared to those preliminary considerations; in fact, they represent under many features a state of exception in the history and theory (provisionally assuming that the second term makes sense in this context, something that I would discuss in conclusion). The walls of Lazarat are not sturdy, since they are made of a complex and often random series of layers made of different materials (Fig. 1), and the soundness of their foundations is all to be investigated; they are not circumscribing a city, but they surround every portion of this city, that is definitely assimilable to an assemblage of small fortresses. These latter define the *forma urbis* that creates a counterpoint to the nearby medieval, fortified town of Gjirokastër, included in the Unesco heritage precisely because of its 'medieval character'; hence a city that was conceived as a fortress and around a fortress. Walls were crucial, of course, but so did roofs, so were windows, doors, and the urban floor itself. By converse, in Lazarat, the role of walls is outstanding, they play a solo-man architectural show because they surround every lot, but the lot itself is not overlapping with a roofed building. This happens because a significant part of the lot is dedicated to agriculture, an illegal but very profitable one, which is cannabis of a very good quality. To ensure the quality of the product, sun light must be granted, so that there are few projections on the free terrain dedicated to cultivation, but at the same time, due to illegal status of the cultivation, the harvesting, the drying and processing of the product, walls must be enough tall to hide the whole process from authorities.



*Figure 1. The layers of a wall*

Windows, followed their definition by Jane Jacobs – ‘eyes on the street’ – though in a reverse way (Jacobs, 1960): eyes that do not watch the safety of the social life going around in the public realm, but that control the emptiness of it. In fact, any activity can attract undesired attention. In this sense, the experience lived in and by Lazarat during the ephemeral ‘golden age’ of cannabis cultivation, can be seen – ex post – as a dystopic anticipation of world cities under lockdown during the 2020-21 pandemic. Lazarat seems the perfect place for the seclusion of different families or small communities. In this sense, their omnipresent walls could play the role of an ‘archibiotic’ element, and thinking to the importance of elements developed for sanitary architecture in the development of the mainstream of modern 20th century architecture, Lazarat can gain the character of a weird, suggesting, alarming precognition<sup>1</sup>. Of course, involuntary precognition, dictated by the pragmatism of a ‘partisan’ activity rather than by the voluntary utopia of a ‘paradoxical’ activity as that performed by the ‘prisoners’ in Koolhaas and Zenghelis meta-project for London, 1972<sup>2</sup> (Kipnis, 2000).

Their project was also largely based on walls – gigantic, stereo-metric and smooth, white walls that would have ensured the seclusion of the inhabitants from the accidents and architectural chaos of London. By contrast, the walls of Lazarat are of relatively small scale – enough to ensure a rapid machine gun counter-attack against intruders –, they are mostly curvilinear since they quite literally grow on the lines of altitude of the hill, they are of an accidentally camouflaged grey resulting from the mix of local stones, reinforced concrete and rusty sheets of metal of which they are built. Though, they also separate their secluded inhabitants from the accidents and chaos generated by the universal prohibition of cannabis cultivation and commerce. Possibly the authored, ‘paper architecture’ of Koolhaas and Zenghelis can be considered as an opposite of the spontaneous ‘material pragmatic’ of Lazarat, as it remains from the cannabis times. ‘Prisoners vs partisans’? That might be an interesting architectural game to be played: a game where two projects dramatically different and apparently inconsistent one with the other generate a realized prevision: ‘metropolitanism’ in the case of Koolhaas and Zenghelis, ‘archibiotics’ in the case of Lazarat<sup>3</sup>.

### **The materiality of Lazarat’s walls**

Apart from their possible implications in the past and future of contemporary architecture and urbanism, the walls of Lazarat deserve to be investigated as manufactures adapting to the very precise spot where and for which they are built (Fig. 2).

In fact, only as such, they can really speak about the process that stays behind them, with the same dignity with which the process of construction of other world-known walls have been investigated. Since the time of cannabis is ended, and Lazarat is largely depopulated and mostly empty of economic activities, the approach might be a sort of archaeology of the present, i.e. the architectural analysis of a semi-inhabited series of conspicuous ruins. As well as its more fortunate neighbour town of Gjirokastër, Lazarat – whose population was smaller also in the booming years of the cannabis cultivation – developed thanks and because of walls. Though the walls of Lazarat were built quickly by families of farmers who already detained the lot inside them for the double goal of cultivating and heading the cultivation of cannabis. So, labour and defence created the ‘real-estate’ conditions to build them – except for most of their lower strata, that were pre-existing and meant to hold the sloppy terrain at the borders of the roads.



*Figure 2. Walls are made of different materials and intertwine with trees*

The materiality itself of the walls is talkative. Most of the lower strata are traditionally 'rural'. They were built in non-identifiable times when Lazarat was just a poor village an hour of walk from the main town of Gjirokastër. When the cannabis cultivation started, it seems that an architectural race started between the inhabitants to wall away from the world from their own farm, with its own lot (Fig. 3). Though different from what happened in medieval Italian cities, where families struggled to build the highest, most visible tower to show off their wealth and power, in Lazarat, it seems that a collective, humble wise, prevailed, prompted by the need to conceal and confuse rather than to show (Fig. 4): a function-oriented rather than a symbol-oriented process, as in other cases of rural collective design (Fathy, 1970).

Consequently, the shape of the city, in terms of volumes and heights, is very regular, and the city can recall a paradoxical Taliesin camouflaged in the green-grey hilly landscape, punctuated by stones and rocks (Fig. 5). Every available material has been employed for construction: local stones, installed as they are, or more or less grossly cut (parallelepiped, with dimension similar to a standard brick, so circa 12 x 8 x 25 cm), layers of reinforced concrete that can reach the length of 3-4 meters but are never higher than circa 40 cm), whose prevalent nuance of yellow grey suggest the use of maybe too much sand in the mix; standard bricks, most of them perforated, of light orange, many perforated concrete blocks of standard dimensions, and then metal materials, usually rusty: grids for



**Figure 3.** Complexity and ingenuity coexist in the walls of Lazarat

concrete, a number of undulated sheets, plane sheets, glass bottles of various colours, sink at the edge of the walls, with their necks broken to cut the hands of trespassers.

The walls of Lazarat create the identity of the place because of their twofold function: production and defence, and here lies their very uniqueness. Aerial views from the years of the maximum expansion of cannabis cultivation show how large part of it was carried on in the surroundings of the city, so outside the walls, but nevertheless the processing of the harvest happened always within the walls of each 'unity of production' except for two large sheds on the boundary of the urban centre towards the Drino valley.

So, during the cannabis years, each walled unit hosted at least processing, plus residential functions. In this sense, the walls – now- the far past – when they were just low,

containing elements made of stones -, recent past – when they were quite massive precincts -, and present – when they are just there, useless. Therefore, it is about their future that they raise the most demanding question. Can architectural intelligence do something about, or not? Moreover, if yes, what can be the direction to address?

### A town of walls

Since Lazarat is paradoxical, though material monument to the wall, it would possibly be interesting to question its future starting from the walls themselves, this would be an inquiry into the weakness of architecture because – unavoidably – the future of the place depends upon policies on the production and commerce of cannabis that go well beyond the discipline's boundaries. There is little doubt that in the current status, the walls of Lazarat exercise on a very effective way what a wall is built for: to divide.



**Figure 4.** In some tracts, the walls are becoming a landscape...



*Figure 5 ...and in other tracts they are part of a wide landscape*

Walls have reduced the already narrow public space, and the streets assumed – also because of the geomorphology of the site - the character of labyrinthine channels metaphorically excavated into a hill that seems to be a wall itself, so more geological than architectural.

The current problem of the town is that it is not a town but a series of little fortresses that make the urban life difficult to residents, and the few pioneer-tourists, or – potentially - to the quarantined subjects of an epidemic. Therefore, the strategy that could be employed to reverse the dividing character of the walls of Lazarat - without cancelling them, and so the sense of place that they generate - might be to create an inventory of passages to create shortcuts in the urban texture and maybe making semi-public on or more of the most derelict precincts. Of course, this would mean finding legal ways of compensation and a collective agreement. Though, as to architecture, the amazing collective intelligence that the population already displayed in the construction of the wall system can be turned back to make them useful again, and this would mean in no way demolishing them or tracts of them.

Lazarat, is anti-haussmannian par excellence (Jallon, Napolitano, & Boutté, 2020). Streets are narrow and mostly deprived of pedestrian sidewalks, and hence there is no or very little chance for serendipity and social life. The steep morphology of the territory adds to fatigue, and arcades of projecting roofs do not mitigate sun and rain. Mitigation is only delegated to the very geometrical shapes and to the heights of the walls themselves. In this regard, another inventory might be created of modalities to add roofs, benches, tables to walls by thickening their structure, so the opposite of demolishing.

Thanks to its walls, Lazarat has an amazing architectural suggestion and potential. It speaks of communitarian intelligence and entrepreneurship, as well as it speaks of how easily and rapidly architecture can become a ruin because of external factor<sup>4</sup>. In a scenario where cannabis would be allowed, architectural solutions could be taken from the inventory of holes in the walls, of mobile shop windows and movable parts, inspired, for instance, by Steven Holl's Storefront Gallery, NYC (Acconci & Holl, 2000).



In a prohibition scenario, they could become efficient public boards to narrate a history that deserves to be narrated, beyond the stereotypes of movies and beyond the Albanian political debate.

Architecturally, Lazarat can become a 'countryside' manifesto (AMO, Koolhaas, & Wiedemann, 2020), not of aseptic technology, but of pragmatic, resilient labour; without the kitsch, but with the fashion of a 'total architecture', without architects, borrowing from the path-breaking book and exhibition by Bernard Rudofsky, in New York (Rudofsky, 1963).

For those reasons, some walls are famous, others are not, but nevertheless, all walls have stories to tell. Hence, every element of architecture is deeply imbued with human facts and stories, whether they pertain to anthropology or history. There are in history and in geopolitics a number of famous/infamous walls. To quote some, in alphabetical order: the Aurelian walls, the Berlin Wall, the Dolls' wall in Milan, the many Walls of Fame around the world, the Great Wall of China, the Great Green Wall around the world cities (promoted by Stefano Boeri at UN), the Gaza Strip wall, the Hadrian wall in Britany, the Jerico walls, the Twelve-angled stone wall in Cuzco, the US-Mexico board wall, the Vietnam Veterans Memorial wall in Washington DC, the Wailing Wall in Jerusalem, the wall that gave the name to Wall Street in NYC. In Tirana, the Wall of Embassies, which functioned as an architectural testbed of the strength of a collective movement, has a name. Reconfiguring the walls of Lazarat would also mean, hopefully, making them recognizable through a name that could narrate and synthesize their unique story. The local community is aware of this urban and architectural potential, and ideas about reactivation would find attention (Boyer, 1994), and there is no shortage of suggestions in this regard (Kries, 2017).

I would suggest that the digital and sustainable transition – which is now an urgent and unavoidable, transversal topic in architecture – should be tested in places like Lazarat. In fact, the local would meet the global, the rural, the urban and the ancient the innovative (Ballantyne, 2010).

## Notes

<sup>1</sup> On Lazarat as an urban architecture: G. Islami, N. Veizaj, M. di Robilant: Lazarat. Portrait of a rural monument (working title) (Macerata: Quodlibet, expected in 2022).

<sup>2</sup> R. Koolhaas, E. Zenghelis, M. Vriesendorp "Wall. Exodus. The Voluntary Prisoners of Architecture", 1972.

<sup>3</sup> Both definitions are by the author.

<sup>4</sup> The destruction of the cannabis cultivations was indeed sudden and completed in less than one month, June-July 2014.

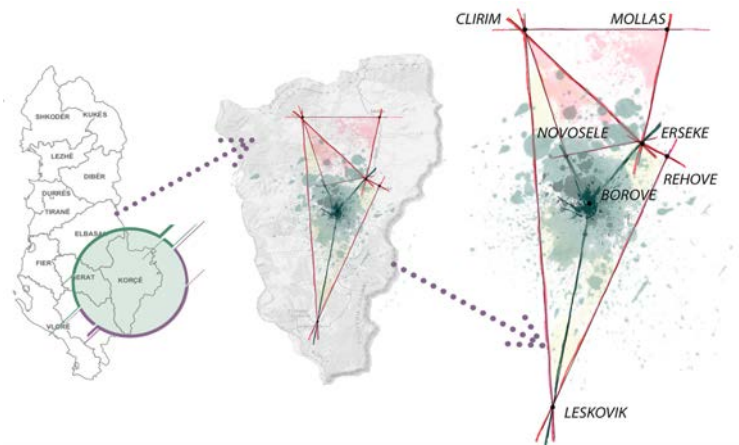
## References

- Jacobs, J. (1960). "The death and life of great American cities". New York: Random House.
- Herrmann, W. (1962,1985). "Laugier and eighteenth century French theory". London: Zwemmer.
- Rudofsky, B. (1964). "Architecture without architects. A short introduction to non- pedigreed architecture". New York, NY: Doubleday.
- Banham, R. "The Architecture of Well-Tempered Environment" (1969). London: The Architectural Press.
- Fathy, H. (1970). "Construire avec le peuple. Histoire d'un village d'Egypte: Gournah". Paris: Sindbad.
- Koolhaas, R., Zenghelis, E., Vriesendorp, M., & Zenghelis, Z. (1972). "Exodus. The Voluntary Prisoners of Architecture". In Kipnis, J. (Ed.). (2000). Perfect Acts of Architecture (p. 14). New York, NY: H.N. Abrams.
- Boyer, C. M. (1994). "The city of collective memory: its historical imagery and architectural entertainments". Cambridge, MA & London: MIT Press.
- Acconci, V., & Holl, S. (2000). "Storefront for art and architecture". Ostfeldern: Cantz.
- Ballantyne, A. (2010). "Rural and urban. Architecture between two cultures". London & New York: Routledge.
- Koolhaas, R., AMO, Harvard graduate school of design, & Boom, I. (2014). "wall". Venice & New York, NY: Marsilio & Rizzoli International.
- Kries, M. [et al.]. (2017). "Together! The new architecture of the collective". Berlin & Weil am Rhein: Ruby Press & Vitra Design Museum.
- Islami, G. & Veizaj, D. (2018). "Akademia 100+ fshatrat: Lot 18, Lot 19". (Exhibition). <http://planifikimi.gov.al/index.php?elD=dumpFile&t=f&f=4502&token=f464d69d0aec26e758eb17369005c59bffa445ec>
- AMO, Koolhaas, R., & Wiedemann, J. (2020). "Country-side: --a report". Köln & New York, NY: Taschen & Guggenheim.
- Jallon, B., Napolitano, U., & Boutté, F. (Eds.). (2020). "Paris Haussmann. A Model's Relevance". Zürich: Park Books.
- Islami, G. & Veizaj, D. (2021). "Evoluim i tipologjive të vendbanimeve rurale. Sfidat e zhvillimit në post-socializëm. Rast studimor: Lugina e Drinos". Buletin e Shkencave Teknike të UPT-së (April issue).

*Florian Nepravishta, Xhejsi Baruti, Gladiola Balliu*

## Introduction

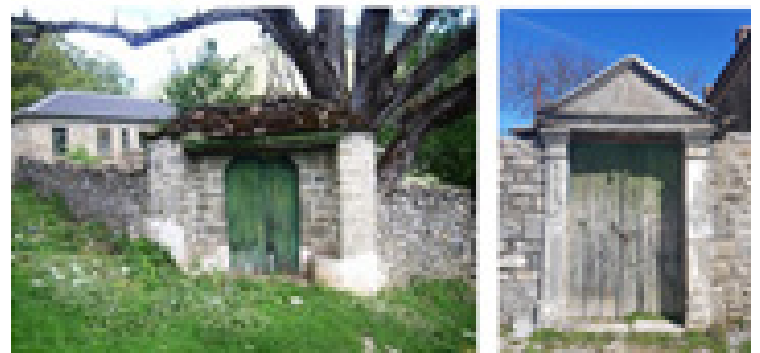
The villages of Rehova and Borova belong to the district of Kolonjë and are distinguished for the traditions, culture, and history they carry. They are in South-eastern Albania, 1150 m above sea level, at the foot of Mount Gramoz, at a distance of 6 km from each other, easily accessible by road transport (Fig. 1).



**Figure 1.** Location of Rehova and Borova. Source: FAU archive

Rehova is a historic village that has developed a unique urban structure and traditional stone architecture. The protected Historical Center of Rehova village is known throughout the country for its rich stone, wood, iron handicrafts, and the rich cultural heritage preserved to this day. This village's characteristics are the small two-storey houses, adjacent to each other, built of stone and roof with stone tiles, narrow cobbled alleys, exterior doors with decorated stone and wood. The main square with the church and the museum are other historical values of the village. One of the exciting things that can be easily noticed in the old part of the Rehova village is the decorated gates of the houses, which in large part of them preserve the characteristics of the master's work and the time when they were built, dating until the beginning of the 20th century.

Portico Street (Rruga e Portikëve), one of the village's most special values, is noticed when walking in the cobbled street in the village's old part, which are the entrance gates turned into works of art (Fig. 2).



**Figure 2.a.** St. Kollin Church situated in the centre of the Rehova village. **b.** The historical entrance gates; Source: Authors

The village can be visited for great historical, cultural, and archaeological value, beautiful natural landscapes under Mount Gramoz, unique cuisine, and hospitality. The village of Borova, located 6 km south of Rehoval, is known for the painful history of the July 1943 massacre carried out by Nazi troops of the Third Reich during World War II, where the entire village was burned, and 107 people were massacred. The victims were men, women and children.



**Figure 3a.** Old photo of the village before 1943. **b.** Memorial of Borova. Source: Authors, Erseka Archive.

After the liberation of the country from the Nazi fascists, Borova was declared a martyr village. A memorial was erected along with the victims' cemetery and a museum to commemorate this tragic event. The eagle-shaped memorial and the current museum are in a state of severe degradation.

Borova should have a tourist village's status where visitors could come and find something about its recent and distant history, a story that today may seem like a joke in a place where can no longer be seen anything about what once happened. In addition to history,

Borova (Fig. 3) can offer to all potential other tourist visitors such as natural mountain landscapes and the presence of deep canyons, objects of distinctive architectural value dating back to the early 20th century, elements for the development of agriculture, and livestock. As the village is a connecting point along the national road Korça-Ersekë, it can develop transit tourism by developing accommodation units and food for a short time.

Rehova and Borova village's part of "100 villages" program has strong potentials, which are poorly identified and used. Sustainable development patterns can be created, utilising natural, cultural characteristics, tradition, local capacities, and cultural heritage. The research aims to preserve both villages' historical, urban, and architectural values, giving them an essential role as a touristic destination centre in the Kolonjë region.

### "100 Villages" program

According to the best European standards, the Albanian government program for the "100 Villages" under the Integrated Rural Development Program launched in 2018 aims to create a successful model for its integrated rural development.

This initiative consists of a four-year program aiming to provide financial support for infrastructural, economic, and sustainable tourism development. One hundred villages within Rehova and Borova villages have been selected according to their tourism potentials. They are expected to become the centres of a new type of tourism, previously unknown in rural tourism. The idea is to upgrade, improve, and not invest everything in these 100 villages since there are thousands of other villages across Albania and to develop functioning models that would show the path towards development and expand it elsewhere worldwide.

According to SBA Fact Sheet, Albania, the objectives of the program are:

- Improvement of the public infrastructure (Support for road infrastructure, revitalisation of public/urban spaces, community infrastructure, public services, environmental and tourist infrastructure, monuments of cultural heritage, landscape, implementation of multifunctional community centres);
- Economic development through diversification of economic activities (amelioration of the touristic potential in the rural areas, ago-tourism, rural tourism, investments in the improvement of commercial services, investments in the production of traditional products, and other economic benefits. Support for incubators of traditional local products, promotion and marketing of rural areas, transport, fairs);
- Development of social and human capital (support for the creation of rural networks, local action groups as well as civil society in rural areas, vocational training for women and the youth, support for cultural heritage, support for the promotion of the traditions and lifestyle in the village).

### Cultural heritage and tourism

We can find several references for heritage and cultural tourism from the documents of diverse international cultural heritage and tourism organisations as UNESCO, ICOM, ICOMOS, ALECSO, Aga Khan, Europa Nostra, Global Heritage Fund, World Historic Cities, World Monument Fund, UNWTO, and WTACH.

The Convention for the Protection of Cultural Property in the Event of Armed Conflict held in The Hague, 14 May 1954, was the response to the destruction of heritage in World War II. Preserving, collecting, and valuing cultural and natural heritage because of the magnitude and gravity of the new dangers that threaten them is the core of the Preamble to the 1972 World Heritage Convention. The World Heritage Convention defines cultural heritage by dividing it into three categories: monuments, groups of buildings and sites. Following the 1972 Convention's adoption, UNESCO compiled the World Heritage List, including the extraordinary heritage that needs protection. The vision of cultural heritage has continuously evolved since the adoption of the 1972 Convention concerning the protection of the world cultural and natural heritage (the World Heritage Convention). It covers architectural works, sculptures, paintings, archaeological structures and inscriptions, cave dwellings, groups of buildings, and sites comprised of humans' works, humans and nature, and The UNESCO 2003 Convention on Safeguarding of the Intangible Cultural Heritage defines

the interdependence between intangible cultural heritage and tangible cultural heritage. It recognises the role of Intangible Cultural Heritage as a cultural diversity that promotes sustainable development. It defines cultural heritage as "the legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations".

The CEMAT Resolution N° 2 adopted by the Council of Europe Conference of Ministers responsible for Spatial/Regional Planning (CEMAT) in Moscow, Russian Federation, on 9 July 2010 regarding the rural heritage concluded "With both tangible and intangible aspects, the rural world is a treasure trove of the cultural, natural and landscape heritage. When searching for authenticity, modern people draw on their rural roots, seeking an identity in the rural world. This heritage is also an engine of development. Its preservation is fundamental and gives meaning to the development of our societies. It is our responsibility to recognise the value of the past and protect and promote this heritage, which is an essential factor for economic, social and cultural development". UNWTO defines cultural tourism as: "A type of tourism activity in which the visitor's essential motivation is to learn, discover, experience and consume the tangible and intangible cultural attractions/products in a tourism destination. These attractions/products related to a set of distinctive material, intellectual, spiritual and emotional features of a society that encompasses arts and architecture, historical and cultural heritage, culinary heritage, literature, music, creative industries and the living cultures with their lifestyles, value systems, beliefs and traditions". It defines sustainable tourism as "leading to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems."

Various authors as Ashworth & Larkham, 1994; Ashworth & Tunbridge, 1990; Davies, 1993; Herbert, 1995; Hughes, H.L. (2002) Light & Prentice 1994; Law, C.M. (1991); Pearce, D.G. (2001); Prentice, R. (1993); Richards, G. (1999); Robinson, M. (1996); Russo, A.P. (1998); Ryan, Chris. (2003), Silberberg, T. 1995; Smith, M. (2007) have theoretically addressed heritage and cultural tourism. According to Silberberg (1995), the "cultural and heritage tourism is a tool of economic development that achieves economic growth through attracting visitors from outside a host community, who are motivated wholly or in part by interest in the historical, artistic, scientific or lifestyle/heritage offerings of a community, region, group or institution".

## Rural heritage revitalisation

Many Albania villages are unique places, and their values are too fragile, so they must be vigorously protected. The development of rural areas is directly related to the preservation of built heritage, landscape, and culture. Preservation and revitalisation of villages with historical and natural heritage affect rural tourism development by enabling the economic revitalisation of these areas. Their economic and cultural revitalisation connects generations, including departed youth, to connect them to their past and strengthen a sense of belonging. It improves the quality of life of their inhabitants.

The revitalisation of villages with rich cultural and environmental heritage helps protect it through sustainable economic development and tourism. This process aims to improve the quality of life in these areas by helping their residents be involved in local economic, social, and cultural life. Improving local capacities, social services, and protecting local culture and traditions enables rural development through cultural tourism and agritourism.

The rural development must address the culture, built environment, and landscape to preserve and sustain villages and rural areas. The management of change is essential to the long-term survival of rural heritage.

Changes associated with historic buildings should include conservation, adaptive reuse, and rehabilitation to prevent structural and functional obsolescence in accordance with changing social needs. The “process of conservation and rehabilitation has two objectives. First, it protects a fundamental wealth of cultural assets for future generations, and second, it preserves the ‘genius loci’ and sense of place that gives historic areas their individuality” (Nepravishta, 2015).

## Revitalisation proposals

It is essential to emphasise the potential that cultural heritage can offer as an economic, social, and tourism development element. The sustainable development of both villages can be advantageous with good prospects for tourism’s local economic development. It faces a dual challenge of meeting environmental imperatives and negotiating meaningful expressions of the coexistence of history, human activities, and traditional facts.

Rehova and Borova are two villages with distinctive characteristics and have accumulated historical and cultural heritage over the years. However, little is identified and used as an element of sustainable economic and tour-

ist development. The process of revitalising both villages, aiming at their economic growth and development using historical features, began with a detailed analysis of the existing essential elements: accessibility, state of the infrastructure, natural characteristics, social character, potentials of architectural and urban planning, potentials of economic activities.

The main revitalisation idea was to coordinate some itineraries and development models that would treat the villages as sources of profit for the local economy. The main actors were the residents. Based on their potential, the villages are oriented towards cultural tourism and agri-tourism. This strategy discloses all host accommodation, cultural heritage, social service and commercial activities possibilities, creating for the visitor a variety of offerings homogeneously spread out in the village. This proposal aims to provide an integrative approach to preserving history, local public life, and tourism development, creating attractive itineraries for tourists, including the historical itinerary. Some of the main objectives for revitalising the villages are:

- Rehabilitation of the road network.
- The revitalisation of main squares of the villages;
- Restoration of the architectural ensemble of the historic centre;
- Adaptation of existing structures to accommodation spaces distributed at several focal points of the village;
- Establishment of several village workshops in a joint venture between the inhabitants producing agricultural products for their processing;
- Denitification of several itineraries will increase tourist activity: cultural, ecclesiastical, natural, agricultural, economic.
- Creation of common markets for the exhibition and sale of goods and essential products of the village and their marking with a unique logo;
- Creation of a hotel and guest-house network in the form of a distributed hotel, where the focus will not be on the main centre, but some points will be created;
- The organisation of specific festive dates and festivals will bring together village people, tourists, and visitors for a short time;
- The creation of common markets for the exhibition and sale of goods and agricultural products and the marking with a memorable logo;
- Establish a hotel and hostel network in a distributed hotel, where the focus will not be on the main centre, but several points will be created;
- Organising specific festive dates and holidays will bring together villagers, tourists, and visitors for a short time.

## Proposals for the revitalisation of Rehova

The village of Rehova, declared a “Historic Protected Area”, has great historical, architectural and urban values. It has a typical medieval urban structure with dense neighbourhoods and adjoining houses. Rehova has three neighbourhoods (Mahala), which are called “Upper Mahala”, “Middle Mahala” and “Lower Mahala”. The neighbourhoods’ dividing boundaries are visible and separated by alleys parallel to each other in a north-south and east-west direction. The built rural heritage presents an interesting typological development, especially in creating urban spaces and many dwellings with a diverse typology

and a cobblestone road network.

The village’s urban situation imposes several scattered squares, used over the years as squares of activities, games, and celebrations. The main road in the form of a ring goes around the village on the outskirts, while the narrow connecting roads between the dwellings have the Ottoman character of panning. The narrow streets with sofas and characteristic capitals are in complete harmony with stone heritage dwellings. They make possible Rehova to be used as a tourist destination, oriented towards cultural, historical and agri-tourism.

The Strategic Development Plan (Fig. 4) presents:

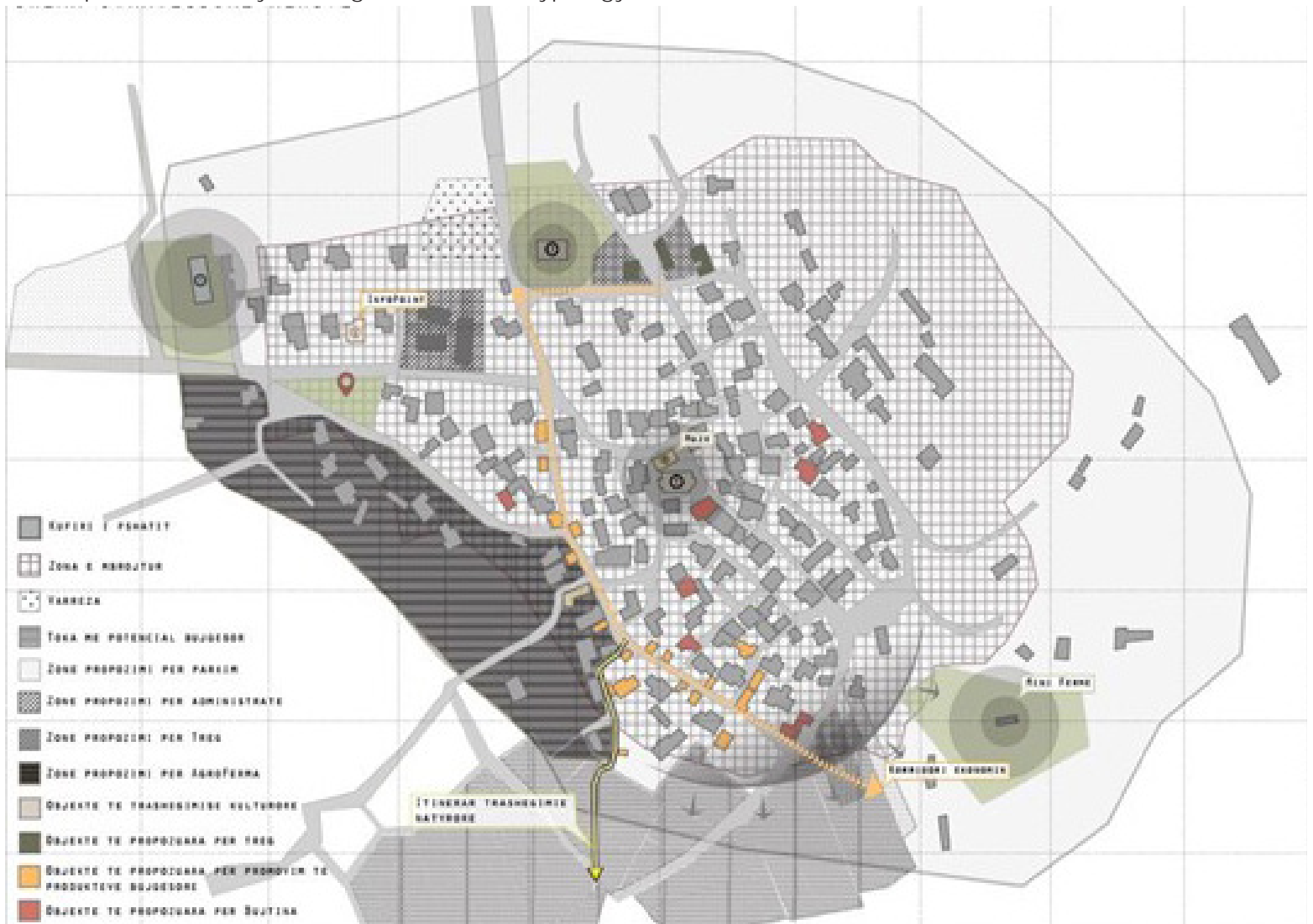


Figure 4. Strategic Development Plan of Rehova, Source: FAU archive

- All the possibilities for tourists' accommodation and reception, directing the visitor to the various inns evenly distributed throughout the village.
- The cultural and historical itinerary includes the itinerary from the village centre to the main churches, the Qiriazzi flats and other village dwellings.
- The agri-tourism itinerary is a passage in alleys whose dwellings have opened the gates to offer local products.

Based on the hotel's distributed model, a part of the village dwellings is proposed to be adapted into guest-houses (Fig. 5), distributed in the village territory. The tourists can move to any part of the village and use the units, which are organised, conveniently for tourists' accommodation.

From the analysis of the village's economic resources, it was possible to identify the agricultural potentials on the outskirts of the village's historic



Figure 5, a, b Proposal of reuse of the existing buildings as a guesthouse. Source: FAU archive

centre, increasing the agricultural activity through economic-agricultural development schemes. (Fig. 6).

The agri-tourism itinerary is essential for tourism development because it is one of the inhabitants' primary livelihood sources. Through the creation of an economic itinerary, while crossing the village's alleys, it is proposed that unused buildings, barns, or huts, with direct access to the paths, be turned into promotional shops of the traditions of agriculture, livestock, mahogany and the many characteristic products of the village (Fig. 7).

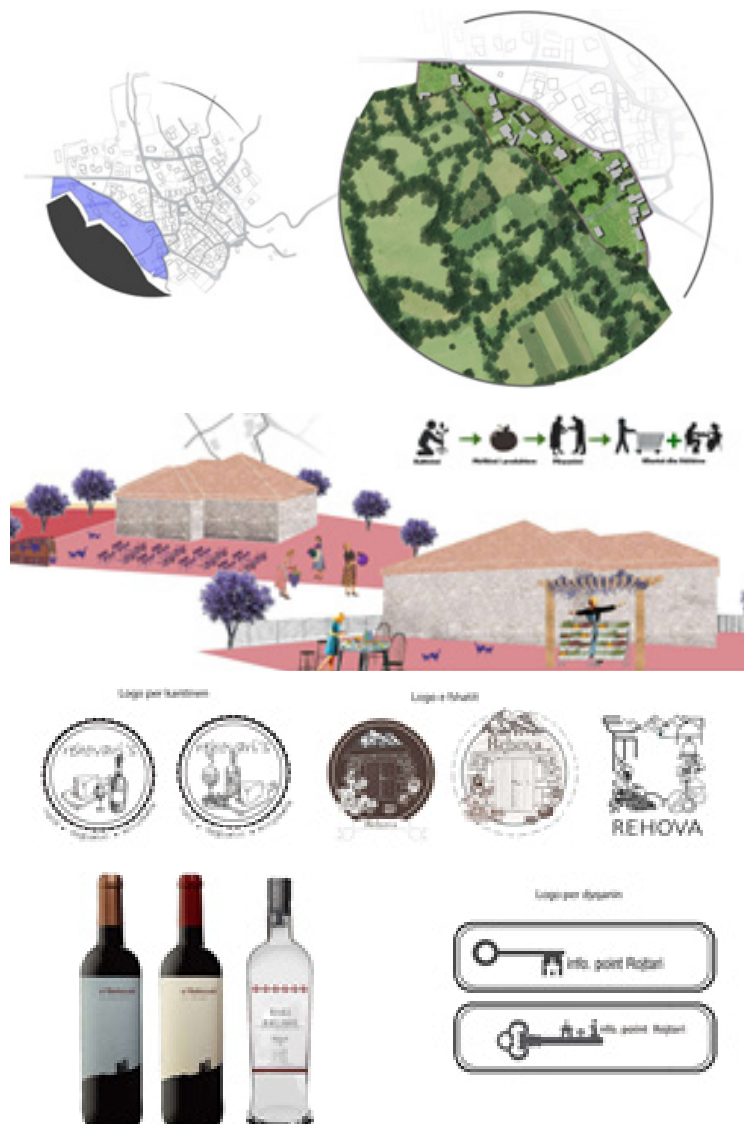


Figure 6 a, b, c Proposal of economic itinerary development, promotion of agri-tourism. Source: FAU archive



In this way, economic development through promotion management is promoted and enhanced. Rehova is the largest Orthodox village in Kolonja, with five churches scattered throughout the village.

The main Church of St. Kolli is situated in the centre of the village. The other churches are situated within the village as the Church of St. George near the village cemetery.

Ruins of St. Peter can serve as sites of the religious itinerary (Fig. 8), given the importance of religion to the lives of the residents and the way of celebrating its religious celebrations.

The intervention strategies are proposed revitalisation of the historical heritage of Rehova and promoting natural resources as a significant development factor.

The village's natural beauties, Cataracts (waterfalls) above the village, on the mountain of Gramoz, the panoramic view from the Gramoz offer the possibility of developing natural tourism through various activities: hiking, walking, and site views.

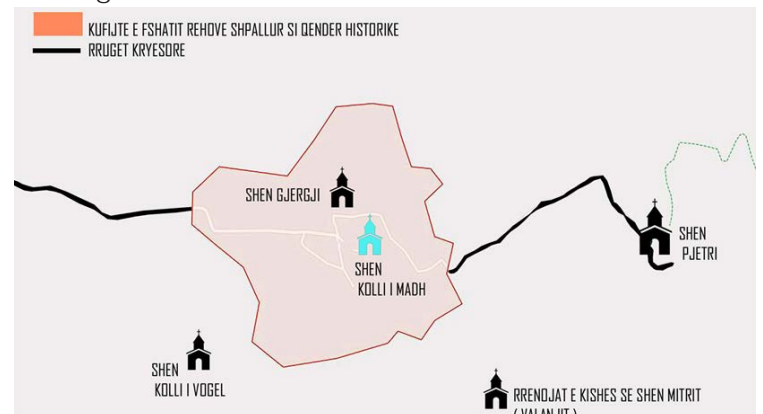


Figure 7. Proposal of economic itinerary development, promotion of the local product, Source: FAU Archive.



Figure 8. Religious itinerary and celebration proposal. Source: FAU archive



## Proposals for the revitalisation of Borova

Borova, unlike Rehova, is a village that does not preserve historical buildings because the village was burned down in 1943 in the massacre of the Nazi armies, leaving little traces of old dwellings and their construction techniques. The village is divided into three neighbourhoods, separated from each other, where the old and new ones are distinguished.

The eagle-shaped memorial along the national road and the Borova River, separating the village's neighbourhoods, is outstanding in the village's urban formulation. However, the village's value lies in the history and opportunity to exploit the painful event of the massacre in the memorial of 107 martyrs of Borova and memorial museum, as a potential to attract the development of historical tourism within the region and turn it into an economic development mechanism.

Situated at the Gramoz mountain foot, Rehova stands out for its still natural beauty (and potential). The canyons of the Borova River, Skerka natural landscape and mountain ranges offer developing mountain and sports tourism.

The Strategic Development Plan (Fig. 9) of the village identified the possibility of tourism development in three main directions: cultural and historical tourism, mountain tourism and natural tourism, which will generate economic income through new accommodation structures, guest-houses.

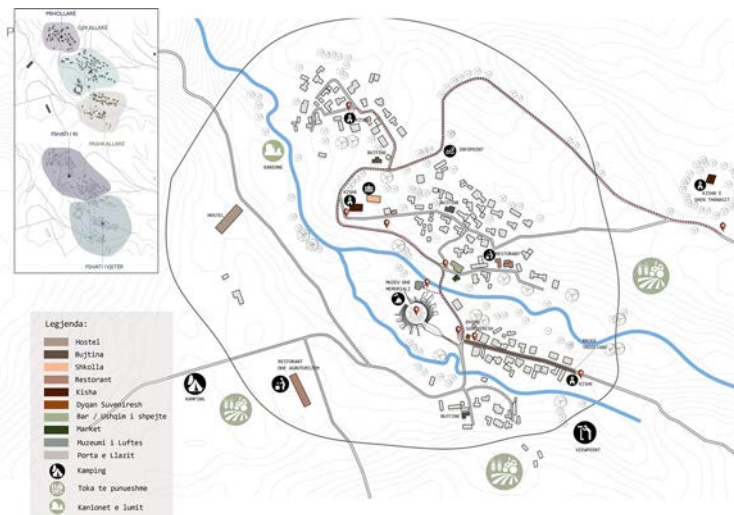


Figure 9. Strategic Development Plan of Borova, Source: FAU archive

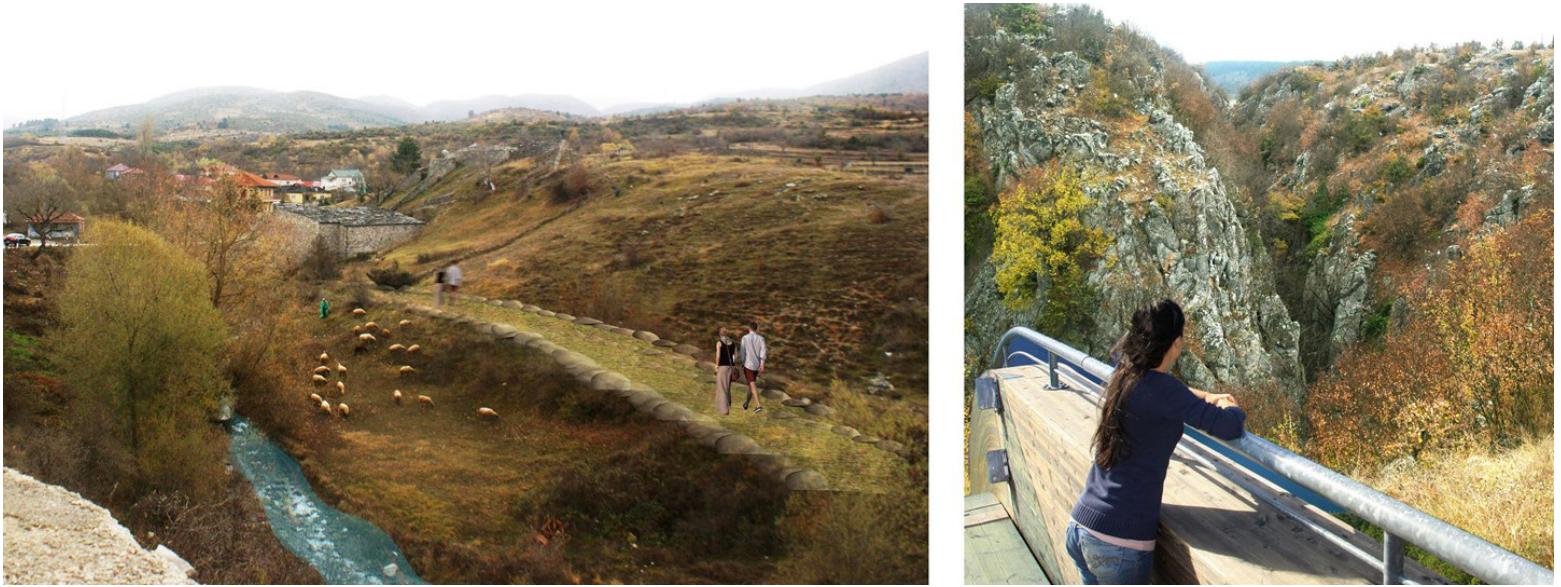
The main tourist itinerary is proposed to start at the village, memorial, and historical museum entrance to penetrate the village's central valley (Fig. 10).

The three main churches, the Grand Square and the only old building that survived the Nazi massacre, are interconnected. The first key element needed to revitalise the village is to restore existing buildings and the village infrastructure's rehabilitation to allow tourist access. Adaptive reuse interventions in some village houses will enable shared guest-houses, where residents can use their apartments as temporary hotels for tourists and visitors.

The natural touristic itinerary proposes to exploit the natural potentials for agri-tourism development, exploit canyons for an appropriate period, camping opportunities, and create viewpoints scattered around the foothills (F11). The main economic activities as livestock (goats and sheep), meat trade, milk processing and trade of its by-products will be suitable for the development of agri-tourism.



Figure 10. Potential touristic itineraries Strategic Development Plan of Borova. Source: FAU archive



**Figure 11.** Proposal for using natural potential. Source: FAU archive

## Conclusions

Linking tourism to heritage and culture would bring benefits to the local economy and the community of Rehova and Borova. Cultural heritage is an essential and potential element of a rural sustainable, economic, social, cultural, and touristic development. A better result can be provided by developing and piloting sustainable tourism models and incorporating local characteristics into the tourism value chain. Preservation and heritage protection are essential for cultural heritage tourism because the economic benefits must be provided for its sustainability.

Cultural heritage tourism's main idea is to preserve urban heritage and culture, share it with visitors, and receive economic benefits from tourism. Several strategic steps to develop cultural heritage tourism in these two villages are collaborating, focusing on quality and authenticity, preservation, and protection. The main challenge of Rehova and Borova is to ensure that tourism development does not destroy the qualities that attract visitors.

Cultural heritage can be an economic benefit to rural communities by identifying and promoting it. Administrations at the local and regional levels need more awareness of the economic potential of their heritage. Research results in the "100 villages programme" framework show that conservation and revitalisation offer far more direct and indirect effects in social, economic, and employment terms than the abandonment and degradation of heritage in rural centres.

Abandoned buildings are often found in Rehova and Borova because of the lack of necessary repairs for several years due to elderly owners, emigration, and population relocation to urban areas. Abandoned buildings need to be recognised in the local context, and the problems associated with them are discussed long before they become a problem. Homeowners feel emotionally attached to their property and feel dissatisfied with economic opportunities and job vacancies. Creating job vacancies because of tourism and agriculture development with the active support of municipalities can help avoid unemployment and prevent residents' abandonment. There may be conflicts between conservation and adaptive use of architectural heritage. These need to be balanced and one way to ensure this balance is through the interplay between them.

Restoration and reuse of historic buildings are among the most urgent topics in Rehova development. The number of heritage sites (with different qualities related to their building history) is large, and selection has been difficult. Good examples of successful reuse of heritage sites equally in economic, historical, and social terms in rural areas are rare and rarely focus on strategy and sustainable development. Investments in the revitalisation of heritage mean that they offer a monetary return or an economic benefit for habitants and investors and can be valued in financial terms. Loans and financial support by the local and central government funds can help the habitants invest in restoring their properties and developing agri-tourism (Fig. 12).



Figure 9. Revitalisation proposal of the village. Source: FAU Archive.

## References

Ashworth, G.J. & Larkham, P.J. (1994). *Building a new heritage: Tourism, culture and identity in the new Europe*. New York: Routledge.

Ashworth, G.L. & Tunbridge, J.E. (1990). *The tourist-historic city*. London: Belhaven.

Herbert, D.T. (1995). *Heritage places, leisure and tourism*. In Herbert, D.T. (Ed.), *Limited heritage, tourism and society*. N.Y: Mansell Publishing Limited.

Davies, M. (1993). *Cultural tourism, history, and historic precincts*. In M.C. Hall & S.

McArthur (Ed.), *Heritage management in New Zealand and Australia*. (pp. 188-196). Auckland: Oxford University Press.

Hughes, H.L. (2002) *Culture and tourism: a framework for further analysis*, *Managing Leisure*. Vol. 7 (3) (pp. 164-175).

Law, C. M. (1991). *Tourism and urban revitalisation*, *East Midlands Geographer*, Vol. 14 (pp. 49-60).

Light, D., Prentice, R.C. (1994). *Who consumes the heritage product? Implications for European heritage tourism*. In Ashworth G.J., & Larkham P.J. (Ed.), *Building a new heritage: Tourism, culture and identity in the New Europe*. New York: Routledge (pp. 90-116).

- McKercher B, Ho, S. Y. du Cros H (2005). *Relationships between Tourism and Cultural Heritage Management* *Tourism Management* 26(4) (pp. 539 – 548).
- Municipality of Kolonja (2018). *Plani Operacional i Zhvillimit Vendor* 2016.
- National Territorial Planning Agency (2018), 100 + Villages Academy Programme, Group Lot 14, Rehovë, Borovë, Nikolicë, Arrëz. Nepravishta, F., Balliu, G., Baruti, Xh. Working Group.
- Nepravishta, F. (2015). *Conservation and Rehabilitation of Shkodra Urban Heritage and Tourism*. Paper in the *Online International Interdisciplinary Research Journal*, Volume-V, Issue-III, May-June 2015 Issue, pp. 26-36 (ISSN: 2249-9598).
- Pearce, D.G., (2001). *An integrative framework for urban tourism research* (Elsevier Science).
- Prentice, R. (1993). *Tourism and Heritage Attractions*. London: Routledge.
- Richards, G. (1999). *European Cultural Tourism: Patterns and Prospects*. In Dodd, D. and van Hemel, A-M. (eds) *Planning European Cultural Tourism*. Boekman Foundation, Amsterdam, pp. 16-32.
- Robinson, M. (1996). *Tourism and cultural change*, Channel View Publications, Cleveland
- Russo, A.P. (1998) *Organising sustainable tourism development in heritage cities*, Euricur, Rotterdam
- Ryan, Chris (2003). *Recreational Tourism: Demand and Impacts*. (Aspects of Tourism S.) Clevedon: Channel View Books, 2003.
- Silberberg, T. (1995). *Cultural tourism and business opportunity for museums and heritage Sites*. *Tourism Management*, 16(5), 361-65.
- Smith, M. (2007). *Tourism, Culture and Regeneration*, CABI, Wallingford.
- Eneida Berisha (2018). *Albania Declares 100 Villages for the Integrated Rural Development Program*, Albania Architecture News - 17 February 2018. Available online: [https://worldarchitecture.org/articles-links/cmhpz/albania\\_declares\\_100\\_villages\\_for\\_the\\_integrated\\_rural\\_development\\_program.html](https://worldarchitecture.org/articles-links/cmhpz/albania_declares_100_villages_for_the_integrated_rural_development_program.html) (accessed in October 2019).
- CEMAT Resolution N° 2, adopted by the Council of Europe Conference of Ministers responsible for Spatial/Regional Planning (CEMAT) in Moscow, Russian Federation, on 9 July 2010. For this Resolution text, see MEPIELAN E-BULLETIN, Documents & Cases, 25 November 2010 (<http://www.mepielan-ebulletin.gr>) (accessed in October 2019).
- ICOMOS, *Charter for the Conservation of Historic Towns and Urban Areas* (Washington, 1987), 1. Available online: [http://www.international.icomos.org/charters/towns\\_e.pdf](http://www.international.icomos.org/charters/towns_e.pdf) (accessed in October 2019).
- UNESCO (1954). *Convention for the Protection of Cultural Property in the Event of Armed Conflict with Regulations for the Execution of the Convention*; UNESCO: The Hague, The Netherlands, 1954. Available online: <http://www.unesco.org/new/en/culture/themes/armed-conflictand-heritage/convention-and-protocols/1954-hague-convention/> (accessed in October 2019).
- UNESCO (1972). *Convention Concerning the Protection of the World Cultural and Natural Heritage*; United Nations Educational Scientific and Cultural Organization (UNESCO): Paris, France, 1972. Available online: <http://whc.unesco.org/en/conventiontext/> (accessed in October 2019).
- UNESCO (2003) *Convention for the safeguarding of the intangible Cultural Heritage*. Paris: UNESCO. Available online: <http://www.unesco.org/new/en/cairo/culture/tangible-cultural-heritage/> (accessed in October 2019).
- 22nd Session of the General Assembly held in Chengdu, China (11–16 September 2017). Available online: [https://www.e-unwto.org/doi/epdf/10.18111/unwto-gad.2017.1.g51w\\_645001604500](https://www.e-unwto.org/doi/epdf/10.18111/unwto-gad.2017.1.g51w_645001604500) (accessed in October 2019).
- World Tourism Organization (2013) *Sustainable Development of Tourism*. Available online: <https://www.e-unwto.org/doi/pdf/10.18111/9789284415496> (accessed in October 2019)

Aleksandar Videnovic, Milos Arandjelovic

## Introduction

With the collapse of the socialist social order in the former Yugoslavia, cooperative homes in the countryside were increasingly diminished. The transition period in Serbia after 2000 initiated an avalanche of changes in the domain of social relations. Cooperative homes were synonymous with the ideological-political activities of the ruling Communist Party of Yugoslavia (CPY) in the countryside, in the domain of architecture. The socialist transformation of the countryside has reached its final point, and cooperative homes as buildings that were in the function of that transformation are today abandoned and left to decay (Fig. 1). The research subject is the possibility of redevelopment of cooperative homes in accordance with contemporary needs of society and local context, starting from the assumption that these buildings can still play an essential role in everyday life in the countryside. In addition to service and commercial content, these buildings can play an important role in developing rural tourism or a particular purpose (education, promotion, culture, entertainment). Freed from ideological pretensions, the socio-cultural character of cooperative homes can take on the contours of different programming structures today. The work methodology also includes analysing scientific and professional literature related to the construction of cooperative homes and the socialist transformation of rural settlements in the post-war period. Examining the possibility of integrating new content and redevelopment of space will be verified by a case study that will discover realistic ways and justify interventions.



**Figure 1.** Abandoned and devastated Cooperative Homes in Serbian Villages. Left: Teocin - G. Milanovac, Right: Dejan - Vlasotince. Source: Author Archive.

The paper aims to point out the capacities possessed by these buildings, which need not move within their originally intended purpose. New programming requirements stem from the changing needs of the modern lifestyle, which open up vast possibilities for recycling and renewal in modern times.

## Socialist transformation of villages within the Yugoslav cultural space

After the Second World War, the socialist transformation of the countryside in the Federal People's Republic of Yugoslavia (FPRY) followed the model of Soviet colonisation. It began with agrarian reform and the formation of agricultural peasant cooperatives. The Law on Agrarian Reform and Colonization provided, among other things, for the confiscation of property by wealthy individuals to evenly distribute arable land to the broad masses. Socialist economic development was based on property confiscation. It was considered that agricultural improvement and economic and cultural transformation of villages were impossible as long as large farms existed. The resolution of the Second Plenum of the CPY established the importance of cooperatives in achieving the desired socialist transformation of the village. Cooperatives formed an ideal framework for promoting new social values.

Due to the circumstances, agricultural cooperatives have been given the role of central institutions in the countryside, bringing together various contents. The development of agricultural cooperatives was in favour of the economic unification of smallholdings, which aimed at raising the level of agricultural development (Kojić, 1950). The cooperative village did not possess an architectural heritage, which created the possibility of establishing a new construction practice: it was necessary to invent buildings that would represent the revival of the village and the acceptance of socialist ideology. Due to their position in the settlement, these buildings later became benchmarks in the future development and arrangement of rural settlements. (Kojić, 1975)

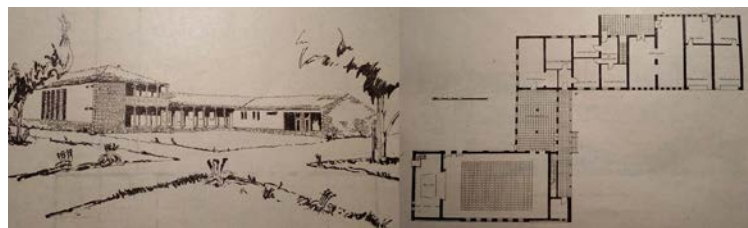
The construction of cooperative homes played an essential role in the socialist transformation of the countryside, which entailed changing economic and cultural patterns of the past. The concrete construction of homes influenced the appearance of the immediate construction of socialism in Yugoslavia among the population (Fig. 2). They were raised by the voluntary work of the peasants, and the golden age of construction was in the 1950s and 1960s (Šljukić and Janković, 2015; 197).



**Figure 2.** Catalog of standard projects of Cooperative homes (NR Serbia, 1948) and illustrations of their mass construction by the local peasant population

### Cooperative homes as a legacy of socialist culture

After the war, the cultural transformation of villages in the FPRY and Serbia supported the establishment of socialist values among the rural population. Such a relationship was most evident in the field of architecture. Frederick Jameson pointed out that architecture and art, within totalitarian social systems, translate into a kind of political practice (Jameson, 1985). Such a principle essentially develops awareness in the people in a direction that is appropriate to the system, establishing new frameworks of social values. As a reflection of socio-cultural development, architecture followed the developmental trends of the establishment of the socialist social order of Yugoslavia. Homes of culture, or cooperative homes, represent buildings that, after the war, played the role of bearer of social, economic and cultural development in the countryside. The connection with the Soviet Union at the socio-political and cultural level initiated the development of Yugoslav architecture in that period, national in form, socialist in content (Bilikin, 1947).



**Figure 3.** Cooperative home (type V), perspective view and ground floor. Source: "Cooperative homes" - Catalog of standard projects, NR Serbia, 1948.

Two units defined the structure of the homes (Fig. 3). The former belonged to the contents of economic character that supported the development of the cooperative, while the latter was in the function of educational and cultural uplift. The synergy of all the contents contributed to the creation of a new tradition in rural construction (Macura, 1948). The typology of cooperative homes was made based on the size and economic strength of the settlements for which they were planned. Primarily, it concerned universal halls, which played a crucial role in further articulating content. Accordingly, there were eight types of homes. The main reason was the tendency of mass cultural-political education of the rural population. The principles of socialist ideology were entirely an integral part of architectural practice.

The composition of cooperative homes was diverse. There were different types of basics (Krunić, 1949). Such an approach was intended to provide a specific type of construction for each possible situation to narrow the space of arbitrary activity. The selection of projects was not made according to objective architectural values but based on individual liking to representatives of cooperative organisations and parties.

Cooperative homes were often built in such a constellation of relationships, and their capacity was oversized (Fig. 4). The lack of material resources in the period in which they were built was not a problem because the authorities decided that the people should realise this idea on their own resources and on a voluntary basis. Organising mass labour actions, on the other hand, fostered a competitive spirit among the rural population.

### Transformation as a way of revitalisation

Cooperative homes, as already mentioned, played a significant - forced role in terms of cultural and political activity in the countryside, which is one of the reasons for their decline in the later period. By organising various cultural events, lectures, courses, etc., they contributed to establishing values of socialist culture among the rural population. With the abandonment of socialist ideology, the role of cooperative homes became impaired. Today, they represent the sole monumental legacy of socialist culture. Many of these buildings are now collapsing and represent the ruins that are located in the centres of the settlement. The collapse of cooperative homes followed the decline of agriculture and cooperatives. The difficult economic situation of the 1990s in Serbia practically hindered the development of agriculture.



**Figure 4.** The volume of the Cooperative House dominates the settlement and testifies to its earlier occupancy. Today, these buildings are mainly unused and left to decay. Left: Donja Kamenica, right: Beli Potok / Knjazevac Municipality. Source: Author Archive.

The local self-government leased premises in homes for various purposes, as office and workspace, as service outlets and shops.

Parts of the space have been adapted as residential units (Fig. 5). Insisting on rural tourism development as a generator of rural regeneration has been an imperative of regional priorities in recent years. Cooperative homes in this respect may represent a benchmark for future settlement development. Being given a new role in the contemporary context and objectively preventing their further decline creates the possibility of establishing a new economic basis (Mitrović, 2015). The breadth of the concept of dealing with different types of tourism initiates an overview of the various options for converting cooperative homes. On the other hand, this would in some way reduce the negative consequences of the construction of various buildings that are designed to promote the countryside and traditional values. At the same time, by their formative and aesthetic characteristics, the use of building materials deviate from the characteristics of the area in which they were built. In that sense, existing capacities should be maximised and affirmed. Changing the purpose - conversion of cooperative homes does not mean disrespecting their cultural and educational character. Spatial ordering by its proportions enables the integration of divergent functions with minimal interventions on the existing spatial relations of elements. The House of Culture at the Beli Potok Local Community in Belgrade, which belongs to the village's heritage at the foot of mountain Avala, is a solid example of reconstruction and space conversion (Fig. 6 and 7).

The preliminary design adapted the home space into a kindergarten. Preschool children are housed in two

groups, on the ground floor and upstairs, where play areas and children's lounge are positioned in the former central hall of the building. The layout of the building on the corner is consistent with changing the home into a kindergarten because the composition of the existing building defines the inner courtyard as a particular setting. A play area for children and outdoor play is provided within the courtyard when weather permits.

The research aims not to evaluate the design capabilities individually or to shift the boundaries of architectural - design parameters but solely to indicate the flexibility of the structure of these buildings.

Concerning position, capacity and program content, it is shown that cultural and cooperative homes in the countryside can locate their position in a contemporary context. The trend of general digitisation and the advancement of different types of the technology enables cooperative homes in the countryside to take on the role of cultural and educational units for young people.

## Conclusions

Organising the construction of cooperative homes, their many years of use, and the position they occupy point today to the consequences of ideological pretensions that supported the CP's political goals at the time than realistically affected the economic revival of the village.

Economic stagnation due to the disintegration of the Yugoslav ideology and introduction into the transition process, among other things, caused the collapse of agriculture and cooperatives, which further made the role of these buildings even more meaningless.



Figure 5. A variety of Cooperative Homes - rarely used for primary (ambulance, post office, administration) and service facilities. Left: Crnajka – Majdanpek, right: Visočka Ržana – Piroć. Source: from the author's archive.

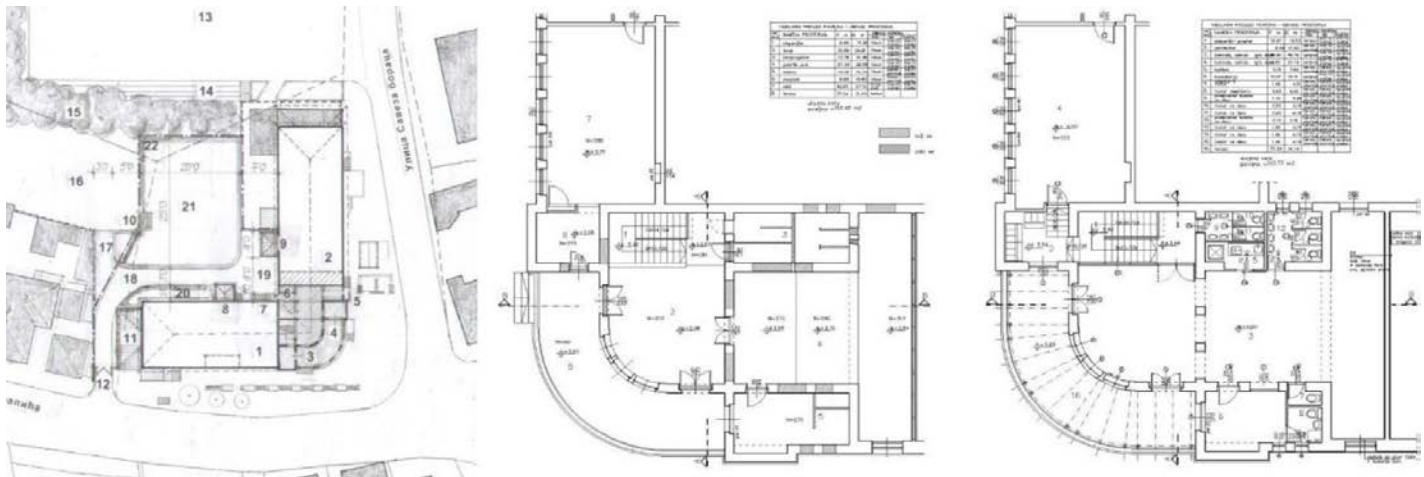


Figure 6. Position, current and new condition of a part of a cooperative home, adapted into a kindergarten - Beli Potok / Belgrade Source: from the archive of architect A. Videnovic.



Figure 7. In the middle: The part of the Cooperative Home in Beli Potok / Belgrade has been renovated. Left and right: Side wings with excellent conversion and reactivation capabilities. Source: from the author's archive.



The relevance of cooperative homes, viewed from the contemporary historical and political distance, remained permanently determined in its original context. The massive construction of these buildings in the context of work campaigns was of greater importance than the later use of its contents. The large number of homes owned by most rural settlements in Serbia indicates a position they can take about contemporary rural development, primarily in economic terms. Neglecting this fact would lead to new and more significant tangible investments, which remain unattainable to local communities. New rural development plans should envisage the use of existing potentials (built objects). The generation of different possibilities for their conversion is due to the need to integrate many missing functions in rural settlements.

## References

- Bajalica, Dimitrije (1948). „Izgradnja zadružnih domova u našoj zemlji“ (Construction of cooperative homes in our country). *Jugoslavija SSSR*, no. 35: 6-8.
- Bilikin, N.P. (1947). „Neposredni zadaci nauke o arhitekturi i građevinarstvu“ (Immediate tasks of the science of architecture and construction). *Tehnika*, no.6: 180-181.
- Dimić, Ljubodrag, (1988). *Agitprop kultura: Agitpropovska faza kulturne politike u Srbiji 1945–1952* (Agitprop culture: Agitprop's cultural policy phase in Serbia 1945–1952). Beograd: Rad.
- Dinulović, Radivoje, and Dragana Konstantinović, and Miljana Zeković, editors, (2014). *Arhitektura objekata domova kulture u Republici Srbiji* (Architecture of cultural centers in the Republic of Serbia). Novi Sad: Fakultet tehničkih nauka.
- Frederic, Jameson, (1985). „Architecture and the Critique of Ideology.“ In *Architecture Criticism Ideology*, edited by Joan Ockman, 51-87. Princeton: Architectural Press.
- Ilić, Dragan, (1969). „Domovi kulture u Socijalističkoj Republici Srbiji“ (Homes of Culture in the Socialist Republic of Serbia). *Saopštenja, IAUS*, no. 2: 20-28.
- Jušić, Pavao, (1951). „Kapitalna izgradnja u poljoprivredi“ (Capital construction in agriculture). *Urbanizam-Arhitektura* no. 9-12: 3-13.
- Kojić, Branislav, (1950). „Uloga arhitekata u izgradnji zadružnog sela“ (The role of architects in the construction of a cooperative village), *Arhitektura*, br. 5-6: 65.
- Kojić, Branislav, and Đorđe Simonović, (1975). *Seoska naselja Srbije* (Rural settlements of Serbia). Beograd: ICS.
- Koli, N.J. (1947). „Realizam sovjetske arhitekture“ (Realism of Soviet architecture). *Arhitektura*, no. 4-6: 16.
- Krajger, Mira, (1947). „Nekoliko misli o liniji naše arhitekture“, (Some thoughts on the line of our architecture). *Tehnika*, no. 6: 288-291.
- Krunić, Jovan, (1949). „Učešće sekcije arhitekata DIT-a Beograda u akciji izgradnje zadružnih domova“, „Participation of the section of DIT Belgrade architects in the action of building cooperative homes“. *Tehnika*, no. 2-3: 98-99.
- Macura, Milorad, (1948). „Zadružni domovi na teritoriji NR Srbije“, („Cooperative Homes in the Territory of the Republic of Serbia“). *Arhitektura*, no. 11-12: 17-31.
- Mitrović, Milovan (2015). „Sela u Srbiji, promene strukture i problemi održivog razvoja“ (Villages in Serbia, changes in structure and problems of sustainable development). Beograd: RZS.
- Ostrogović, Kazimir, (1947). „Arhitektura SSSR 1917-1947.“ („Architecture of the USSR 1917-1947.“). *Arhitektura*, no. 4-6: 3-8.
- Симоновић, Ђорђе, (1970). *Центри заједница села у Србији – Сеоске варошице и сеоске чаршије*, (Village Community Centers in Serbia - Village Towns and Village Commons). Beograd: ИАУС.
- Stojanović, Bratislav, (1947). „O arhitekturi nove Jugoslavije“, „About the Architecture of New Yugoslavia“. *Tehnika*, no. 2-3: 39-41.
- Sundhaussen, Holm, (2009). *Istorija Srbije od 19. do 21. Veka*, (History of Serbia from the 19th to the 21st Century). Beograd: Clio.
- Šegvić, Neven, (1950). „Stvaralačke komponente arhitekture FNRJ“ („Creative Components of the FNRJ Architecture“. No. 5-6: 5- 33.
- Šljukić, Srdjan, and Dejan Janković (2015). *Selo u sociološkom ogledalu*, (The village in a sociological mirror). Novi Sad: Mediterran Publishing.
- Veljković, Ljubomir, (1949). „Unapređenje poljoprivredne proizvodnje i socijalistički preobražaj našeg sela kroz zemljoradničko zadrugarstvo“, (Improving agricultural production and socialist transformation of our village through agricultural cooperatives). *Tehnika*, no. 4: 121-125.
- Živančević, Jelena, (2011). „Soviet in Content – People's in Form: The building of Farming Cooperative Centres and Soviet - Yugoslav Dispute, 1948 –1950 “. *Spatium International Review*, no. 25: 39-49.

# 31 THE AESTHETIC CONDITION OF VACANT VERNACULAR HERITAGE FOR TOURISM ADAPTATION AND RECOVERY OF DEPOPULATED VILLAGES

*Ignacio Galán, Yves Schoonjans, Gisèle Gantois*

## **Introduction: Rural depopulation, the transformation of cultural landscapes and tourism challenges**

Cultural landscapes are defined by UNESCO as “the result of combined work of nature and man” and are “illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural -internal/external- forces” (UNESCO, 1992). As such, cultural landscapes are dynamic and in continuous transformation (Coomans et al., 2019). Through this progressive evolution, many practices and traces of built structures from the past coexist with newly added elements (Corboz, 1983; Rossi, 1982).

This meaning of cultural landscape is closely related to the definition of “vernacular-rural” architecture: “architecture which develops according to natural, spatial, cultural, historical, economic, but above all social particularities” of a certain place, and which is, therefore “not static, but adapts to the needs imposed by time, without neglecting useful and traditional methods” (ICOMOS, 1979). Despite the increasing spatial unifying effect that globalization is creating in our territories, there are many embedded local principles and knowledge to learn from and integrate into future designs, which are often overlooked (Frampton, 1983). At the same time, “the vernacular landscape” (Jackson, 1984), or “The New Rural” (Krarup, 2016), are described as the current landscape, which not only is traditionally productive, inhabited and serving the community, nor only aesthetic, recreational and related to the urban user, but it includes and benefits both, locals and external visitors.

As stated by ICOMOS, the heritage of rural landscapes plays a central role within their native communities. Existing practices, meanings and places that form these cultural landscapes are still of great importance for local inhabitants and contribute to their support (ICOMOS, 2017). However, and due to their evolving condition, cultural landscapes need to adapt to the increasing societal challenges in order to continue supporting the communities that inhabit them.

Depopulation of rural areas due to migration towards urban centres is a growing phenomenon that currently affects many European regions. In many mountainous isolated territories, the difficult socio-economic conditions present force their inhabitants to leave searching for a better life and job opportunities (Collantes&Pinilla, 2004; ESPON, 2017; EUROSTAT, 2018). This migratory process provokes the partial or complete abandonment of small villages and their surrounding productive land (Filipe&Masarenhas, 2011), which initiates the transformation of the traditional cultural landscape (Plieninger&Bieling, 2012). However, at the same time, it also generates a vicious cycle of decline, which challenges the well-being of remaining inhabitants: in terms of limited provision of basic services, difficult connectivity, lack of economic opportunities and population ageing. The rise of these issues expands the gap between urban and rural living conditions, triggering a stronger demographic decline (Selman, 2006). Simultaneously to this shrinkage process, rural regions have witnessed an increased interest in these depopulating territories from several types of urban users: temporary visitors, returning inhabitants, neo-rural users, external investors and the central government (Marín, 2018; Woods, 2011). The new users overlap and negotiate the appropriation of the existing space, and their practices generate activity in depopulated spaces. Under the right approach and management, these reactivating practices could be positive for declining territories. Among the new practices developed in rural areas, tourism is probably the most noticeable one. The demand for natural and cultural values embedded in rural landscapes has triggered the emergence of different recreational activities (Schirpke et al., 2019).

Tourism has benefited some rural communities to a certain degree, becoming a profitable and less physically demanding activity than traditional agricultural practices, allowing local inhabitants to improve their well-being (García&Lasanta, 1996). In connection to these new dynamics, certain recovery initiatives have been developed in depopulated villages, dealing in different ways with past identity and preservation of cultural landscapes.

By generating economic and social activity, these initiatives can become a tool to reactivate territories and thus prevent the depopulation of nearby shrinking areas.

However, many negative side-effects from an uncontrolled urbanizing pressure generated by tourism are currently challenging rural communities through its polarising impact in the territory (Carlow, 2016). On the one hand, tourism development and urban growth tend to concentrate at specific locations. An increase of infrastructures and the emergence of big-scale and generic buildings through the creation of hotels and second-residence buildings are rapidly replacing local practices and distorting local practices from the traditional cultural landscape. Their exclusive dependence on seasonal visitors puts their economic situation in danger when unexpected events -like the recent COVID19 crisis - happen.

Furthermore, the gentrifying effect of this new form of development is also displacing local inhabitants. The rise of housing purchase and renting prices sets the continuity of younger generations from the community at stake. On the other hand, the more remote and isolated areas, often formed by smaller villages disconnected from growing towns and therefore less influenced by tourism development, have continued losing population, whose traditional practices shaped and maintained the cultural landscape (Garcia&Lasanta, 2018). This anomaly detected in the area of the central Spanish Pyrenees has led regional authorities to elaborate guidelines to mitigate their effects, aiming for a more balanced territory through this coordinated vision (DGA, 2005). However, the radical transformation of some rural settlements under effects of urbanization, the realization by the society of the loss of valuable local culture, which the abandonment of entire territories implies, and the search from visitors for more authentic, quiet and natural places have shifted the attention in the last years towards areas who have suffered the strongest impact of depopulation (Di-Figlia, 2016; Fiore&D'Andria, 2019).

Vernacular spaces in which spatial conditions cannot respond to societal needs for new functions often become empty, initiating a decay process that transforms these places. On some occasions, however, the handicaps that triggered the depopulation of some places can become a positive factor in attracting new activities under new conditions. These redundant spaces acquire certain spatial qualities and meanings for different users. In the case of tourists, this has led to the emergence of new recreational initiatives in the depopulated cultural landscape, which can support the shrinking local communities (Berizzi&Rochelli, 2019).

This way, the state of vacancy of built structures that form the cultural landscape and have lost their functional value becomes an opportunity (Lokman, 2017). Built heritage performs as a tool to mediate among the interests of external users and local inhabitants. If built heritage is correctly managed, it can benefit both types of users (Ruiz & Cañizares, 2020). However, these existing spaces need to adapt to provide the necessary conditions that allow a new activity to occur. This adaptation is a sensitive process, which requires a mindful intervention, in which the designer as a mediator converges the existing meanings with the newly attributed ones (Gantois&Schoonjans, 2014). This new approach differs from the traditional policies adopted until now to face the detected challenges: on territorial planning for rural shrinking areas, it was often aimed at growth, new development and maintaining a subsidized unproductive traditional economy (Oswalt, 2006); and on built-heritage conservation, it intended to preserve only outstanding buildings as monuments frozen in time, but empty of activity (Silva&Fernandez, 2017). These more conservative attitudes towards the territory and the built heritage have not allowed these places to evolve, where adaptation is needed to maintain the local character and sustain their inhabitants. These described conditions define precisely the meaning of "vernacular". This article aims to explore how vacant heritage spaces can support local communities, in this particular case through the integration of recreational functions. It considers shrinkage as a chance to rethink the value of these spaces towards the generation of a new landscape. This lead to different research questions: (RQ1) What opportunities do the transformed conditions obtained by the abandonment of vernacular cultural landscapes offer? (RQ2) What adaptation strategies are developed in heritage spaces, and how do they contribute to enabling the realization of new activities, facing the challenges that tourism creates, and improving the welfare of local communities?

### **Research methodology applied to the study case of Isín**

In order to investigate the proposed questions, this research focuses on a study case in which the existing spaces of a depopulated village were adapted to host a new touristic function.

It analyses the case of Isín at the central Spanish Pyrenees (Fig. 1-2). Isín is a small village bought by the National Forestry Department of the Spanish central government in 1961, forcing the inhabitants to leave (Chauvelier, 1990).



**Figure 1.** Drone image of Isín and surrounding landscape at its current state. Source: Author 2020.



**Figure 2.** Transformation of Isín 1970s – 2008. Source: CAB Arquitectura.

After being almost four decades depopulated, in 2000, the village was offered temporarily to a social organization -Benito Ardid Foundation- who wanted to create an accessible accommodation centre to develop cultural and recreational activities in this mountain environment. They found in Isín the optimal conditions to develop their project, recovering and transforming most of the existing buildings and open spaces, adapted to new functions. The village is currently being used by the users who are hosted during several days, by temporary visitors who wander through the village -including the former inhabitants-, by the workers who commute every day from surrounding settlements, and by some new residents who work and live in Isín (López, 2013).

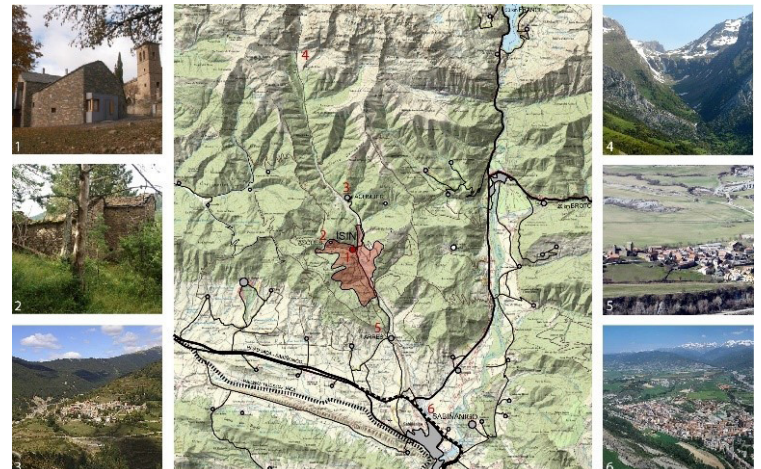
This research combines different socio-spatial analysis methods, according to the subject it aims to enquire, which correspond to each of the questions.

(1) Original state of the village and spatial conditions obtained by its depopulation: data is collected from available archives -aerial images 1956-2000 and historical maps/plans and pictures 1936-2000 of Isín and its valley- which reveal the spatial configuration of the territory and the village before the intervention; and from ethnographic texts, and semi-structured interviews with former inhabitants and the agents who intervened in the recovery. They

expose how people used to live and use the spaces of the settlement and their environment.

(2) Transformation of the vacant ruins of the village and impact achieved by the interventions: information is gathered from existing archives -pictures of Isín in ruins in 2000, the masterplan and architecture project for Isín (CAB Arquitectura, 2000), which reveal the physical state of the spaces of the village before the start of the works, as well as the project decisions made; from fieldwork visits -spatial survey, field notes, in situ sketches and drone images, collected during different site trips in 2018-2021-, which reveal the spatial configuration of the village and how some of these spaces are used by the different users; and from semi-structured interviews to current users -visitors and inhabitants-, which acknowledge the qualities which the different spaces of the settlement and surrounding territory have for each user, and how they use them. The retrieved data is processed into graphic documents which combine the social and the spatial information gathered, exposing how space, functions and attributed meanings merge. The analysis of these documents in relation to the issues formulated previously enables to discuss the findings and extract conclusions.

Finally, the interviews with current users unveil the use of a large range of spaces, not only in the settlement but also around it, enabled by mobility improvements. These diverse scales of use of space and relations with the heritage place -territory, cultural landscape, settlement, building- are used in this article to structure the obtained findings, from larger scale to smaller scale.



**Figure 3.** Map of location and surrounding territory of Isín. It is situated in a narrow and lowly populated valley, at an intermediate slope between the high-mountain area and the main valley of river Gállego. Source: Interviews to users about places they visit around the village. Elaboration: Author 2020.

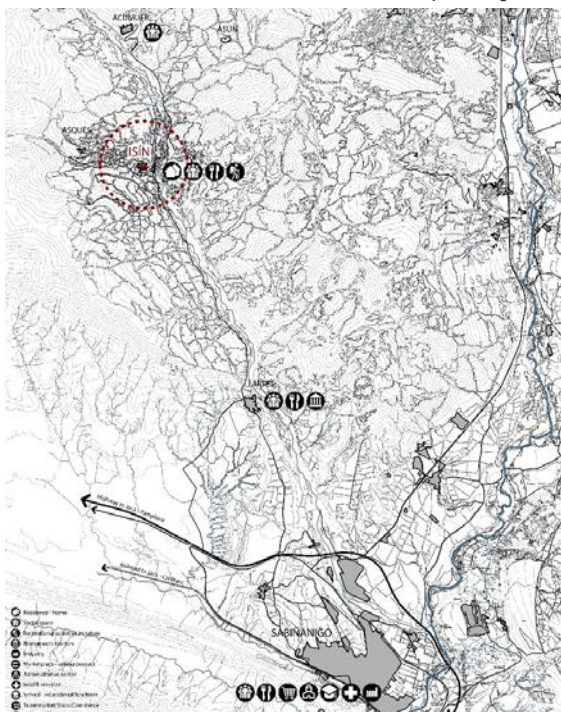
## The aesthetic value of cultural landscapes: adaptation of vacant built heritage as recreational space

The decrease of human practices and maintenance of existing spaces in Isin initiated the transformation of the village and its surrounding landscape, generating new spatial conditions. These conditions offer different opportunities, which are seized through several strategies applied. The strategies imply the adaptation of the existing spaces, mediating between the past values and present needs, allowing new activities to emerge.

### (XL) The scale of the territory

The first group of initial conditions, strategies and transformations deal with the location of Isin in relation to its territory. The different adaptation strategies developed deal with identifying those territorial conditions and integrating them with the proposed program (Fig. 4).

They take advantage of the possibilities offered by the improved mobility to reach easily other settlements, combined with the qualities offered by this more remote location, which makes it comfortable for temporary use.

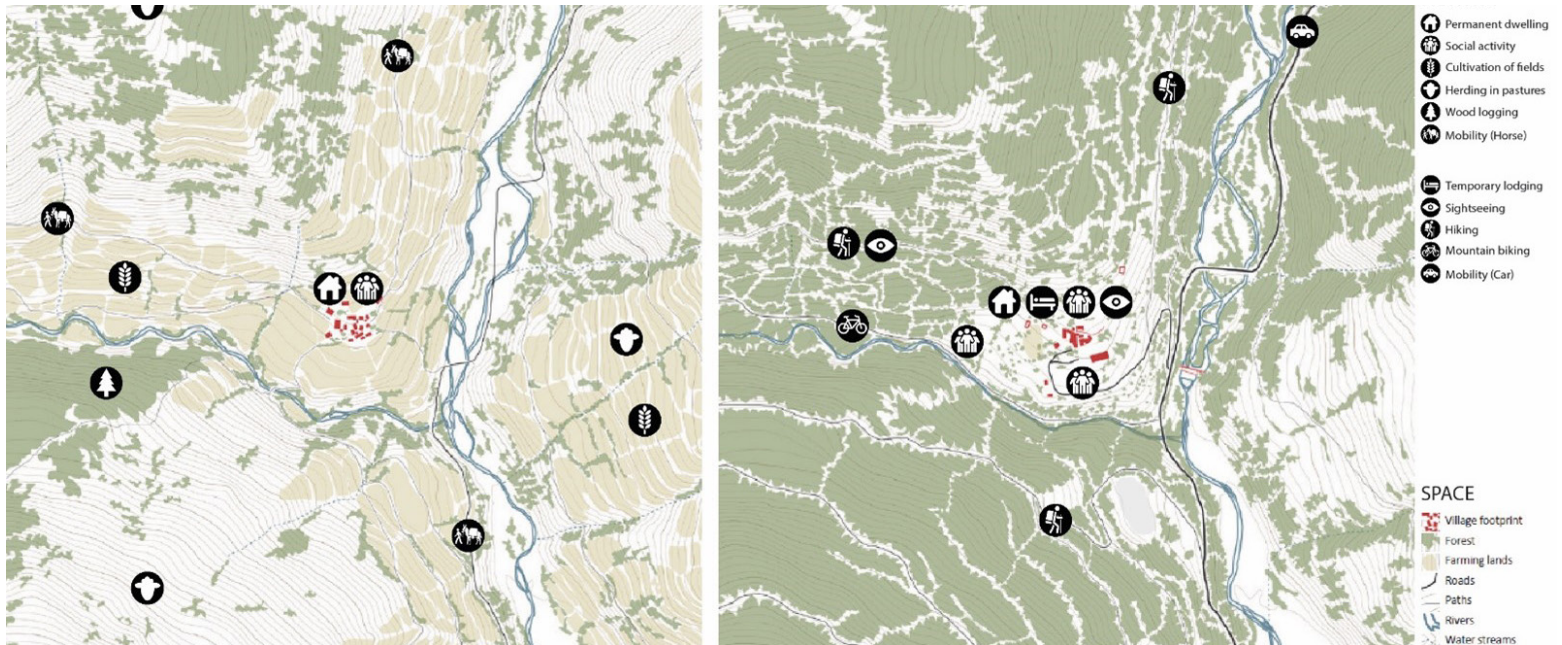


**Figure 4.** Map of shared functions provided by the settlements around Isin, and connections network among them. Source: Interviews to the different types of users, about the surrounding villages they visit, and the services which each offers. Elaboration: Author 2020.

Although Sabiñánigo performs as a service centre, some basic shared facilities are foreseen in the village. These new collective functions are available not only for the village users but also for the neighbours of other surrounding villages. The reactivation of Isin and its surrounding area helps to articulate the empty territory, becoming a connector between Acumuer, isolated at the end of the valley, and bigger towns. It allows for balancing the tourism pressure, distributed more homogeneously throughout the territory and bringing benefits to local communities in more remote areas.

### (L) The scale of the cultural landscape:

The second group corresponds to the relation of the village with the surrounding landscape to which it belongs (Fig. 5). The traditional cultural landscape transforms due to the decrease of human practices which maintained it, like agricultural activities, and the intense use of the paths which connect the village to its surroundings, allowing nature to regenerate. Although main car-access axes have been improved, many secondary horse paths between smaller settlements have been lost due to their lack of use. Vegetation has noticeably increased in the last decades through natural succession processes and reforestation actions, occupying the cultivation terraces and forming a dense forest that has covered the village. The visible extension of the village has decreased since most of the agricultural area around has been replaced by forest, making the built core the only identifiable landmark from a distance. Nonetheless, many human traces are still visible when walking through the forest, creating a new space where natural and cultural elements merge. The aesthetic, cultural and environmental qualities of this natural/cultural landscape are a potential value for recreation. Different strategies are applied at the scale of the cultural landscape, using its aesthetic, cultural and environmental values. These qualities get implemented in the new recreational program by integrating the functions, avoiding the addition of new elements which could distort it in terms of footprint extension, the size of newly added volumes, and their materiality. The landscape found at the beginning of the intervention process gets adapted. A new access route is integrated into the slope, connecting Isin with the valley's main road. Vegetation is removed from the streets and buildings, which are aimed to be reused, allowing intervention. Although most of the activity remains within the built core, the existing surrounding landscape is also appropriated as an extension of the village for outdoor activities, using its old paths for hiking and cycling through the new forest.



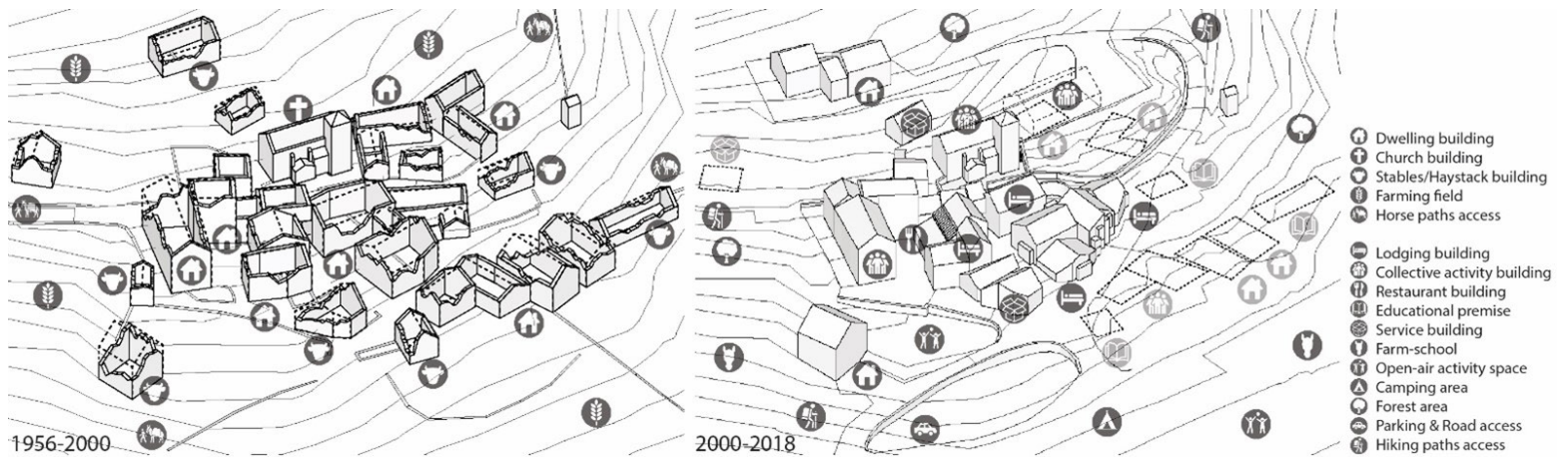
**Figure 5.** Comparative map of spatial and functional transformation of the surrounding cultural landscape 1956-2018. Productive and extractive practices -cultivation, herding, wood-logging- were replaced by recreational activities, connected to the program of the village, triggering the replacement of human structures by natural cover. (Source: Mapping recognizable physical elements on aerial photos; Interviews to different users on landscape use. Elaboration: Author 2019)

The density of vegetation in surrounding fields is reduced, decreasing the fire hazard for the users, and providing space for exterior recreational activities which demand bigger areas. The spaces within the village are also designed concerning the surrounding landscape, connecting the open spaces physically to it, and rethinking the built spaces inside-out, generating visual connections to contemplate the forest and the valley.

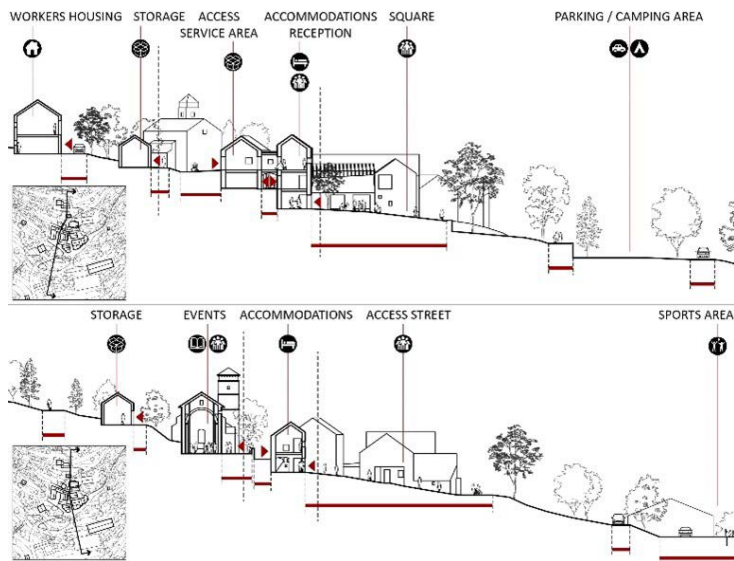
Especially in mountainous areas, where small agricultural fields carved in terraced slopes make their cultivation less productive, and herding traditional practices have much decreased, tourism reveals as a very interesting economic activity to support local communities, allowing them to stay in their village. At the same time, this more spread and better integrated recreational space, compared with massive urbanization found in other areas, represents a more sustainable tourism model. Unlike massive ski-urbanizations, which are usually used only during the few winter months, nature and culture tourism allow more constant and respectful use of the resources provided by the territory, de-seasonalising the activity. Furthermore, tourism is sometimes complemented by other adapted practices of qualitative production, which contribute to maintain the existing landscape values and diversify the economy while allowing visitors to enjoy this actively used cultural landscape.

#### (M) Urban scale:

The third group of conditions and strategies apply to the remaining buildings and the open spaces created among them. The depopulation process of the village pushed the former inhabitants to leave their homes in search of better living conditions. However, this process also allowed to keep the traditional urban structure and buildings in their original form, only altered by the progressive degradation process provoked by the lack of maintenance. The existing urban structure, adapted organically to the sloped location and the environmental conditions and resources, generates different characteristic spaces with aesthetic and cultural value, which evoke the life of people who used to live in them. The availability of a large amount and variety of empty building typologies – block-house, row-house, courtyard house, service attached buildings, isolated haystack and stable buildings, temple-, and open spaces –squares, streets, courtyards, orchards, threshing fields-, provide a big diversity of spatial conditions. It enables to insert of many different functions which adapt better to the conditions of each typology. At the same time, the possibility of using all these spaces allows planning the adaptation integrally, making it more efficient and not needing to create many new buildings (Fig. 6-7).



**Figure 6.** Spatial transformation of the urban structure of the village, and change of use of buildings and open spaces. Most of the existing spatial configuration is maintained. However it reveals a complete change of use of the existing typologies, few new volumes of larger surface added, and some spaces foreseen to be recovered, but yet unbuilt. Source: Spatial configuration obtained from pictures of the ruined state, through the review of the masterplan developed, and by in-situ spatial survey; Data on use of the spaces and interest of users in them gathered from interviews to different user-types. Elaboration: Author 2019.



**Figure 7.** Sections through the sloped implantation, show the relation between spatial capacity of the existing building in relation with its environment -privacy, landscape views, sun orientation, connection of different levels- and the new function assigned. The topography is used to generate new spatial qualities, while there is a strong link between closed and open spaces (Source: Spatial configuration obtained from spatial survey and master-plan; Information on use of space gathered through interviews. Elaboration: Author.

The administrative access to use the spaces is granted by the temporary concession provided by the government, who, despite being the owners, do not have a future plan for the settlement. Several intervention strategies are developed. The new functions are allocated into the existing spaces, which spatial conditions are more suitable to their needs, in terms of size, connection to other spaces, light and views, privacy and accessibility. The inserted program overlaps the previous uses of the buildings, although much tacit knowledge embedded in the traditional typologies is used: about the implantation of the buildings in the sloped environment, spatial qualities created in the open spaces, orientation and climate adaptation, and construction with local materials. Only when the remaining buildings cannot host a certainly needed function, new volumes are added, differentiating them from the existing ones through their materialization, but integrated into size within the urban structure. Lastly, the ruins of the buildings which are not yet needed are left vacant, integrated within the new village landscape and waiting for future use.

This enables the adaptation of the vernacular urban structure of the village to the demanded conditions of the new program while preserving the local character. It allows re-activating the village, facilitating the access and use of the spaces not only for tourists but also for new residents and previous inhabitants. In this case, the program of temporary accommodation, which requires the implementation of certain shared spaces, provides different benefits to the new permanent inhabitants.

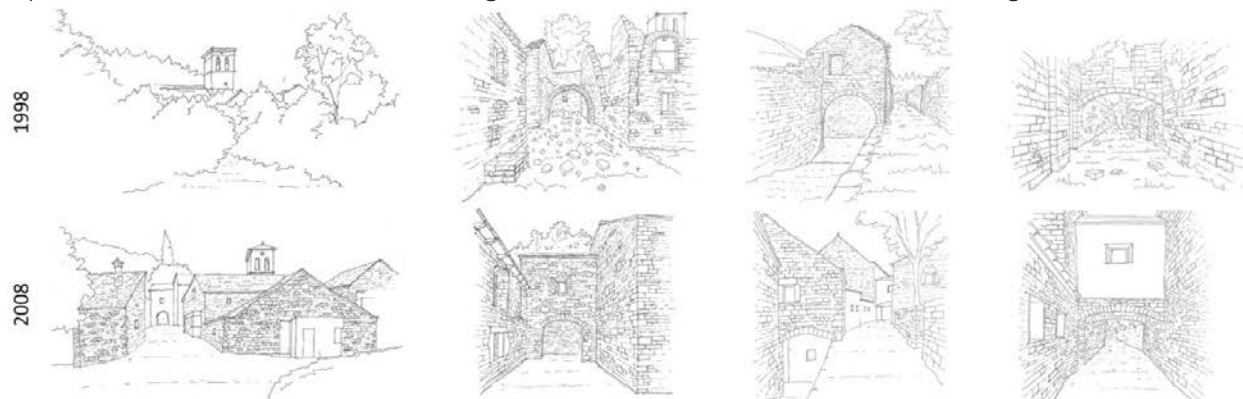
Differently from second-residences development, temporary accommodation allows an intense use of the space by

the rotation of different visitors, generating more social and economic benefits for the locals: it achieves a healthier mix of users and bigger interaction between visitors and permanent inhabitants, who become actively involved; tourism becomes an important economic activity to sustain the neighbours who live from it. At the same time, these shared spaces can also be enjoyed by the local community, reducing their dependence on service towns.

**(S) The scale of the built structures: The last group refers to the buildings and their materialization**

The conservation of the overall urban footprint allows identifying the different zones, urban voids, and volumes that formed the village by studying the ruins of its built structures. However, after decades of unmaintained, valuable heritage buildings are often badly preserved and need an intervention to be able to use them again. The significant action required to regenerate these spaces allows rethinking how to formalize them, adapted to new conditions. Instead of maintaining them as museum objects frozen in time, interventions on built heritage should enable them to remain functional and evolve. The aesthetic or monumental value of these vernacular buildings is often present in their visible outer skin. These qualities are appreciated by tourists who are more familiar with the exterior image of the buildings in their traditional cultural landscapes rather than with their functional interior spaces and how they used to work, mainly for productive purposes. The envelope of these buildings is often a solid construction and persists better preserved than the roofs and inner compartments. At the same time, interior spaces are more easily adaptable to the exterior volume, allowing to or-

ganize new spatial configurations while maintaining the outer image of the building. The exterior aspect of the buildings -consisting of materials, façade openings, construction techniques and details- is easier to maintain and unify within the whole settlement, independently from the specific functions which each building contains. Furthermore, new accommodation functions aimed to be implemented demand certain inner comfort conditions that these traditional buildings did not offer originally. The architectural strategies applied in Isin follow the principle of maintaining the exterior volume, recovering the outer building envelope and using the original materiality, but through adapted construction techniques that improve the building performance. The most remarkable and characteristic built elements which can still be identified are reintegrated in the proposal as functional elements, and in some cases, just as ornamental details which evoke the original use of the building. On the other hand, a completely new interior spatial organization is reformulated, adapted to the new program needs. In function of the size of the existing volumes, the capacity to connect several buildings interiorly, the views provided by the location, the level of privacy needed, the proximity between different functions for programmatic reasons, or the possibility of accessing different levels of the village through the building to solve accessibility issues, the new interior configuration is redefined. According to the proposed spatial organization, new openings are made on the façade where needed, allowing to communicate the interior spaces with the exterior landscape, providing light and views on the surrounding nature. At the same time, new volumes with different materiality are added where spatial conditions demand them, distinguishing clearly the existing from the new constructions (Fig. 8).



**Figure 8.** Spatial adaptation of the ruins of buildings and open spaces: 1998-2008. The comparison of the spaces in both moments shows the effort made to maintain the most distinctive elements which allow to identify the existing spaces and keep their character, while adapting them to the conditions of the new program. The former spatial configuration of the most deteriorated spaces needs to be interpreted when not enough remains had resisted. Newly-added volumes are built in new material, to clearly differentiate the existing from the new elements. Source: Photographies of the found state of Isin before the intervention, and spatial survey in current state, from the archives of the designers team (CAB Arquitectura). Elaboration: Author 2019.



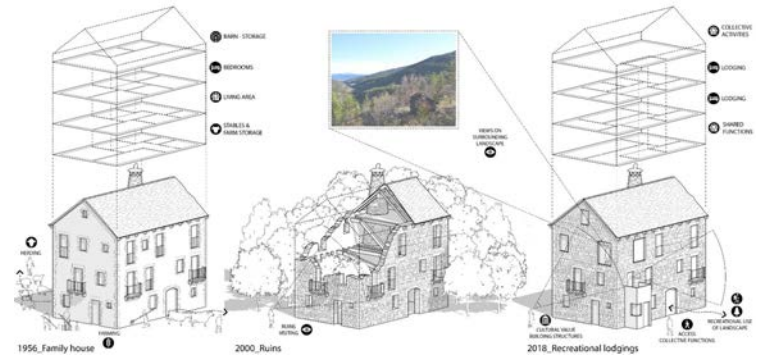


**Figure 9.** New activities developed in different exterior spaces of the adapted village. These activities differ much from the original function, although the spaces remain very similar to their original state. Source: Interviews to visitors and local users; images by "isin.es".

These interventions allow providing new function and meaning to vacant and ruined heritage buildings. Ruins are transformed, recovering the original exterior appearance -volume, spatial composition of the façade and materiality- but interiorly renewed, adjusted for spatial conditions which new activities demand. The logic of these vernacular buildings shifting, being no longer a space to live attached to the farming land, and in proximity to summer grazing pastures and surrounding resources which allowed their inhabitants to subsist; For new users, they are spaces of historical-cultural value, where the past character of this territory can be experienced, while comfortably enjoying the aesthetic qualities which the place, in combination to its surrounding environment provides (Fig. 9). Through their spatial transformation, dysfunctional spaces are adapted for a new economic activity, which can support local inhabitants while improving the overall condition of the village. In this adaptation, cultural and aesthetic meanings assigned by newcomers overlap the attachment felt by previous inhabitants, who were not able to maintain these spaces. Today, even if previous inhabitants do not have the capacity or the interest to live in the village, they can continue visiting it, thanks to the recovery process in the village, which assures its evolution. At the same time, remaining neighbours and new inhabitants benefit directly from the presence of visitors in Isin. It shows the adaptation capacity of these vernacular spaces, which are able to transform, evolving in form, function and meaning, while supporting the community.

### Conclusions: Recovering the vernacular

The analysis of the experience of recovery developed in Isin shows that depopulated villages offer opportunities for local communities. The adequate management of their qualities through the strategies developed allows, on the one hand dealing with the challenges which the processes of decline and the urbanizing pressure of tourism and,



**Figure 10.** Scheme of transformation of form, function and meaning of vernacular architecture: Former use – Vacant state – Adapted condition. Due to the aesthetic/monumental qualities of the existing spaces in relation to its surrounding landscape, they are exteriorly preserved, although interiorly adapted to the new recreational functions. Its reason of existence has shifted from a place for a whole family to live and be able to work and subsist from the exploitation of the resources provided by the environment and their specific location; to a place of recreation, of aesthetic and monumental value in which temporary accommodation is provided, allowing to rest and explore the surrounding landscape, taking advantage of its environmental qualities. Newly added elements or adapted ones have the goal of facilitating these new functions. (Source: Spatial survey, picture archives, and interviews to local and external users. Elaboration: Author 2021.

on the other hand, are creating in rural mountain territories. Firstly, the adaptation of vacant heritage spaces for recreational use contributes to balance the distribution of tourism in the territory by reaching the smaller settlements and more remote areas, whose economy and life conditions are often weaker than in the bigger and urbanized towns.

This enables maintaining the population in small communities, where traditional -agricultural- practices can be combined with tourism-related activities. Supporting these small communities is crucial to maintain a strong network of settlements that structure and guard the territory. This case shows that certain limitations which in the past hindered the well-being of local inhabitants, like their remote and higher location, might become opportunities under new conditions, providing more quiet, authentic and environmentally qualitative spaces.

Secondly, the state of vacancy of this cultural landscape, due to the disappearance of human activity in it, has triggered its slow transformation. In this new landscape, human traces from the past merge with a newly regenerated nature which progressively invades these spaces. Aesthetic, cultural and natural values embedded in the

landscape, and appreciated by visitors who look for other types of natural and cultural recreation, allow generating new activities, de-seasonalising tourism.

Lastly, the observation and recognition of the qualities and potential of these depopulated cultural landscapes have enabled the adaptation of existing spaces instead of creating new ones. It generates a double sustainable achievement: on the one hand, it avoids the generation of extra spaces and infrastructures which distort the landscape, and on the other hand, it allows the maintenance and adaptation of heritage by giving it a new use and contributing to preserving the local identity.

At the same time, the different strategies developed reveal to make a positive impact for the challenged local communities and a great potential towards the future.

In the first place, considering the change of scale of the territory thanks to the improvement of mobility allows broadening the perspective on the opportunities that the area can provide for the intervention. It consists of exploring interesting locations and available services in the surrounding territory and incorporating them into the proposal. On the other hand, it enables to reflect on the benefits that the new intervention can also generate for other settlements and the territory's organization.

In the second place, intervening sensitively in the existing cultural landscape allows integrating the new proposal while maintaining its qualities. It requires meditating, finding a balance of adaptation between the existing spaces and the new program, not letting one overcome the other. The progressive disappearance of traditional productive practices that shaped these cultural landscapes, which are often less efficient and more demanding, can find in tourism synergies that allow to adapt these practices and maintain the landscape.

Finally, maintaining cultural values of heritage spaces while adapting them to the new functional needs enables to enhance new activity in the area, and at the same time to maintain the local character. The ruins are understood as buildings to be reconstructed and an interesting conglomerate of internal and external qualitative spaces, which can host new activities and establish different relations with its transformed cultural landscape. It implies finding ways to integrate the spaces that external visitors can enjoy while supporting and not displacing local residents. Visitors, tourists and new inhabitants do not belong to the original community who used to live actively in these places. However, under changed conditions, these new users' sustainable integration can help maintain and reinforce the remaining members of this rural community.

In this adaptation, the meanings that this place has for external visitors should coexist with the meanings they have for the locals so that all of them benefit from it.

The processes of subsequent transformations -decline and spatial change after abandonment, and adaptation of the remaining spaces through the new strategies developed-, reveal the intrinsic definition of the concept of "vernacular" places: they are existing spaces that evolve and adapt to the needs imposed by time and its environment, between the aspirations of the users and the natural/socio-economic constraints, but which ultimately remain functional and practical, supporting the local community to which they belong. The vernacular must adapt, change and develop, acquiring permanently new forms, functions, and meanings through its strong capacity to generate new conditions. It unveils the ultimate social and not aesthetic condition of vernacular heritage at the service of their community. That way, these findings claim that heritage is future-oriented and not static if it aims to continue being useful and therefore to exist.

To conclude, it needs to be highlighted that there are other recreational uses, besides accommodation, which are being developed, often in more inaccessible locations or where intervening in the vacant spaces is not possible. The ruins of many of these settlements become places to explore through recovered paths that connect them through this new landscape where natural and cultural elements merge. The interventions which enable this other type of use of the spaces are much smaller. At the same time, tourists are only one of the groups of new users who, together with local inhabitants, are interested, coexist and intervene in these cultural landscapes under transformation. Other agents like authorities, investors, returning inhabitants, neo-rural and non-human users also participate in this process through their practices. The biggest challenge consists of finding strategies to mediate among them, preserving the existing embedded values estimated by the different external and local users while adapting them and providing the necessary conditions which enable local communities to continue inhabiting these rural areas.

## References

- Berizzi, C. & Rocchelli, L. (2019). *Borghi Rinati. Paesaggi abbandonati e interventi di rigenerazione*. Padova: Il Poligrafo.
- CAB Arquitectura. (2000). *Plan Director de Isín*. Zaragoza.
- Carlow, V. (2016). *Ruralism. The future of villages and small towns in an urbanizing world*. Berlin: Jovis.

- Chauvelier, F. (1990). "Reboisements et désorganisation de l'espace dans le haut Aragon". *Revue géographique des Pyrénées et du Sud-Ouest*, 61 (4).
- Collantes, F. & Pinilla V. (2004). "Extreme Depopulation in the Spanish Rural Mountain Areas: A Case Study of Aragon in the Nineteenth and Twentieth Centuries". *Rural History*, 15 (2).
- Coomans et al. (2019). *Mapping landscapes in transformation. Multidisciplinary methods for historical analysis*. Leuven University Press.
- Corboz, A. (1983). "The land as a palimpsest". *Diogenes* 31 (121).
- DGA. (2005). *Directrices Parciales de Ordenación Territorial del Pirineo Aragonés*.
- Di-Figlia, L. (2016). "Turnaround: abandoned villages, from discarded elements of modern Italian society to possible resources", *International Planning Studies*, 21 (3).
- ESPON. (2017). *Shrinking rural regions in Europe*. Luxembourg: ESPON.
- EUROSTAT. (2018). *Regional Yearbook*. Luxembourg: European Union.
- Filipe, M. & Mascarenhas, J. (2011). "Abandoned villages and related geographic and landscape context: Guidelines to natural and cultural heritage conservation". *European Countryside*, 1.
- Fiore, P. & D'Andria E. (2019). *Small towns: from problem to resource. Sustainable strategies for the valorization of building, landscape and cultural heritage in inland areas*. Milano: FrancoAngeli.
- Frampton, K. (1983). "Towards a critical regionalism: six points for an architecture of resistance". In *The anti-aesthetic: essays on postmodern culture*. Seattle: Bay Press.
- Gantois, G. & Schoonjans, Y. (2014). "The architect as a mediator between the built heritage and the social construct". *Creative Adjacencies - New Challenges for Architecture, Design and Urbanism*.
- García, J. & Lasanta, T. (1996). "Land-use changes and sustainable development in mountain areas: A case study in the Spanish Pyrenees". *Landscape Ecology*, 11 (5).
- García, J. & Lasanta, T. (2018). "El Pirineo aragonés como paisaje cultural". *Pirineos*, 173.
- ICOMOS. (1979). *Comité international d'architecture vernaculaire*. Plovdiv.
- ICOMOS. (2017). *ICOMOS-IFLA Principles concerning rural landscapes as heritage*.
- Jackson, J.B. (1984). *Discovering the Vernacular Landscape*. Yale University Press.
- Krarup, J.M. (2016). "Rural Land(scapes). Lessons to be learned (?)". In *Ruralism: The Future of Villages and Small Towns in an Urbanizing World*.
- Lokman, K. (2017). "Vacancy as a laboratory: design criteria for reimagining social-ecological systems on vacant urban lands". *Landscape Research*, 42 (7).
- López, F. (2013). "Isín, un pueblo con dos vidas." *Serrablo*, no. 166 (July).
- Marín, S. (2018). *Pueblos recuperados en el Altoaragón*. Huesca: DPH.
- Oswalt, P. (2006). *Shrinking cities*. Hatje Cantz
- Plieninger, T. & Bieling, C. (2012). "Connecting cultural landscapes to resilience". In *Resilience and the Cultural Landscape: Understanding and Managing Change in human-shaped Environments*.
- Rossi, A. (1982). *The architecture of the city*. New York: MIT Press.
- Ruiz, A. & Cañizares, M. (2020). "Enhancing the territorial heritage of declining rural areas in Spain: towards integrating top-down and bottom-up approaches". *Land*, 9.
- Schirpke, U. et al. (2019). "Change from agricultural to touristic use: Effects on the aesthetic value of landscapes over the last 150 years". *Landscape and Urban Planning*, 187.
- Selman, P. (2006). *Planning at the landscape scale*. Oxon: The RTPI Library Series.
- Silva, R. & Fernandez, V. (2017). "El nuevo paradigma del patrimonio y su consideración con los paisajes: Conceptos, métodos y perspectivas." *Documents d'Anàlisi Geogràfica*, 63 (1)
- UNESCO. (1992). "Definition of cultural landscape". in *World Heritage Convention*.
- Woods, M. (2012). *Rural*. Oxon: Routledge.

## Introduction

In Italy, every time an earthquake occurs, the Civil Protection Department, in coordination with the territorial bodies of the municipalities affected by the event, immediately activates its crisis unit to organise rescue and assistance services for the populations affected, as well as the first measures to make buildings and infrastructure safe. At the end of this first phase, the Provincial Coordination Centres for the emergency management give operational instructions to the local authorities to avoid a sudden and unexpected event that may lead to incorrect solutions because of haste or contingent problems.

The case of Finale Emilia is very important because it represents a valid example of post-earthquake reconstruction and urban regeneration: two important architecture questions on an urban scale and buildings that are still at the heart of international debates. This experience makes it possible to make reflections and give answers to the problems inherent in the various sectors involved in reconstruction: from those most closely linked to restoration, recovery, seismic safety and socio-economic factors to those concerning energy redevelopment and environmental sustainability.

The present work aims to take stock of the positive and critical aspects by retracing the most important moments of the reaction to the earthquake events of 20 and 29 May 2012 and highlighting the institutional actors and the operational tools used in order to face the phases of an emergency, transition and therefore reconstruction.

The city of Finale Emilia is an Italian municipality in the province of Modena, in the region of Emilia Romagna, which is part of the Unione Comuni Modenesi Area Nord. It has an area of 104.72 Km<sup>2</sup> with 15,699 inhabitants and a density of 149.9 inhabitants/Km<sup>2</sup>.

The presence of the Panaro river has conditioned the historical evolution of the centre of Finale Emilia. At the end of the 19th century, the river course was diverted, but the ancient traces can be seen in the urban fabric even today. The town has a medieval layout, and the oldest nucleus is in the area between the Torre dei Modenesi, the

Rocca and Via Torre Portello. The extension of the ancient centre remained unchanged until the 15<sup>th</sup> century.

In 1536 the medieval walls and many towers were demolished, and the moats were filled in on the same year. In the 13th century, a dock was created at the foot of the Clock Tower, and a small river port was built to control navigation between the cities of Modena and Ferrara. The ancient town was called by historians the "Venice of the Este" for its romantic appearance given by the presence of canals and bridges. At the end of the 19th-century, Finale Emilia changed its urban layout after the closing and silting up the Panaro River. Agriculture became the main activity of its inhabitants until 1973, when the industrial pole was built in the peripheral area of the town between the hamlets of Canaletto and Ca' Bianca (Pianzi, 1995).

## Earthquake: description of some case studies

On 20 May 2012, at 4.04 a.m., a first earthquake measuring 5.9 on the Richter scale struck the northern Italian territories with its epicentre located between three municipalities: Finale Emilia, San Felice sul Panaro and Sermide in the Emilia Romagna region<sup>1</sup>. In the same area, just nine days later, on 29 May at 9 a.m., a second tremor of magnitude 5.8 on the Richter scale was recorded. The epicentre this time is located between the municipalities of Cavezzo, Medolla and Camposanto.

Finale Emilia suffered significant damage to both monuments and dwellings in the historic centre and the suburban areas rich in rural buildings and productive activities (Pianzi, 1997). At the time of the earthquake, there were 600 active farms, almost all of which were declared unfit for use after the earthquake<sup>2</sup>.

Immediately after the rescue operations of the population and the first securing of the damaged buildings<sup>3</sup>, the problems that had to be faced, to which procedural solutions had to be found, were complex because they differed according to the type of area, urban or rural (Figs. 1-2), and within each of them, according to the legal ownership, public or private (Figs. 3-4), of the damaged assets.



**Figure 1.** Building in the urban area. Source: A. Cattaneo.

The theme, on which a profound reflection was developed, concerned the methodology to be adopted in order to address the issues related to: the reconstruction of the historic centre and the rural landscape; the regeneration of the fabric<sup>4</sup>; the reconfiguration of voids; the re-contextualisation of certain monuments; the organisation of temporary structures for education, public services, religious functions, and commercial activities. The strong point of the reflection was the awareness, on the part of all the public and private actors involved in the reconstruction process, that it was necessary to evaluate each intervention, even if small in size, at different scales (Cattaneo, 2013).

Therefore, it was decided that it was necessary to address



**Figure 3.** Public building in an urban area: the Castle Estense. Source: A. Cattaneo.



**Figure 2.** Building in the rural area. Source: A. Cattaneo.

and develop issues related to urban and/or territorial aspects for each case. For interventions in historical centres and non-urban historical centres, Regional Law no.16, "Regulations for reconstruction in the territories affected by the earthquake of 20 and 29 May 2012", highlighted the need for an integrated approach<sup>5</sup>. This must be achieved through "the protection and enhancement of the ancient urban layout, in order to ensure the recognisability of the settlement structure and the stratification of the formation processes, both in the road network and in unbuilt spaces, and the building heritage and other elements of the built heritage" and must be able, at the same time, to recover the main identity elements of the local communities (buildings and artefacts of the urban and rural fabric).



**Figure 4.** Private building in urban area. Source: A. Cattaneo.

## Management policies implemented for reconstruction

The experiences of the earthquakes that have occurred in the last decade show that the phases concerning the management and coordination of technical activities after each seismic event are the most complex and require a great commitment because it is necessary to address both problems related to social aspects and those of a technical nature (Mariani, 2016). This becomes even more complicated because the affected territories are always made up of different urban or extra-urban centres for their morphological complexity and urban planning conditions and arrangements. The necessary premise to be made before going into the merits of the management strategies adopted is linked to the fact that the earthquake occurred in an Italian region that was not classified as seismically active.

Hence, the 2012 event was an exceptional case that took institutions and populations by surprise. Due to the absence of a regulatory and strategic framework at the national level, the ways of responding to the disaster have been defined progressively, taking as reference the experiences of the last Italian earthquakes regarding the strategic choices (Storchi et al., 2013).

The management policy adopted by the institutional bodies of Emilia Romagna to deal with the disaster event had four basic conditions to be met:

1. The involvement of all institutional levels at the consultation tables;
2. The containment of the risk of depopulation of the areas hit by the earthquake;
3. Reconstruction intended both as an opportunity to enhance the landscape and as a technical and qualitative adjustment of the building fabric;
4. The achievement of the right balance between innovation and conservation (Capriotti, 2014).

Therefore, a hierarchy of interventions was defined that guided the actions of the institutions. In the phase that concerned the management of the emergency, the work of the Commissioner delegated by the Government for reconstruction was fundamental because, through the instruments of action constituted by the ordinances, all the prescriptions for the management of the earthquake (temporary housing, provisional works, private reconstruction, restore of businesses, reconstruction of the civil service) were promptly provided. After the earthquake, inspections by Civil Protection technicians in the affected territories began immediately; in Finale Emilia alone, 4000 AeDES (Agibilità e Danno nell'Emergenza Sismica) forms

were compiled.

These cards were fundamental as they were valuable tools for the rapid survey of the damage and typological characteristics, the definition of intervention measures, and the assessment of ordinary buildings' post-seismic fitness. Thanks to them, the municipality of Finale Emilia was able to catalogue the damaged building heritage with an initial assessment of repair and/or improvement costs. All this made it possible to prepare cost scenarios for different unit contributions associated with varying damage thresholds.

Fundamental to the rebirth of the territories affected by the earthquake was the particular Regional Law no. 16 of 2012, "Rules for reconstruction in the territories affected by the earthquake of 20 and 29 May 2012", which gave the principles to be followed for post-earthquake reconstruction and introduced a series of tools that we are able to accelerate the reconstruction process<sup>6</sup>.

In particular, this law introduced an instrument of a programmatic nature - Programme of public works and interventions for the recovery of cultural heritage damaged or destroyed by the earthquake (art. 11) - and one of a planning nature - Reconstruction Plan (art. 12).

In 2013 the municipality of Finale Emilia adopted its own reconstruction plan - whose potential lies in the resolution of territorial criticalities - in order to provide all the necessary provisions to ensure the resumption of activities and the regeneration of living and working conditions, also improving the layout of the historic centre through both the enhancement of the recognised and still readable peculiarities as preserved and through the creation of new values where the earthquake has cancelled the original ones. Through it, the municipal administration has regulated:

1. The urban transformations within the reconstruction;
2. Urban incentives and rewards aimed at favouring the rapid and complete implementation of repair works, restoration with seismic improvement, reconstruction to achieve higher levels of seismic safety and greater energy efficiency as well as a better qualification of the urban and extra-urban axes;
3. Variations to the cartographic and regulatory forecasts of the current planning to promote repair, restoration and reconstruction work.

In addition, the following actions were carried out:

1. The definition of the perimeters of the minimum intervention units (U.M.I.);
2. The revision of protection constraints;
3. The identification of the areas of the municipal territory not suitable for the reconstruction of buildings;

4. The census of buildings to be relocated to improve the functionality of existing services and infrastructures for mobility;
5. The mapping of incongruous works and the definition of the transformation interventions to be carried out for their partial or total elimination to re-qualify the landscape and architecture.

The planning strategy was to place at the centre of the reconstruction process: the reinterpretation of urban functions; the protection, preservation and enhancement of the historic centre and cultural heritage; the consolidation of productive sectors and development; the preservation of agriculturally productive land and the improvement of the rural landscape; the promotion of multifunctional farms. At the I.T. level, the management of practices has been entrusted to the M.U.D.E. (Modello Unico Digitale per l'Edilizia) system to pay for housing subsidies.

This I.T. Platform facilitates the exchange of information and knowledge, especially in emergencies. Its use has simplified the administrative procedures through a unified online form to submit building applications at the regional level. The SuapER (Sportello Unico Attività Produttive Emilia Romagna) is used for productive activities. It is a portal of Emilia Romagna allows enterprises and professionals to generate dynamically, fill in and send online the necessary documentation to send a file to the S.U.A.P. (Sportello Unico Attività Produttive). On the other hand, S.F.I.N.G.E. is used for contributions and facilitated financing to enterprises, therefore for the recognition and granting of contributions for the repair, restoration, reconstruction of buildings for productive use, for the repair and repurchase of movable assets instrumental to the activity, for the re-constitution of stocks and products and de-localisation.



Figure 5. Interventions in urban area. b



Figure 6. Interventions in rural area. Source: A. Cattaneo.



*Figure 7. Interventions in rural area .Source: A. Cattaneo.*

Finally, F.EN.I. C.E. (Financing to Public Bodies for Building Reconstruction) is the system for managing reconstruction interventions of the Public Works and Cultural Heritage Programme.

Equally important, within the reconstruction process, is the role played by the Commission for Architectural Quality and Landscape<sup>7</sup> as it provides criteria and guidelines to support the planners who develop the transformation projects (Figures 5-6). For the C.Q.A.P. (Commissione Qualità Architettonica e Paesaggio), it is necessary to overcome the conception of architecture as an "object" to arrive at that of architecture as a "structure of relationships", where the necessary condition for its "quality" is the establishment of significant relationships of interdependence with the environmental context with which it relates.

## Conclusions

The reconstruction of Finale Emilia, like that of the other towns affected<sup>8</sup>, differed from previous experiences. The aim was to rebuild in a short time and take the opportunity given by the catastrophic event to revitalise areas that had lost their identity over the years. For Finale Emilia, the earthquake was an opportunity for a new life. As a reaction to the destruction, projects for the redefinition of the physical urban and extra-urban scenario were drawn up and, in part, already implemented, contemplating all the potential uses linked to it. The new buildings have not altered the material and symbolic value of the urban and suburban realities, but, thanks to the quality of the projects, new values and hitherto unexpressed possibilities for reuse have arisen. The most significant difficulty encoun-

tered was guaranteeing the maintenance of a balanced relationship between conservation and innovation. Indeed, working on a pre-existing building was a very difficult challenge for the planners compared to designing a new one, as they were faced with many more constraints to respect. Still, in the case of Finale Emilia, they became precious opportunities to think of new and refined solutions. In the rural context, reconstruction has instead represented an opportunity to relaunch agricultural activities towards a correct use of resources with the new awareness of seeing the landscape as the element of productive innovation and the rooting of new multifunctional farms. Furthermore, agricultural activity has been recognised as playing a central role in achieving environmental and territorial sustainability.

It is possible to conclude with a summary<sup>9</sup> of the results achieved to date, demonstrating that the great reconstruction machine has worked thanks to the management policies adopted and the great strength of will of the population in wanting to reconstitute the wounded identity of their territories:

- Housing reconstruction: 6,942 buildings have been completed; grants totalling 2.7 billion Euro have been awarded on the M.U.D.E. Platform; grants paid out amounted to 2 billion euro or 76% of the grants awarded;
- Productive reconstruction: 1980 interventions were completed; concessions were concluded for a total of €1.9 billion in grants on the S.F.I.N.G.E. Platform; grants settled amounting to €1.4 billion or 57% of the grants awarded;
- Public reconstruction: 1,659 projects funded for a total of €1.379 billion; 1,001 projects submitted for a total of €965 million; 741 projects approved for a total of €519 million.



## Note

<sup>1</sup>The Emilia Romagna earthquake ranks eighth in the Italian ranking of catastrophic earthquakes: Belice (1968); Friuli Venezia Giulia (1976); Irpinia (1980); Umbria/Marche (1997); Pollino (1998); Molise (2002); Abruzzo (2009). The crater affected 33 municipalities, of which 7 in the province of Reggio Emilia, 14 in the province of Modena, 5 in the province of Bologna and 7 in the province of Ferrara. The number of inhabitants in these areas is 550.000.

<sup>2</sup>The 2012 earthquake in Emilia Romagna is remembered as the 'earthquake of productive activities' because the areas affected had a high concentration of agricultural, agri-food, industrial and handicraft companies, with the presence of production districts of international importance. Until 2012 the 48.000 companies in the crater area produced about 2% of the national G.D.P.

<sup>3</sup>In the damaged areas, 1445 interventions were carried out on various types of assets (cultural, public, cemeteries, water safety, schools, social and health facilities, roads, sports facilities) for total expenditure, financed by the Italian State, of 160.7 million euro. In the province of Modena alone, 928 operations were carried out for 102.3 million euros.

<sup>4</sup>In particular, for the Jewish Ghetto district. The earthquake highlighted the problem of the depopulation of this part of the city, due both to the oversupply of housing, compared to the real economic demand of the local market, and to the citizens' perception of the lack of security in the area, together with the poor connections with the rest of the city.

<sup>5</sup>art. 5 L.R. 16 of 21/12/2012.

<sup>6</sup>This law will remain in force until all reconstruction work is completed.

<sup>7</sup>The commission is made up of six members (an expert in structural design; an expert in architectural design; an expert in urban planning; an expert in soil conservation; an expert in the enhancement of the rural environment), and the author Alessandra Cattaneo is a member of it in her capacity as President of the C.Q.A.P. with the role of an expert in cultural heritage and architectural history.

<sup>8</sup>Cavezzo, Concordia sulla Secchia, Mirandola, Novi di Modena, San Felice sul Panaro, Medolla, Camposanto, San Prospero, San Possidonio for the province of Modena; Sant'Agostino, Mirabello, Bondeno, Cento, Poggio Renatico e Vigarano Mainarda for the province of Ferrara; Crevalcore, Pieve di Cento for the province of Bologna; Reggiolo for the province of Reggio Emilia.

<sup>9</sup><https://www.regione.emilia-romagna.it/terremoto/speciali/sette-anni-di-ricostruzione>.

## References

- Cattaneo, A. (2020). *Tutela, valorizzazione e manutenzione delle "città morte". Le esperienze di management pubblico e privato in Italia*. Roma, TabEdizioni.
- Baratin, L., Cattaneo, A. (2019). "Urbino per bene": a participated and sustainable project for the safeguarding and conservation of the historic center". In P. Fiore, E. D'Andria (Eds.), *Small towns...from problem to resource. Sustainable strategies for the valorization of building, landscape and cultural heritage in inland areas* (pp. 649-658). Milano, FrancoAngeli.
- Mariani, M. (2016). *Sisma Emilia 2012. Dall'evento alla gestione tecnica dell'emergenza*. Bologna, Pendragon.
- Capriotti, P. (Ed.). (2014). "Ricostruire l'emergenza. Cronologia della gestione istituzionale del terremoto in Emilia e una sintesi tematica". Bologna, Regione Emilia Romagna.
- Cattaneo, A. (2013). "Architettura e città: una questione di restauro". In G. Scalora, G. Monti (Eds.), *Città storiche e Rischio sismico - Il caso studio di Crotona* (pp. 26-43). Siracusa, LetteraVentidue.
- Storchi, S., Toppetti, F. (Eds.). (2013). "Le forme della ricostruzione. Terremoto Emilia". Bologna - Firenze, Alinea Editrice.
- Pianzi, G. (1997). *I fabbricati rurali. Le case ad elementi separati*. Finale Emilia, Baraldini.
- Pianzi, G. (1995). *I fabbricati rurali*. Finale Emilia, Baraldini.

## Introduction

In view of an ecosystem approach for the affirmation of sustainable development, as required by the 2030 Agenda, in which the impact of the economic and environmental dimension in the transformation processes of the territory is assessed as the cultural and social one, the goal of communities' resilience can be translated into an attempt to enhance the endogenous potential, to stem the erosion of the material and immaterial heritage and to stimulate its regeneration.

This change of point of view «explicitly recalls the responsibilities of all sectors of society - from central and local governments to companies, from civil society to individual citizens» (Pagano, 2019: 2) and therefore gives the social component the structuring capacity of the settlement space where the community, with its own ideas, builds our common home according to that vision of integral ecology indicated by the papal encyclical *Laudato si'*; it brings out a layer of the urban ecosystem that is characterised, today more than in the past, by the relationship of increasingly plural identity systems whose expression responds to different dynamics which share the desire to affirm a link to historical, cultural and social values and the ability to transfer and take root this link in the territory.

The spatial processes that derive from it although often spontaneous, not systematic, short-lived, can be interpreted as new meanings and urban values bearers and mirrors of a social dimension that perceives, before the institutions governing the territory, needs and problems and suggests, with more rapidity, answers and solutions.

They are phenomena that occur more frequently in territories that live the transition from the periphery to places with a clearly definable social, economic and cultural identity and those that, on the contrary, have a clear administrative condition but live a marginal dimension in the new metropolitan city structure; in these places, searching for informal urban strategies, born within public and non-public institutions, can mean identifying methodologies and tools helpful in defining strategies for transforming and governing the territory, which can respond to the

needs of creative communities that, in the search for a more active role in the urban ecosystem, try to establish new systems of values based on the sharing of responsibility and the reasonable consumption of common resources, for a new ecology of living.

Because of the ecological crisis and the growing social dissimilarities, the search for sustainable models to combat urban poverty is increasingly materialised by creating resilient communities that seek their own territorial identity and want to make it durable over time by virtue of their own same operate.

The following contribution compares the path of two different communities, belonging to territorial contexts with different marginal conditions and potentialities, one more lively, the other more diffident, both engaged in an open dialogue that has among the objectives of establishing a relationship between the well-being of the inhabitants and urban quality.

When, for the first time in 2018, the Calabria Region presents a call for the "Support for the generation of innovative solutions to specific problems of social importance, including through the use of open innovation environments such as LivingLabs", both communities participate expressing their needs<sup>1</sup> and, through public institutions and organisations that are spokesmen, they each participate in the construction of their own LivingLab, «an open and user-centred ecosystem, able to accelerate large-scale adoption of innovative technologies and services co-created with the users themselves»<sup>2</sup>.

An opportunity is offered by the regional call to shape the spontaneous expressions of the inhabitants of the Pellaro district, a southern suburb of the city of Reggio Calabria, and of a small town in the homonymous metropolitan city, Roghudi, by experimenting for the first time in these places - where an informal dialogue with the community has already been initiated for some time in different ways - thanks to LivingLab, a structured formula for combining policies and practices and ensuring a wide sharing for all territorial actors, not only of the results but above all of the co-generation processes that precede their achievement.

## New value systems for territories in transition

Pellaro is a suburb of Reggio Calabria that has more than 13,000 inhabitants and presents a clear state of socio-economic degradation (high unemployment, school dropout, crime, urban poverty, etc.) as well as environmental. In the neighbouring areas of the urban centre, despite the presence of quality agriculture, the landscape of great value appears to be in decline and abandonment. Added to this is the presence of large surfaces and buildings with significant volumes placed strategically in the territorial fabric but underused, unused, in a state of neglect. Thanks to the particular geomorphological conformation of the Strait on which it faces, however, Pellaro is a tourist destination that knows no seasonality: the Punta Pellaro beach, just 3 km, is, in fact, one of the windiest places on the Euro-Mediterranean sector, and therefore a destination for kite and windsurfing enthusiasts from all over Europe. This context is the subject of various occasions for reflection, of which the first is applied theoretical research carried out by the Research Unit of the Mediterranean University of Reggio Calabria<sup>3</sup> within the Research Program of Relevant National Interest "Re-cycle Italy" and in-depth in the Thesis "The Wind Park: a new life cycle for Pellaro"<sup>4</sup>. The tested method sees the start, in 2016, of a participatory process through the constitution of two Focus Groups representative of the different social categories to interpret aspirations and points of view of the community of inhabitants. The preliminary results are further investigated on the occasion of the first UIA\_Urban Innovative Actions call, an initiative launched by the European Commission, through the definition of an integrated project that proposes urban, environmental, landscape, economic and social regeneration actions.

The outcome is the definition of a Masterplan that is structured in material and immaterial actions, whose objective is to initiate for Pellaro district a new life cycle, starting from both naturalistic and environmental excellences and the most degraded conditions for which prefigure virtuous processes of regeneration and circular economy.

In the same year, Pellaro was chosen as a candidate for participation in the national Culturability initiative, a platform open to cultural and social innovation projects that promote well-being and development in the name of sustainability. The project CulturACT3: Territorial Cultural Accelerator, proposed by the APICE Association, aims to generate a territorial, cultural incubator, is among the 15 finalists of 2016. Meanwhile, the ten material actions proposed for the UIA calls become part of the strategic works

financed by the Pact for Reggio Calabria Metropolitan City. They include, among other interventions, the creation of a multi-ethnic market; two slow mobility routes; a coastal park; a river park; an agricultural park; the re-functionalisation of a confiscated asset; the recovery of the rural village Nocille; the establishment of a territorial HUB in the premises of the former slaughterhouse made available by the Municipal Administration.

To stimulate the definition of the contents of the Territorial Hub - while designing the container - in 2018, the working group of the Mediterranean University that had participated in the preparation of the master plan promotes the Forum Rigenerare Pellaro.

It is an important moment of reflection on the tourist and cultural potential of the context but above all on the potential of a cohesive community represented by numerous associations with which it is possible to imagine implementing a virtuous process for the development of unexpressed territorial potential thanks to the interaction between a horizontal system of scientific competences and a vertical system of territorial actors.

The Forum is hosted by ACE (Calabrian Association of Hepatology), which in 2010 realised the first clinic in Pellaro for the activity of specialist assistance based on the principles of solidarity and gratuitousness thanks to some volunteers who identified an already existing but never realised health facility in the area, left to neglect and vandalised. Making its own reflections born within the Forum on the relationship between urban health care and human care, the Foundation for Solidarity Medicine, established in 2017 by the same Association, together with other subjects of civil society, embarks on a path of scientific research aimed at reducing the social, economic and cultural problems as well as those related to urban poverty that contribute to the generation of chronic degenerative diseases<sup>5</sup>.

Precisely in order to share its approach with more subjects, in addition to the academic world already present in the start-up phase and to the community of operators and patients orbiting around the clinic's activities, in 2018 the Foundation for Solidarity Medicine participates in the first phase of the regional LivingLab call for guidance on the health paradigm centred on prevention more advantageously in terms of concrete well-being of the citizen and, at the same time, to map the areas with greater "urban suffering" through the direct experience of the user; a sort of open-source model that allows reviewing the traditional urban planning based on truly participatory indicators also supported by scientific data.



**Figure 1.** Consultation of the associations of Reggio Calabria for the launch of regeneration projects of degraded neighborhoods - ph Chiara Corazzieri

### **New spatial qualities for moving communities**

The community that today inhabits the municipality of Roghudi - 1137 inhabitants - is formed by that population which, having abandoned Roghudi Vecchio, a mountain village 40 km away, following the floods of 1971 and 1973, received the assignment of a house in the new centre, near the Ionian coast, but only in 1988.

During the evacuation and new accommodation period, the original community was dispersed in nine different centres; the present community was already very small. Therefore, at the time of the assignment of the new houses, moves a small movable material heritage and a conspicuous intangible heritage into a distant building, by geography, chronology and morphology from that left now 16 years earlier.

Compared to the old town, Roghudi Nuovo offers uncertain living arrangements: the houses are articulated on rows that are too long, too far from each other to re-create a community; this without the resulting public space being designed in any way except to trace the oversized connective system. It follows that since the first occupation, the country suffers a second, slow abandonment, finding itself today in the paradoxical condition of hosting a built heritage used only for a third and that has failed to translate the cultural identity still preserved by the first inhabitants into effective enhancement solutions nor to formally re-propose to meet the current needs of a multi-ethnic community - the foreign population, predominantly Indian, has 154 units - which, on the other hand, are expressed with spontaneous forms of use of space, public and private.



**Figure 2.** *Regeneration projects of degraded neighborhoods - ph Chiara Corazzieri*

The most evident datum is the frequency with which the inhabitants of Roghudi manifest their “spatial necessities”, both with enlargements in height or adjacent to their homes often accompanied by the re-modulation of the openings and equipping the areas with public greenery to carry out private activities.

In both cases, it is not a question of housing needs. As already mentioned, the real estate of Roghudi is exploited only for a third, and the uninhabited buildings can be purchased or leased for figures accessible to anyone.

They are gestures that express, rather, the need to break the linearity of continuous houses, all the same, to add a personal character, which is better suited to different ways of using space, private and collective and to replicate forms of conviviality proper to the past or other cultures that, today, populate Roghudi.

To guide the community in overcoming a condition that sees it trapped in an anonymous settlement, the alibi of

an inability, not only of the inhabitants, to build a vision that contrasts a new depopulation, in 2017 the Municipal Administration of Roghudi promotes the Program of urban and landscape regeneration re\_imaging Roghudi <sup>6</sup>.

The participated workshop that inaugurates the program starts, for the first time, a dialogue with the inhabitants, the administrators, the representatives of the companies and associations operating in the area and translates into a physical space of confrontation on the theme of urban regeneration and the landscape at the various scales of intervention - inter communal, municipal and punctual - to be understood as the set of interventions ranging from the re-qualification and rehabilitation of the built environment to the realisation and re-signification of public spaces and the mobility system, to the increase of biodiversity in the urban and rural environment, to the correct interpretation of the identity heritage, not only of Roghudi but of the entire Grecanica Area<sup>7</sup>, for old and new communities.

The attempt is to collect suggestions, and visions need to begin to prefigure a place that is no longer the ugly duplication of an irreproducible past but a radical affirmation of one's autonomy. The material developed during the workshop - texts, videos, images, drawings, projects - has fueled the belief that even in Roghudi, it is possible, as well as necessary, «[...] to trigger a "short circuit" that leads to imaginative prefiguration and visions, necessary to exit the current stall condition.

An approach that is realised in radical, visionary, but adaptive and contextual projects at the same time, adhering to the real, to places, to stories, to legends, to collective rituals, without disregarding the active involvement of the community of inhabitants» (Giofrè, 2019; 21-22).

In 2018, to support and support the idea of triggering a short circuit starting from observing what was expressed by the community, the re-imagining Roghudi program promotes participation in the regional LivingLab call.

The Municipal Administration feels it should interpret the minor building abuses of the inhabitants as symptoms of a social need and as an opportunity. It would like to "lead" the community in the process of identity redesigning. The design solutions proposal shall allow to the recovery of the material and immaterial memory of the old inhabited area and, at the same time, respond to the needs of today's living, with "controlled expansion" formulas consistent with the normed opportunities, such as the Housing Plan, and municipal planning, such as the Green Plan; it also provides for the allocation of large areas of municipal land to the cultivation of private gardens according to a regular allocation and a symbolic location. Translating the needs expressed by the community into innovative design solutions can mean starting to trace a new sign that is the generating force and result of a deeper social cohesion and a renewed sense of community in the current inhabitants, and that is able to attract new ones.

## Conclusions

In both experiences, the desire to build, through the Living-Lab method, a discussion table with different interlocutors and carriers of a different competence and point of view, appears as the natural expression of two processes, still in progress, which have different ways and times in expressing oneself but which are both fed by stimulation provided by the community, more or less aware, but which in creativity, in self-organisation, seek an answer to a condition of precarious identity, in the case of Roghudi, and of physical degradation, in the case of Pellaro.

**forum rigenerare PELLARO**

**16 FEBBRAIO 2018**  
**Centro ACE Pellaro**  
**ORE 15.00\_17.00**

ore 15.00  
**APERTURA DEI LAVORI**  
**GIUSEPPE FALCOMATÀ**  
*Sindaco di Reggio Calabria e della Città Metropolitana*

ore 15.15  
**PRESENTAZIONE DEL MASTERPLAN C.A.P.A.CITY**  
*Dieci azioni per una visione condivisa a cura di Chiara Corazzieri ed Elvira Stagno*

**CONCETTA FALLANCA**  
**VINCENZO GIOFRÈ**  
**GIOVANNI SPAMPINATO**  
**CARMELO MUSARELLA**  
**ANTONIO TACCONE**  
*Università degli Studi Mediterranea di Reggio Calabria*

ore 15.45  
**INTERVENTI PROGRAMMATI**

**CARMELO CASERTA**  
**ANTONIO CATANOSO**  
**FRANCESCO LO GIUDICE**  
**GIOVANNI MALARA**  
**CONCETTA ROMEO**  
*Rappresentanti del mondo dell'associazionismo di Pellaro*

ore 16.15  
**CONCLUSIONI**

**GIUSEPPE MARINO**  
**PIETRO FOTI**  
*Amministrazione Comunale e Città Metropolitana di Reggio Calabria*

**SALVATORE VERMIGLIO**  
*Presidente Ordine Architetti CCP della provincia di Reggio Calabria*

Con la redazione del masterplan del progetto C.A.P.A.CITY, il gruppo di lavoro dell'Università Mediterranea ha partecipato, come partner dell'Amministrazione Comunale di Reggio Calabria, alla prima Call for Proposals UIA\_Urban Innovative Actions, iniziativa lanciata dalla Commissione Europea. A seguito dell'Accordo Quadro stipulato tra il Comune e l'Università Mediterranea di Reggio Calabria e al fine di procedere alla razionalizzazione delle iniziative già intraprese, dalla visione condivisa del masterplan del progetto C.A.P.A.CITY, si propone l'avvio, a Pellaro, di un Laboratorio partecipato sulla qualità urbana e del paesaggio e sui sistemi produttivi sostenibili, per la valorizzazione della progettualità locale. A partire dalle eccellenze ambientali e naturalistiche ma anche dalla condizione di degrado urbano e del paesaggio, si vuole avviare un processo virtuoso di rigenerazione del quartiere Pellaro e guidare, allo stesso tempo, una sperimentazione a cielo aperto per la generazione, questa volta, di un modello esportabile in contesti analoghi della Città Metropolitana di Reggio Calabria.

**GRUPPO DI LAVORO**  
 Concetta FALLANCA, Vincenzo GIOFRÈ, Giovanni SPAMPINATO, Antonio TACCONE  
 con Chiara CORAZZIERE, Carmelo MUSARELLA, Elvira STAGNO

Figure 3. Poster of participative meetings, in Pellaro and Roghudi - Graphic elaboration by Chiara Corazzieri

They are both resilience and social autopoiesis processes that combine new quality spaces with new value systems, according to a community work that prevents the proper functioning of one without the existence of others and vice versa.

Answers are possible «to the new question of quality of urban space that comes from a multi-ethnic society, and that expresses increasingly complex needs in terms of social and cultural mixité» (Fallanca, 2016; 191); they indicate how, in the near and distant suburb of the Metropolitan City, some contexts can become open-air laboratories of models built starting from local peculiarities but conceived according to an approach that makes them exportable and useful for planning of the entire metropolitan territory - especially in the definition of the Strategic Plan - that tends to a more inclusive economic growth that contrasts an ever-greater inequality.

They are informal strategies that are genesis and at the same time result from a more profound social cohesion and a renewed sense of community that interpret the quality of the built space not according to exclusive aesthetic or formal canons but according to a correct relationship between "design" and "use" dimension assessed in terms of "citizen's well-being".

## Note

<sup>1</sup> The first phase of the call involves the mapping of collective / social needs on a regional scale.

<sup>2</sup> Definition of the European Commission.

<sup>3</sup> Scientific coordinator: Vincenzo Giofrè.

<sup>4</sup> Degree thesis of Elvira Stagno, supervisor Vincenzo Giofrè, co-relator Chiara Corazziere, Mediterranean University of Reggio Calabria, Degree Course in Architecture, a.a. 2015/2016.

<sup>5</sup> [www.acemedicinasolidale.it](http://www.acemedicinasolidale.it)

<sup>6</sup> The author of the contribution is the technical-scientific coordinator of the re\_imaging Roghudi program.

<sup>7</sup> The Grecanica Area is one of the five homogeneous zones of the Metropolitan City of Reggio Calabria, whose extension goes from the Ionian coast, which is the limit for about 60 Km, to Aspromonte, up to peaks of about 1900 m s.l.m. A small part of its population is still Hellenophone.

## References

Attademo, Anna and Formato, Enrico, edited by (2018). *Fringe Shifts*. Trento: ListLab.  
Balbo, Marcello et al. (2019). *Spazi in cerca di attori /*

*attori in cerca di spazi. La rigenerazione urbana alla prova dell'innovazione sociale*. Vicenza: IUAV Venezia con Chefare.

Brunetta, Grazia and Moroni, Stefano, edited by (2011). *La città intraprendente. Comunità contrattuali e sussidiarietà orizzontale*. Roma: Carocci Editore.

Carta, Maurizio (2019). "Nuovi paradigmi per una diversa urbanistica. Commento al libro di Gabriele Pasqui", January 17. Accessed February 20, 2019. <http://www.casadelacultura.it/851/nuovi-paradigmi-per-una-diversa-urbanistica>.

Certeau, Michel (1990). *L'Invention du Quotidien*. Parigi: Édition Gallimard.

Choay, Françoise (1965). *L'Urbanisme, utopies et réalités: une anthologie*. Paris: Seuil.

D'Arienzo, Roberto and Younès, Chris (2014). *Recycler l'urbain. Pour une écologie des milieux habités*. Genève: MētisPresses.

Fallanca, Concetta (2016). *Gli dèi della città. Progettare un nuovo umanesimo*. Milano: FrancoAngeli.

Fontanari, Enrico and Piperata, Giuseppe, edited by (2017). *Agenda RE-CYCLE. Proposte per reinventare la città*. Bologna: Il Mulino.

Giofrè, Vincenzo (2019). *Latent landscape*. Siracusa: LetteraVentidue Edizioni.

Harvey, David (2013), *Città ribelli*, Milano: Il Saggiatore.

Lydon, Mike and Garcia, Anthony (2015). *Tactical Urbanism: Short-term Action for Long-term Change*. Washington: Island Press.

Marmot, Michael (2015). *The Health Gap. The Challenge of an Unequal World*. London: Bloomsbury Publishing.

Mehrotra, Rahul and Vera, Felipe, edited by (2015). *Kumbh Mela. Mapping the Ephemeral Magacity*. Ostfildern: Hatje Cantz.

Moro, Anna et al. (2019). *Playtime. L'azione per lo spazio pubblico in contesti urbani fragili*. Santarcangelo di Romagna: Maggioli Editore.

Pagano, Giorgio (2019). "Un'utopia per realisti: attuare l'agenda Onu 2030 nelle città e nei territori". Accessed April 11, 2019. <http://temi.repubblica.it/micromega-online/un-utopia-per-realisti-attuare-l-agenda-onu-2030-nelle-citta-e-nei-territori/>.

Steiner, Barbara, edited by (2013). *Super Kilen*. Stockholm: Arvinius + Orfeus.

TAMassociati, edited by (2016). *Takingcare. Progettare per il bene comune*. Padova: BeccoGiallo.

Teti, Vito (2014). *Il senso dei luoghi. Memoria e storia dei paesi abbandonati*. Roma: Donzelli Editore.

# 34 DIRECTIONS FOR THE URBAN REGENERATION OF BORDER TOWNS IN THE REPUBLIC OF NORTH MACEDONIA FOR ACHIEVING SUSTAINABLE DEVELOPMENT

*Damjan Balkoski, Eva Vanista Lazarevic*

## **Introduction**

Urban renewal is a newer branch of architecture. It was first verified by the Athens Charter in 1931, confirming the protection of the city's ambience (Vanista Lazarevic E. 1999). This process is known under several terms that are often used in urban planning today - revitalisation, regeneration, reconstruction, rehabilitation and remodelling. Urban regeneration is a method/process of rebuilding and reviving existing physical structures in the city through spatial, architectural-urban and cultural interventions whose imperative is the well-being of the city and its inhabitants. Over the past years, the focus of international organisations and countries has been on achieving sustainable development of cities. According to Jan Gehl (Gehl, 2018), sustainability is an extensive concept and has a significant democratic dimension. Emphasis should be placed on different groups in society (city) and ensure equal opportunities for their participation in city life. Due to problems in the economy, in small cities, priority should be given to addressing sustainability. For a city to be sustainable, it must have collaborative planning that will involve participants from local government, civil society, private business and residents. Also, sustainable city guidelines are particularly focused on regeneration as one of the most practical solutions (Vanista Lazarevic E. 2003).

The border towns in the Republic of North Macedonia (R.N.M.) face a number of unsolved problems: economic (termination of work of medium-sized enterprises, insufficient development of entrepreneurship, reduction of jobs, resulting in the reduced local budget of the municipalities), demographic (migration of population in the state and emigration from the state), socio-cultural (declining social relations and cultural values), spatial-urban (physical reduction of cities and lack of infrastructure requirements of cities) and environmental (stagnation in the development of the conservation of nature and natural resources, increased pollution of nature). Due to these problems faced by small towns in the country and the impossibility of their proper functioning and maintenance, it is necessary to adopt a concept and implement meas-

ures and guidelines for urban regeneration.

Examples of successful urban regeneration of two European border cities - Roubaix in France and Bilbao in Spain, and their implemented measures, are the basis for the creation of new strategies and measures in the border cities in R.N.M for their rehabilitation in sustainable centres. This paper will analyse, classify and evaluate the measures implemented in the specific cities. Each measure is analysed separately to identify the basic problem-solving method and apply it to new strategies and action plans for the sustainable urban regeneration of border towns in the R.N.M, each with its own specifics and characteristics.

## **Research methodology and expected results**

The research methodology for this paper consists of a case study analysis of the cities under the study. Case studies and analyses include cities that have positive and successfully implemented urban regeneration measures - Bilbao and Roubaix, which through their comparative analysis and synthesis will enable the identification of key areas of action and cities in which those measures should be applied. For a comprehensive overview of the current situation in the cities of the R.N.M, a study of primary literature and planning documentation was undertaken. The comparison between the measures implemented by the E.U. cities and the cities in Macedonia where they should be implemented is made through critical analysis and the study of secondary literature. The expected results of the research should demonstrate and respond to the opportunities, ways and scope of successful policies implemented in European cities - Bilbao and Roubaix, for sustainable urban regeneration in border towns in the R.N.M.

## **Successful city practices - A case study of Bilbao and Roubaix**

### ***City problems and implemented results - Bilbao and Roubaix***

The town of Bilbao is a border town in northern Spain, in the Basque Country, with a population of 345,821 inhabitants.



The town exists to the Atlantic Ocean in the Bay of Biscay, near the border with the Republic of France. Throughout history, the city has experienced two stages of industrialisation - the first being in the second half of the 19th century, characterised by rapid population growth, shipbuilding, railroad construction, and metal ore excavation. From 1936 to 1939, Spain was in a civil war that caused widespread devastation in the city and a significant reduction in resources and population. The second phase of industrialisation appeared in the mid-20th century, 1950 and is characterised by the rapid migration of immigrants into the city, the rapid and unplanned expansion of the city and suburbs, and the development of heavy industry (Moura F. 2018). This industrial development lasted until the beginning of the '70s. Spain, in the mid-1970s, is experiencing a general economic crisis that lasts until 1990. The economic crisis has caused general stagnation of the city, 14% population displacement, de-industrialisation and job closures.

The city of Roubaix is a border industrial city in northeastern France on the border with Belgium with a highly developed textile and metallurgical industry. The city has a population of 96.077<sup>2</sup> habitants and is 15 km from the centre of Lille, the established regional capital. In the second half of the 19th century, Roubaix experienced an industrial revolution, followed by high economic growth and population growth. Typical of textile towns, this city also contains a number of separate factories surrounded by dense housing and a narrow city street network and morphology. World War I and the Depression of the 20<sup>th</sup> century hit French industry so strongly that in the seventies of the last century, it began to crumble in the face of foreign competition, along with other heavy industries in the region. Unlike other French cities, where problems often arose in the peripheral residential areas, Roubaix suffered from the so-called "Inner collapse of the city". The lack of new investments, the closure of factories and the collapse of businesses in the city have made the city of Roubaix known as "the worst city in France" (Colomb C, 2006).

The Bilbao regeneration process was complex, multi-faceted and involved a wide range of actors and interests. Political leaders at the city, suburban, and regional levels understood the importance of structural changes in the state that were ongoing in the early 1980s (Rodriguez et al., 2001). This recognition and the urgency of the emergency in Bilbao and surrounding areas have sparked debates on the best strategies and actions to initiate the city's recovery. The interaction of political actors at all levels of government and the mutual political consensus on the need for action has led to the emergence of a strong regeneration strategy and numerous strategic plans (Plöger J, 2008).

**Table 1.** Areas of Action and Measures for Urban Regeneration of Bilbao and Roubaix

Areas of action	Implemented measures	
	Bilbao	Roubaix
Infrastructure and mobility	Reconstruction of the entire air and water transport system, construction of the metro, investments in public city traffic (buses, trams and alternative traffic)	Introducing a new public transport system in the city and intercity
Urban and Environmental Recovery	Installation of a new water sanitation system, soil remediation and de-zoning, green field site offerings, urban interventions, construction of new public and residential buildings	Creating safe and attractive public spaces, building and improving housing, creating strategies for environmental protection
Investments and economic development	Establishment of economic agencies for financing regeneration projects, construction of technology parks, EU financial assistance	Recognising and investing in business potentials, increased state investment in public and commercial buildings, rebuilding the local economy, opening up new industries, branding the city into a shopping destination
Culture and promotion	Conducted cultural regeneration of the city, attracting top foreign architects to work in the city, investment in the construction of cultural facilities and institutions and international promotions	Opening cultural institutions, creating rich cultural programs in the city and their promotion
Social programs	Investments in building neighbourhoods for vulnerable citizens, staff training, employment assistance	Employment and training of young staff, inter-municipal co-operation



**Figure 1-2.** Urban Regeneration Of "Amezola Area" In Bilbao, From An Industrial Zone To Residential Zone  
 Source: (Moura Filipe, 2018) Plans (Plöger J,2008).

Due to the numerous problems faced by the city over a relatively long period of time, it was crucial to take urban regeneration measures as quickly as possible. In 1994, the City Council and the Mayor devised a strategy and projects that prioritised the downtown area of the city that offers great opportunities and advantages for easy regeneration. It is important to note that the overall urban regeneration had to be seen from a regional point of view and importance so that the City of Rubo was associated with the surrounding municipalities and cities in the conduct of regeneration projects.

The strategy covered five areas of action (tab. 1), focusing mainly on boosting the economy and increasing population and visitors.

**Achievement results from the implemented regeneration measures in Bilbao and Roubaix**

Two agencies have been set up to implement the urban regeneration measures of Bilbao: "Agencia Bilbao-Metropoli 30" and "Sociedad Bilbao Ria 2000", which integrate, coordinate and undertake activities in the fields of urban planning, transport and environment and cover central and regional areas. Administration. The achieved results can be classified into several areas (Tab. 2).

**Table 2.** Results achieved from Bilbao and Roubaix's urban regeneration measures

Areas of action	Achieved results	
	Bilbao	Roubaix
Economic restructuring		
Rebuilding the city's economy	There is a shift in employment from industry to the service sector and a massive increase in total employment from 267,000 to 380,000 jobs over 10 years. Extensive use of early retirement programs for older industrial workers and job creation programs by improving the skills for return migration of locally capable people.	Opening of a telecommunication centre. The entire city centre was declared a tax-free zone in 1997 with five years of tax exemptions for companies in which at least one-third of all new employees come from a local area—encouraging specialised textile businesses—development of the city centre into a retail destination for attracting outside visitors.
Population development	Economic restructuring and provision of adequate transport infrastructure, public services and good urban planning have led to increased population growth in suburban areas and places.	Between 2007 and 2014, 4 500 new homes were built, with 38% of social housing programme, 32% of new private housing supply and 30% of intermediate housing supply, reduction in rents and housing prices, and increased population growth in urban areas.

Urban renewal/Regeneration is based on a financial model for improving land value by changing the purpose of ex-industrial sites. Including all relevant levels of government that have provided initial funding and E.U. support. Upgrading and expanding public transport infrastructure. Reconstruction of public city spaces, streets and apartment buildings. Increased security in the city. Increasing green spaces in the city. Improving housing stock: Rebuilding housing in Roubaix is aimed at: continuing to upgrade social housing funds with central government funding, supporting the renewal of private housing stock and encouraging new housing in the private sector „Guggenheim effect“/development of culture in the city. The construction of the Guggenheim Museum has caused an increase in the number of tourists in the city and has made the city an important cultural centre. Converting old industrial buildings into cultural centres to enhance the city's image.



**Figure 3.** Converting Old Industrial Building Into A Cultural Centre In Roubaix (Colomb Claire, 2006)



**Figure 4.** Reconstruction Of Public City Spaces In Roubaix

## Overview of cities in the Republic of North Macedonia

Cities in R.N.M. face a number of problems and challenges. The most drastic changes in this period are the small border towns in the country, where there is a decline in population, economic disruption, population migration, urban stagnation, etc.

With the new political and economic systems in North Macedonia in the post-transition period, many cities have experienced these changes. There is economic migration of the population in two directions: to Skopje and the cities of European countries.

### City problems of Kriva Palanka and Dojran

**Kriva Palanka** - The municipality of Kriva Palanka is located in the northeast part of the Republic of North Macedonia near the border with the Republic of Bulgaria. According to SWOT Analysis for Kriva Palanka, the weaknesses are: unfinished planning documents, lack of construction land, obsolete urban plans, low public awareness, unfinished property rights, municipal staff outflow, weak financial power of the population, underdeveloped service sector, poor communication infrastructure etc.

A characteristic problem is the emigration of young working-age people who go directly to the overseas debate. Decreased birth rates are also evident in the city and the countryside. The main reason every citizen points out is the lack of work and a low standard of living.

**Dojran** - The second characteristic example is the municipality of Dojran, which is quite different in terms of geographical location and climate characteristics from Kriva Palanka, but with the same problems from economic and social aspects. The municipality of Dojran is located in the southern part of the Republic of Northern Macedonia, on the Macedonian - Greek border.

The municipality is located on the shores of Lake Dojran, through which the municipality on the east side borders the Republic of Greece. Due to the environmental catastrophe of Lake Dojran in the 1990s, there was a significant reduction in economic activities in the area of the municipality, which resulted in an eviction process. Now the problem in terms of the environment and the amount of water in the lake is resolved, but urban stagnation and the decline of the municipality and the city are significant weaknesses in all areas of the city's operation.

Weaknesses also exist in the area of the population's social status through: decrease in the number of students, poor technical equipment of public institutions, lack of social institutions, malfunctioning of basic cultural and educational facilities. The increase in tourism at the local level is uncoordinated with the other activities of the municipality and other neighbouring municipalities.

### Defining areas in which measures will be implemented

From the analysis of the implemented measures and the results obtained by districts in the cities of Bilbao and Roubaix, the key elements are identified that will be applied in the urban regeneration strategy and action plans of the cities of Kriva Palanka (Fig. 5) and Dojran (Fig. 6).

#### *Economic restructuring:*

1. New light industries based on former industrial local capacities;
2. Workplace training and employment programs for the local population;
3. Tax exemption to local businesses to encourage small businesses;
4. Central government financing and public-private partnerships and economic and financial programs of EU funds.

#### *Urban regeneration:*

1. Planning in the field of urban planning through models of financial increases in the value of land by changing land use. Planning and construction of attractive and safe public spaces;
2. Protecting the environment and increasing urban greenery;
3. Expansion and construction of new public transport infrastructure that will enable efficient and inexpensive urban, intercity and local public transport;
4. Construction of new flats with favourable financial conditions for purchase and support in the renovation of private buildings.

#### *Development of cultural activity and tourism:*

1. Providing opportunities and support from the central and local government for new cultural and creative activities at the local level and the growth of local cultural centres that enable the growth of service activities and new employment, especially for young people.
2. Planning new tourist destinations in the local and regional area related to cultural activity and local natural resources.



Figure 5. Kriva Palanka



Figure 6. Dojran

### Conclusion - expected outcomes

The main factors for the implementation and realisation of urban regeneration measures are:

1. Specified time limit;
2. Establishment of expert implementing bodies to coordinate central and local government activities and support from E.U. institutions and funds;
3. All measures in the three areas of action should be carried out parallel and concentrated because the measures are interconnected. With an integrated implementation approach, the objective of urban regeneration will achieve the new economic and social growth of cities individually and regionally.

With the adoption of strategies and action plans containing the essential elements of the measures and their implementation, the expected results will be (Tab.3).

**Table 3.** Expected outcomes from Kriva Palanka and Dojran's urban regeneration measures

Areas of action	Expected outcomes	
	Kriva Palanka	Dojran
Economic restructuring	Urban regeneration with the aim at transforming the city into a transboundary transit center in the Northeast with a developed rail and road infrastructure.	Urban regeneration with the aim at transforming the city into a tourist hub of the Southeast. Support for the establishment of small businesses in tourism and recreational activities through tax exemption measures that will enable employment of the young population and return of displaced working people.
Urban regeneration	The change of land use should enable the construction of new terminals, which will enable the development of service activities and new employments.	Planning and construction through favorable conditions and on small residential units and the formation of weekend settlements.

### Development of cultural activity and tourism

The new cultural events should be aimed at promoting cultural activities between R.N.M, Serbia and Bulgaria, with a joint new tourism offer. The border crossing with Greece and proximity to Bulgaria should enable joint tourism co-operation as a common destination and hold a joint cultural event with different events attracting an increasing number of visitors.

The cities that were the subject of analysis in this paper, due to their successfully implemented urban regeneration measures - Bilbao and Roubaix, in size and geographical features do not match the cities in R.N.M. - Kriva Palanka and Dojran. However, their successfully applied methodology served as a model for the new concept of regeneration of the cities in R.N.M.

Implementing these measures will provide the basis for the formation of new micro-euro areas in which Kriva Palanka and Dojran will become sustainable centres.

### Note

<sup>1</sup> Извор: <http://www.ine.es/>

<sup>2</sup> Извор: <https://www.insee.fr/en/statistiques?debut=0&theme=1>;

### References

- Colomb, Claire (2006), "Case Study of ROUBAIX, LILLE (France)" in MAKING CONNECTIONS: Transforming People and Places in Europ, URBED
- Gehl, Jan (2018), *Cities for People*, Magor Skopje, Skopje
- LEAP of Dojran Municipality, (2012), Municipality of Dojran
- Moura, Filipe (2018), *Deindustrialization and Urban regeneration - The case of Bilbao*, Instituto Superior Técnico
- Plöger, Jörg, (2008), *Bilbao City Report*
- Rodríguez, A, Martínez, E and Guenaga, G (2001), *Uneven Redevelopment – New Urban Policies and SocioSpatial Fragmentation in Metropolitan Bilbao*, *European Urban and Regional Studies* 8, 2, 161-178.
- Strategy for Local Development of the Municipality of Kriva Palanka 2015-20, (2015), Municipality of Kriva Palanka
- Vanista Lazarevic, Eva (1999), *Urban reconstruction*, Zdrubina Andrejevic, Belgrade
- Vanista Lazarevic, Eva (2003), *renewal of cities in the new millennium*, Classic map studios, Belgrade

# 35 THE INTEGRAL MANAGEMENT OF URBAN DEVELOPMENT PROCESS AND CULTURAL HERITAGE PROTECTION IN THE CITY OF KORÇA

*Klea Papando, Edlira Mema*

## **Introduction**

Cities are facing new challenges every day, as more and more people are abandoning small towns and the countryside, migrating toward large and more developed areas. Urban development has been more on authoritarian policies and zoning, a process resulting in more negative effects such as the disruption of spatial scale and loss of landmarks, social problems, the imbalance between the city and the countryside, ect. Cities are now trying to meet the needs without compromising the ability of the future generation to meet their own needs. So they are concerned about getting sustainable development based on the economic, social and environmental. It sounds vital to have more balanced development, re-establishing the urban relation between the history of the past and the future needs. They have to react to demographic changes while creating a viable transport network responding to the spatial, economic and social needs as they need to offer a better future in a globalisation world. On the other hand, there is the presence of cultural heritage in these urban settings, which defines the unique characteristics of the old town, the monuments, and the city's cultural landscape, not to be lost at all. Development should not be understood just in terms of economic growth but also as means to achieve a more satisfactory intellectual, emotional, moral and spiritual existence (ICOMOS, 2005).

This issue of urban heritage preservation, present in Europe for centuries, is displayed with a number of regional variations, affected not only by urbanisation processes but also by wars and political developments. There is a global challenge in getting the needed urbanisation processes without impacting the culture and heritage of the city. (Pereira Roders and Van Oers, 2012).

Nowadays, world heritage is being threatened by both aggressive development, effects of globalisation towards standardisation and westernisation and management deficiencies, bringing various forms of instability to human societies. (ICOMOS, 2005; Turner et al., 2011). There is an interesting point of view in relating build cultural heritage to creating places or spaces with identity while minimis-

ing the effects of urbanisation where cities or places look alike. According to Swensen, the protection of the cultural heritage has the potential to be a platform for developing the place-specific character of urban regions", while urban planning has more a global perspective rather. the protection of the uniqueness of the specific towns, their fabric and the historical landscape is a second-hand purpose (Swensen, 2012:387).

Cultural heritage protection has a significant role in re-establishing cultural identity and diversity as key reference points while it is being used as a touristic attraction, a great contributor for the economic development of the communities, and city branding (ICOMOS, 2005).

## **The cultural heritage and urban development area in the city of Korça**

Korça is the largest city in the southeast of Albania, with a significant history between the 15th and 20th centuries. During the 18th and 19th centuries, the city has become an important cultural and economic centre in the Balkans. At the beginning of the 19 century, the city was made of 3 neighbourhoods, the Varosh neighbourhood where the Christian community lived, the Kasaba neighbourhood, the neighbourhood of the Muslim community and the Bazaar. The rivers of Morava divided the Varosh, built on the castle's traces, from the Kasaba, and the Bazaar was divided into two parts too. Each part of the city had its uniqueness due to its distinctive religious and social characteristics (Thomo, 2012).

During the second half of the XIX century and the beginning of the XX century, the city stretched to the north. The "Republika" Boulevard is a typical example of the development of this period, characterised by the development of urban villas. In 1920, public buildings were built during the Albanian government's vitalisation and the influence of the Italian invasion. After the Second World War, the city was developed in half circular form in north, west and south while a ring defines the boundary between the city and the agricultural lands. The city's area was doubled to include the industrial zone in the suburbs and the res-

idential zones in the north and south of the city (Thomo, 2012). During the communist regime, the development of residential buildings in the city's suburbs and the reuse of the private courtyards in extending the existing houses since the families were growing.

The collapse of the communist regime in 1990 and the changes from the centralised economy to free trade led to huge stress over the city's urban development and cultural heritage. The developments of this period are somehow chaotic, although the compactness of the city structure. Today the city has a well-established urban and architectural physiognomy. The city's structure shows the traces of the political and economic development of different periods, sometimes being successful improvements; other times restrictions coming from the periods when these developments take place. In terms of urban structure, Korça is a compact city with a well-defined urban and functional structure (Thomo, 2012).

At the beginning of the XXI century, the future development was based on creating a Multifunctional city centre, getting the dynamic by using the real potential of the society revealing its real character and identity. At this time, Korça was transformed into an economically depressed town, as the main economic sources of the city, such as rural and industrial production and trade, were not flourishing, continuing with the poor physical conditions of the city public spaces and a considerable migration of the young people towards the capital city or abroad. The municipality of the city hastened to deal with this urban decline. According to a motion initiated by the Council of Europe toward the municipality of Korça in 2010, all the urban architecture was at risk from insensitive restoration and inappropriate development. The parliamentary assembly called upon the government of Albania and the municipal authorities of Korça to protect the city's urban architecture. The municipality, noticing this alerted situation, launched the international competition for the master plan of the city centre. The city was in a duality between the rich past and the present global needs to transform the city into a modern urban environment. The new development had to highlight the identity of the city while developing new potentials. They wanted to build a city with high quality of life for the inhabitants and make it attractive. The city's heritage could be used as a framework to create new poles of attraction, stimulate regional development, and restore the activities in a competitive international context. The vision for the development of Korça was to transform it in the city of Charm. Korça is the most important socio-economic centre in the southeast of Albania,

with great potentials in cultural heritage and education. It had to deal with developing by highlighting Korça's identity. More questions were raised about the real potentials of the city and the new or old directions of its future development. The city needed to become a tourist attraction by preserving and restoring the cultural heritage and branding the environmental potentials while developing a sustainable place for the people living there.

The master plan competition won by BOLLES +WILLSON WAS THE right move launched by the municipality. The main purpose was the "return to the city" revitalise the city centre, and restore the activities in a competitive international context. (UNEP, 2004). The documents of the master plan prescribe a framework for the future development of the entire central zone of the city of Korça, intending to integrate new interventions within the inherited framework. The aim was to create stenographic urbanism, protecting the real historical values of the city, restoring them as a background where the new modern functions of the city take place. So the master plan re-established the approach of space towards the monuments while giving shape to the city's future, defining its ambitions, spatial qualities, atmospheres without losing the uniqueness and character of the city (BOLLES +WILLSON, 2010).

### **The historical zone of the city, the studies for protecting the monuments**

There have been different studies for evaluating and then protecting the cultural heritage of the city of Korça. The first one dates to 1973, where the city's historical centre included three assembles: Mouse Areas and a protected Zone and 14 houses classified as cultural monuments of the first category for their architectonic values. More detailed studies have been carried out, leading to the second zonation of the year 1984. This study enlarges the city's Historical Centre into four areas: 2 mouse zones, the Bazaar and the Old Varosh and two protected zones, while the number of the buildings named as cultural monuments has reached 23 (Thomo, 2012). Other studies have been carried out through the years, mostly based on the area the first two studies have evaluated.

In the actual plan for Cultural Heritage protection, According to The Decision Nr. 207, dated 15.3.2017, for the announcement of the historical centre of the city of Korça, the protected area has increased. The historical centre of Korça is an urban space with distinctive architectural values that documents the city's historical development. The historical centre includes the Old Bazaar of Korça, the





**Figure 1.** Map of the city of Korça attached to the Decision Nr. 207, dated 15.3.2017, showing the boundaries of the protected zone of the city, the boundaries for the Historical Centre and the Archaeological Zone.

city on the “Republica” Boulevard and some traditional nucleus in the third neighbourhood. Around the Historical centre, there is couture defining the protected zone. The area with archaeological potential is in the zone of the former fortress. In the document of strategic development of the city of Korça, for the year 2030, the city aims to have a sustainable development based on cultural heritage protection and environmental potentials. The strategic plan claims to promote tourism as a good source of economic development of the city by protecting and promoting the cultural heritage and creating touristic itineraries while revitalising the city.

### **The Old Bazaar Of Korça a new pole for the city**

The Old Bazaar of Korça, located southwest of the city, near its centre, is a separate architectural ensemble in the city’s urban structure and part of its historic centre. Korça is an urban centre widely known for its trade profile. Trade has historically been the main source of the city’s economic development, mostly based on its geographical position. The Bazaar thus becomes the natural connection of the centre of the city with the suburbs and the region. The Korça’s Old Bazaar reached its peak during the second half of the XIX century and early XX. The buildings that



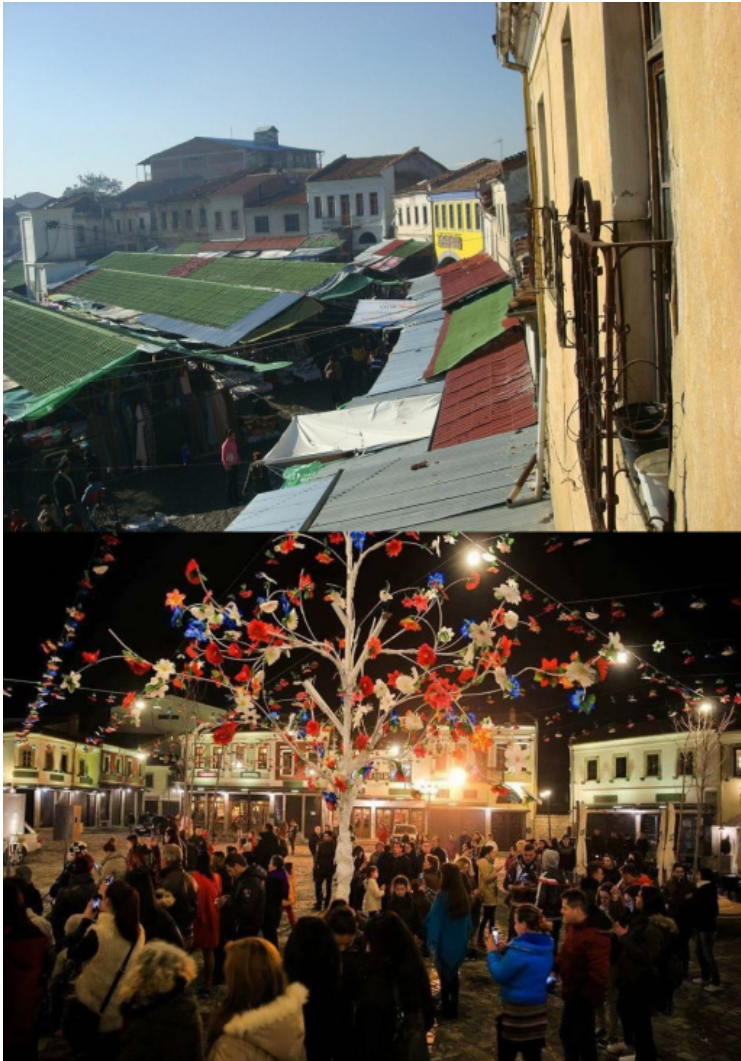
**Figure 2.** Old picture of the internal roads of the Bazaar – Source: IMKK 2014

have remained to this day belong to this period during which it was fully reconstructed according to advanced urban and architectural criteria. (Thomo, 2012) Today only a portion of the reconstructed Bazaar was preserved. For its full extent and initial appearance, we can judge based on old photographs and based on documentation and oral data (IMKK, 2014).

In the urban structure of the city, the Bazaar created an ensemble of its own. It extended southwest of the city, on both sides of the Korça and Morava rivers. The two sections of the Bazaar were connected by wooden bridges, the main road coming from the city and crossing the river over an arched stone bridge over which shops were erected. The Bazaar itself was divided into two parts: the central part and a second part. The main compositional units of the Korça Bazaar were trading squares, shop buildings and inns.



**Figure 3.** Aquarelle Painting of the Old Bazaar ensemble – Source: IMKK 2014



**Figure 4.** Photos of the central Plaza the Bazaar before and after the revitalisation process – Source: Municipality Achieve

An important urban element was the clock tower, erected on the outskirts of the main nucleus, near the Large Mosque, today the Mosque of Iliaz Bej Mirahori. The squares were the compositional centre of the Bazaar and, historically its origin, the buildings for production and service began to erect. (IMKK, 2014). The ensemble is located in the perfect urban setting where trade makes it easy for the visitor to get in, walk down the main street, reach the central square and then continue the adventure on the narrow streets. Finally, after describing all the shops, inns, and workshops, you can go back to the main arteries. The Korça Bazaar was declared Cultural Monument of First Category for prominent architectural and artistic values. Inside it, The Monastery INN and The Elbasan INN

were declared Cultural Monument of First Category. The interventions for the renovation of The Old Bazaar of Korça had started in 2011, when the municipality, in collaboration with the European Union and the Institute of Cultural Monuments, did a good job in renovating the area's infrastructure. The action involves the renovation of the cobbled streets and squares, the renovation of the lighting, sewer system and water supply. The action has the intention to get an image closer to the historical image of the Bazaar and to have a more efficient use of its actual functions (IMKK, 2014).

The Bazaar was in a very poor situation before the revitalisation process took place, although the function of this area has continually been trading. The restoration process aimed to regain the lost historical values of the monument. They wanted to redevelop the shops for handicrafts, a tradition of more than hundred years in this region, to restore the buildings of the inns and promote them while making this area a new attraction pole for the city.

The revitalisation project had to deal with many problems, from the restoration of façades to interventions in the roofs, gutters, chimneys, windows and doors. Almost every detail of the buildings was transformed using traditional techniques. The façades were painted while the lighting of the area was redesigned. At this point of the work, the area was closed entirely. The municipality decided to define the use of the commercial areas of these buildings. It was set regulation in order to restore the existing functions to this newly redesigned space.

The biggest challenge for urban heritage is continuity and compatibility since the historic settings need to change in form and function to adapt to the city's new demand (Bandarin et al., 2010; Bandarin and Van Oers, 2012).

According to the VKM 426 the year 2007, since the ensemble is Cultural Monument of First Category, the interventions on the building should be the only restoration.

The main types of interventions, at the constructor level, were static and visual improvement of buildings, maintaining their balanced structure and use. This intervention is carried out according to the techniques, modalities, and guidelines performed by architectural restorations. In this kind of restoration, it is important to respect the typological, constructive and functional qualities of the ensemble/work, avoiding those transformations that alienate the characters. In the interventions for the internal functional renovation of the buildings was essential to respect the typological and constructive equilibrium and quality of buildings, preventing those interventions that alienate and distort the characters. The process had to deal

with analysing each object, defining precisely the scale actual of degradation, causes of it and the mode of intervention according to the definition of the Restoration card. Rescuing and recovering from the collapse of all those objects heading for total degradation was another challenge (IMKK, 2014).

The complete or partial architectural restoration was evaluated on each object according to the current state in order to strengthen the stability of buildings and preserve the architectural and historical values of the Bazaar. According to the restoration card, complete or partial conservative restoration of the façades of all buildings belonging to the Historic City Centre was accomplished. They were refurbishing elements of exterior facade finishes while preserving their originality as much as possible. The process proceeded with demolishing various metallic elements in the façades (such as tents) that have not been part of the monument incorrectly added by the owners by reducing the value of the object (IMKK, 2014). The aim was to revitalise the shopping area and its extensive involvement in city life while preserving the original shopping functions such as production, service, trading, and accommodation, thus promoting the historical values of this ensemble.

## Conclusions

The Central Government of Albania has its merits in this revitalisation process. In 2013, the urban development of the cities became a priority of the Albanian government. The Albanian General National Plan, depending on the current and proposed status of urban centres and in order to ensure the development of the territory in accordance with GNP Vision "Shqipëria 2018", proposes consolidating, reinforcing and regenerating cooperative and empowering interventions for the urban centres. The overall aim of this initiative was to integrate Albania into the region in terms of competitiveness and brand the country as a tourist destination.

The project for the rehabilitation of the Old Bazaar of the city, with funds from the Albanian government, was a great success not only for the city. The Old Bazaar of Korça is one of the oldest ensembles in the southwest of the city, composed of shops, inns, and shopping squares (IMKK, 2014). The Old Bazaar Ensemble, being part of the historical heritage of Albania, unique in its kind, became an attractive point not only for Korça inhabitants, but it attracts even tourists' from the regions. The Bazaar square is now used even as a public space for cultural events,



**Figure 5.** Photos of the Old Bazaar before and after the revitalisation process – Source: Municipality Achieve

concerts, and feasts. The municipality had the purpose of redeveloping this area mostly as a tourist attraction while promoting its historical values and using them as a unique background for the present needs of the inhabitants. The municipality gave a list of possible functions the commercial spaces could adapt, such as shops for manufacture, trading local products and souvenirs, cafés, and restaurants. This space should help promote the city's cultural potential while offering relaxing moments inside the buildings or in the public spaces.

With the help of different funds and partners, the municipality accorded funds to the owners to give life to these buildings. The process of redefining the functions of the commercial spaces resulted in big discussions and resistance from the owners of the buildings. However, the results we see today in that area are very inspiring. Today,



**Figure 6.** Photos of the Old Bazaar Inn before and after the revitalisation process – Source: Municipality Archive

the Old Bazaar of the city is a tourist attraction, a place with shops, cafés, and restaurants, while the central plaza of the Bazaar serves as a place for many events, concerts, and shows every season. The narrow streets of the ensemble are being used to gather the youth while bands play music, a traditional form of entertainment well known for decades in this city. The Inn's inside this ensemble is being used as a hotel and as a place for events, promoting the area's unique characteristics.

The economic feedback of this process is considerable since many more businesses are interested in renting areas inside the old Bazaar, while the renting prices have doubled or tripled compared to the ones before the revitalisation process of the ensemble. Many tourists are visiting the city and love to spend time inside the Bazaar.

"Protecting while branding the city!" could be the slogan used for this whole process of urban regeneration and cultural heritage protection that occurred in the Old Bazaar of Korça.

## References

- Bolles+Willson, (2010) "Masterplan Final Report, Korça Master Plan."
- IMKK, (2014). *Relacion: Restaurimi i Objekteve të Pazarit të Korçës*. Instituti i Monumenteve të Kultures Korçe, Ministria e Kultures.
- Guzmán, P.C., Pereira Roders, A.R., Colenbrander, B.J.F. (2014). *Bridging the gap between urban development and cultural heritage protection*.
- ICOMOS (2005) "Threats to World Heritage Sites 1994-2004:

An analysis" Paris: ICOMOS. Available at: [http://www.international.icomos.org/world\\_heritage/Analysis%20of%20Threats%201994-2004%20final.pdf](http://www.international.icomos.org/world_heritage/Analysis%20of%20Threats%201994-2004%20final.pdf)

Pereira Roders, A., and Van Oers, R (Eds.) (2012). "Historic cities as model of sustainability." In *Journal of Cultural Heritage Management and Sustainable Development*. Vol 2. No. 1. Emerald UK.

Swensen, G. (2012) "Integration of historic fabric in new urban development-A Norwegian case-study", *Landscape and Urban Planning*, vol. 107, no. 4, pp. 380-388.

Thomo, Pirro (2012); "Korça, Urbanistika dhe Arkitektura", Tirane.

### **Development and state of protection of the industrial heritage on the territory of Belgrade**

The development of Belgrade's industry, with all the contradictions and problems, as well as the ups and downs it encountered during the 19th and first half of the 20th century, namely, going through turbulent historical and social processes, economic development and emancipation, cultural progress and modernisation, went hand in hand with the expansion of the city, its spatial and urban development.

At the end of the 19th century, thanks to the recognition of the independence of the Kingdom of Serbia and the beginning of modern economic and industrial development, Belgrade as a capital stepped into modern European civilisation, which was especially pronounced at the beginning of the 19th century and after the First World War. Due to technical requirements and the need to connect with river freight traffic, these complexes were built near rivers in the area of the Sava and Danube banks, forming the first industrial zone of the city.

The industrial heritage on the territory of Belgrade is very heterogeneous in relation to the represented types: manufacturing workshops, factories, mills, warehouses, power plants, irrigation systems, etc. The greatest value of complexes is their construction fund both from the cultural-historical and architectural-urban point of view, which also presents the material evidence of the economic progress of Belgrade.

However, despite the great diversity of this type of architectural heritage, the status of the cultural monument has only: First Shareholder Mill, Observatory at Zvezdara, and "Milan Vapa" Paper Factory, while the following have the status of a cultural monument of great value: Main Railway Station in Belgrade, Telephone exchange building in Kosovska Street, "Pantelić" Foundry in Zemun and Meteorological Station. Accordingly, in addition to the exceptional diversity and cultural significance, the analysis of the current state of Belgrade's industrial heritage shows that many buildings and complexes were destroyed or ruined and that their plants were irreversibly lost as evidence of

the technical culture of a specific period. This is a consequence of the fact that the city is expanding intensively and that new residential and business zones are being built in industrial heritage areas. For that reason, today's investors and city authorities have no interest in preserving them.

### **Teaching process in the field of study, protection and revitalisation of architectural heritage at the Faculty of Architecture in Belgrade**

Within the educational system at the Faculty of Architecture of the University of Belgrade, there is a successful and long-term development of the curriculum in the field of study, protection, and revitalisation of architectural heritage, both in compulsory and elective subjects. The curriculum is in line with the ICOMOS recommendations adopted for education and training in the conservation of monuments, ensembles and sites in Colombo in 1993. In the education and training system in conservation, these recommendations understand that it is paramount to pass on all the necessary knowledge to those who directly or indirectly influence cultural heritage. Therefore, basic recommendations have been incorporated in various ways into the education and training system in conservatory practices in certain European countries and at the Faculty of Architecture in Belgrade.

Since 1990, the teaching process at the Faculty of Architecture, in architectural heritage studies, has encompassed work on projects of the revitalisation of protected cultural and historical spatial ensembles to educate students to work in the very demanding field of contemporary architectural design in protected areas. With the adoption of the Bologna declaration in 2005, the conditions were met for the Faculty of Architecture to create a teaching curriculum in the form of three degrees of studies: basic academic studies of architecture lasting three years, i.e. integrated academic studies lasting five years, master academic studies of architecture lasting two years and academic doctor studies of architecture and urban planning lasting three years.

The subject of research, protection and revitalisation of architectural heritage is studied in one semester at the third year of basic, i.e. integrated academic studies of architecture. Students are introduced to the architectural heritage in Serbia, by researching the development of pre-historic, ancient, medieval, post-medieval and vernacular architecture, in the lectures of the courses Architectural Heritage in Serbia and Protection and Revitalization of Architectural Heritage. In addition to the development of architecture in Serbia, the lectures explore contemporary international charters and recommendations and basic principles and methods of protecting architectural heritage. By connecting these two topics, it is possible to understand their mutual interconnection, which emphasises the importance of background knowledge on the general historical course of development of architecture and settlements in the world and in designing and realising contemporary approaches to protection and presentation of architectural heritage. The most considerable change brought by the Bologna reform was introduced to master academic studies of architecture, which enabled students through various topics to expand their knowledge on theoretical questions related to the history of architecture and art and current theoretical questions in the field of contemporary conservation.

The teaching process has been conceived in such a manner that a rather summarised subject of research, protection, and revitalisation of architectural heritage, introduced on basic academic studies, could further be expanded and upgraded by means of elective courses in which specific topics related to research, evaluation, protection, and revitalisation of archaeological sites, medieval fortified towns, the architecture of 19th and 20th century in Serbia, as well as industrial heritage are addressed. Available elective courses dealing with this matter are organised for smaller student groups of 30-35, and they are: History and Theory 1 – Visual Culture in Architectural Theory and Practice, History and Theory 2 – Contemporary Principles of Preservation of Architectural Heritage, History and Theory 3 – Ancient Heritage in the Region and elective course 2 – Medieval Fortified Towns in Serbia.

### **Methodology of work in the elective course history and theory 1 – Visual culture in architectural theory and practice**

During the school year 2018/2019, in the fall semester, a course titled History and Theory 1 – Visual Culture in the Architectural Theory and Practice, headed by Assistant

Professor Marko Nikolić and teaching assistant Ena Takač, was realised in the course of the first year of master studies of architecture, i.e. in the fourth year of integrated academic studies of architecture at the Faculty of Architecture of the University of Belgrade.

This school year topic was related to the study of industrial heritage in the territory of Belgrade through the study of the “Bajloni” Brewery and the possibilities of its protection, revitalisation and presentation. During the one-semester course, which consists of lectures and assignments, students were able to familiarise themselves with a contemporary methodological approach of research and evaluation of industrial heritage both in the world and in Belgrade itself, as well as with the problems and methods of definition of potential and possibilities of regeneration of industrial heritage in accordance with contemporary needs.

Students began their course work by field, literature and online sources research to familiarise themselves with the particularities of significant examples of industrial heritage in the world and Belgrade. After exploring the site, students analysed cultural, historical, urban, architectural and technical values of the area of the “Bajloni” brewery and its surroundings and previous approaches to protection and presentation of this complex. Students were introduced to the process of evaluating industrial facilities in the lectures. After collecting data, they could evaluate the complex on the “Bajloni” Brewery in Belgrade. Following the collection of basic data on the complex’s historical, urban, and architectural development, students presented the research results, particularly accentuating evaluation and emphasising its values, which are to be included in the future proposals for the reconstruction and revitalisation of this significant complex.

### **Analysis of cultural-historical values of “Bajloni” brewery and its surroundings**

An industrialist Filip Đorđević built a brewery around 1850, on the corner of present-day Belgrade’s Skadarska and Cetinjska streets, which citizens dubbed “Mala” or “Filip’s” Brewery. He managed the brewing business on his own until 1871 when he invested Pivara as his shareholding stake into the newly formed “First Serbian Brewery Joint Stock Company”. The business was not doing well, and because of ever bigger and more frequent problems, the “Mala” brewery was bought from Joint Stock Company in 1883 by an industrialist Jovan Brabec. Judging from the previous work of this Brewery, he realised that it had to be

modernised.

He introduced the steam engine into the production, which gave Belgrade its second steam-powered Brewery, after the Weifert brewery. During this time, he built several new facilities and additionally modernised the production process. However, due to a string of adverse results, he had to sell the Brewery to the Bajloni family. They incorporated the Brewery into their company "Ignjat Bajloni and Sons", and they officially began beer production in 1888. Being in the hands of the Bajloni family, the brewery complex underwent significant changes in exterior architecture and interior construction of facilities.



**Figure 1.** Steam-powered brewery "Ignjat Bajloni and Sons" (up), Chronology of complex construction (down) – buildings built by the end of the 19th century; - cellars built by the end of the 19th century; - buildings built from 1900 to 1921; - buildings built after reconstruction from 1921 to 1940. Source: Nenad Lukić, "Parna pivara Ignjat Bajloni i sinovi 1888-1946", Nasledje, no. XVI (2015), p.127 and p. 133) Brewery was put under legal protection as a spatial, cultural and historic ensemble "Skadarlija", with particular historical, memorial and ambience values.

The buildings built before the renovation of the Brewery in 1921 are generally lower, made of fire-baked bricks and concrete pillars with a relatively small span of bearing elements. On the other hand, the rhythmic composition of the facade of the street front was formed by pilaster and frieze of blind arcades.

The facilities built after 1921 are one-story buildings designed for certain functions of the factory's production process, whose large spans were bridged by a system of reinforced concrete columns and ribbed ceilings. Unlike the facilities built before 1921, exterior architecture did not have decorative elements.

By decision of the Cultural Heritage Preservation Institute of Belgrade, no. 322/2 of 28 August 1967, the "Bajloni" A group of experts from the Cultural Heritage Preservation Institute of Belgrade consisting of Željko Škalamera and Gordana Gordić prepared a report on the Brewery in 1971. It evaluated its facilities with the final conclusion that the Brewery should be preserved as a brewing museum. The museum's foundation had not been carried out as this industrial complex was sold in 2006 since, at that moment, it has been increasingly ruined. Nowadays, this industrial complex, despite the poor preservation of architecture and the lack of original equipment for beer production, has been partially revitalised by adequate amenities such as gallery or catering facilities. However, what current amenities lack is presenting visitors to this complex the original purpose of the Brewery that would utilise the existing facilities.

### Possibilities of protection, revitalisation and presentation of "Bajloni" brewery – students' achieved results

Based on the conducted analyses of the "Bajloni" Brewery, students concluded that their solutions should be worked out according to current needs representing the historical development and production process of this complex.



**Figure 3.** Proposal of the revitalization of an old warehouse –current state (left), a proposal of revitalization (right). Source: students Vera Agoli, Milena Arsić, Marija Andrić, Slađana Aničić i Sofija Bjegović.





**Figure 3.** Revitalization of the central inner yard – intervention position within the complex (up left), current state (up right), a proposal of revitalization (down). Source: students Vera Agoli, Milena Arsić, Marija Andrić, Slađana Aničić i Sofija Bjegović.

By forming this approach, the students emphasised the importance of presenting tangible and intangible values, thereby contributing to the preservation of the authenticity and integrity of the complex.

With careful consideration of new activities, students aimed at keeping the primary cultural-educational character of the complex by reactivating the complex with new artistic and educational functions, thus making it more attractive to visitors.

The starting point in the proposal of the revitalisation of the former Brewery refers to the transformation of its facilities with maximum preservation of original spatial organisation, structures, architectural shaping, as well as intangible values of this industrial complex.

Therefore, the main goal of this proposal was to find a balance between the old and the new in order to preserve the authenticity of the “Bajloni” Brewery. Entrance into the complex is envisaged as a semi-open viewpoint, offering an opportunity to see the whole complex of the Brewery and form an exhibition space. The concept design proposes the organisation of the inner, central, open space, surrounded by existing catering facilities, which would form an open, multi-purpose space of different features, built by prefabricated elements, which, depending on the needs, could include the following facilities: a market, a



**Figure 4.** Proposal of organization of inner yard plateau - current state (up left), a proposal of revitalization (up right and down). Source: students Jelena Pavlica, Miloš, Pavlović and Jovan Aleksić.

seating area, a space for temporary exhibitions and other cultural events such as: concerts and film projections in the open. A modular system would define the area, and the basic element would be a beer crate – a box for storing beer.

According to the students’ proposal, the revitalisation of this industrial complex also includes the creation of an exhibition and educational space within the old warehouse. The introduction of educational function in the form of various workshops and lectures related to beer brewing and the complete history of this place enables the reinterpretation of one-time appearance of beer workshop, plant and machines.

Students also saw the potential for revitalisation of this complex in the old warehouse facility. Their design envisaged the development of the exhibition and educational facilities, which would enlighten users about the historical development of this building and the beer production process.

By placing a glass curtain wall on the main facade of the building, the students have closed this space and facilitated its uninterrupted use. With a contemporary renovation, this facility is meant to function as a museum and a centre for culture and education promotion. In addition to the revitalisation of the old warehouse, this group of students

also included the solution to the inner open space of the complex in their proposal. After adding new amenities to various spaces and facilities, the students concluded that the space in front of the warehouse should be organised as a multi-purpose plateau. Therefore, the plateau pavement and all pedestrian paths within the complex are conceived as interactive surface, which guides the user to other amenities within the complex, all the while informing them about the historical development of the industrial complex itself.

## Conclusions

In line with recommendations on education in the field of protection of architectural heritage, it can be deduced that the reform of studies at the Faculty of Architecture of the University of Belgrade follows a general direction and scope existing in other European countries.

Although the Bologna reform, on the one hand, significantly shortened the lessons attended by all students on courses related to the historical development of architecture and arts on basic and integrated academic studies of architecture, on the other hand, this reform facilitated the improvement of lessons with specific topics which had not been previously explored in the teaching process, within elective courses on master and integrated academic studies of architecture.

Through their work on specific topics related to research, evaluation, protection, and revitalisation of architectural heritage, the newly created elective courses enabled students to develop their knowledge in solving contemporary problems in the protection and revitalisation of historical sites and ambience's.

The work on the course History and Theory 1 - Visual Culture in Architectural Theory and Practice introduced students to contemporary principles of protection, revitalisation and presentation of industrial heritage in the world. It facilitated the application of the acquired knowledge to the specific example of industrial heritage in Belgrade. Accordingly, students' concept designs filled the "Bajloni" Brewery complex with brand new amenities to improve the historical, cultural and technological values which the Brewery has.

Therefore, a dynamic concept of continual authenticity enrichment of historical place was thus supported by changes and layers brought about by history, with the necessary adherence to the guidelines of international charters and recommendations.

## References

- Kulenović, Rifat, (2010). "Industrijsko nasledje Beograda" (Belgrade's industrial heritage), Beograd: Muzej nauke i tehnike.
- Lukić, Nenad, (2015). "Parna pivara "Ignjat Bajloni i sinovi" 1888-1946" (Steam Brewery "Ignjat Bajloni and Sons" 1888-1946), *Nasledje*, no. XVI:123-138
- Nikolić, Marko, Pašić, Dušica i Milenković, Ana, (2018). "Ispitivanje mogućnosti zaštite i revitalizacije livnice "Pantelić" u Zemunu" (Examination of the possibility of protection and revitalization of the Pantelić foundry in Zemun), *Nasledje*, no. XIX: 149-161
- Roter Blagojević, Mirjana i Nikolić, Marko, (2013). "Pravci unapređenja edukacije iz oblasti proučavanja i očuvanja graditeljskog nasleđa u evropskom kontekstu" (Directions for improving education in the field of studying and preserving the architectural heritage in the European context), *Moderna konzervacija*, no. 1: 45-53
- Roter Blagojević, Mirjana i Nikolić, Marko, (2012). "Predlog revitalizacije Umetničke livnice „Skulptura“" (Proposal for the revitalization of the Sculpture Art Foundry), *Nasledje*, no. XIII: 221-234
- Guidelines on Education and Training in the Conservation of Monuments, Ensembles and Sites, Accessed September 10, 2019. <http://www.icomos.org/charters/education-e.pdf>
- Katalog nepokretnih kulturnih dobara grada Beograda – Skadarlija (Directory of immovable cultural property of Belgrade – Skadarlija), Accessed September 10, 2019. [http://beogradskonasledje.rs/kd/zavod/stari\\_grad/skadarlija.html](http://beogradskonasledje.rs/kd/zavod/stari_grad/skadarlija.html)

## Introduction

Modernization means the process of adapting something to modern needs or habits (Oxford Languages). However, the results of that process also become obsolete over time because needs and habits change, and buildings fall into decay. In the case of some buildings, as their construction and functional value are declining, the cultural value is growing. By recognizing and acknowledging the cultural values of such buildings, they become cultural monuments. It often happens that the process of rehabilitation of such buildings, and especially complexes, becomes difficult because of the changes that have taken place in the past in the name of progress and modernization.

In this paper, rehabilitation refers to a series of repairs and interventions on existing buildings that bring them closer to the modern usage requirements while preserving their original characteristics and adequate repurposing. This is precisely the case with a historically and culturally valuable but neglected industrial complex, "Sugar Factory", designated as a cultural monument, recognized from the aspect of brownfield regeneration as excellent potential for developing a new city unit of high ecological, cultural and aesthetic values.

## Case study – Sugar factory in Čukarica

The Sugar Factory in Radnička Street 3 and 3a in Čukarica is the first industrial, architectural complex in Belgrade to be designated as a cultural property (Decision, "Official Gazette of the City of Belgrade", No.23 / 84). It is one of very few preserved factory complexes from the end of the 19th century in Belgrade, important for understanding and monitoring the urban development of Belgrade since its construction conditioned the establishment of Čukarica as workers' housing. Also, the Sugar Factory is an integral part of the cultural and historical unit of Topčider, which has been identified as a cultural asset of exceptional importance for the Republic of Serbia due to its special natural, aesthetic, cultural and historical values. It is located in its northern part, on the bank of the Sava River, more

precisely the Sava estuary (Zimovnik), in the immediate vicinity of Belgrade Fair, Hippodrome, Ada Mall, a large recreational zone with unique natural values - Ada Ciganlija and Ada Bridge, connecting this part of Belgrade with New Belgrade.

## History

The Sugar Factory is the first industrial facility of its kind in Belgrade. Since its founding in 1898 until today, it has had several developmental stages, each accompanied by property transformation and works on the reconstruction and modernization of the factory. It was founded by the main shareholders of a large sugar factory in Regensburg: Alfred Hake, Julius Goldsmith and Max Weinschenko, who in 1900 erected the first facilities in the complex: a machine hall, a drying section, clerks and workers' apartments and a head office building. The first reconstruction and modernization of the factory were carried out under their management. The factory was owned by foreign capital until May 1920, when it was sequestered by a decree on the property of enemy subjects and temporarily placed under the management of the Ministry of Justice, Division for the Management of Hostile Property. In 1925 it became part of the state property and remained state-owned until the Second World War. Once again, during the state management of the factory, major reconstruction and modernization of the factory took place in 1930-1931. The main departments of the reconstructed factory were: beet processing department, refinery, boiler section and power plant.

A new noodle drying section was also built. In response to increased molasses production, a new factory for the production of ethyl alcohol and yeast was built within the complex. In the period 1939-1940, a boiler section with turbine and generator, laboratories, workshops, and finished goods warehouses were built within the complex. Due to the damage during the Second World War, a new reconstruction and modernization of the factory followed after the liberation. Production at sugar factories and ethyl alcohol and yeast production took place at the same time

until 1983, after which sugar production was transferred to Padinska Skela. The plants at the subject location were abandoned, and the equipment was transferred to a new factory or sold out. The ethyl alcohol and yeast production plants continued to operate; in 1984, they were put under the management of the newly formed company (Dimitrijević-Marković, Sretenović, 2008).

### Existing state: physical structure and ownership

Numerous reconstruction works resulted in the mixed building structure in the complex, both in terms of architectural values and their function. The oldest and most architecturally valuable buildings date from the foundation of the factory. The machine hall makes the spatial focal point of the complex with its immense size and high chimney. The drying room, with simultaneously built technical material warehouse, have also been preserved, as well as clerks' and workers' flats and the administrative quarters building – which is now a restaurant. These were built similar to industrial, architectural structures in the 19th century in northern and central Europe (use of brick in materialization, simplicity in facade design, reduced decorative elements, etc.).

Nowadays, it is primarily a neglected and devastated area, which does not represent a whole, either functionally or proprietary. The part that once belonged to AD Vrenje, including the part of the machine hall, is also physically separated from the rest of the complex by a wire fence. Residential buildings for former workers and clerks, now with privatized apartments that in the meantime changed owners, are spatially but not functionally part of the complex. Common to almost all non-residential buildings is the lack of maintenance and deterioration, abandonment or endangerment due to inadequate purposes, with the exception of the theatre, with long standing problems about ownership status, formed in one part of the machine hall. In addition to various types of damage, traces of partial, non-professional interventions are visible in almost all buildings. Several buildings that have been recently constructed for various purposes, from housing to a gas pump, additionally spoil the space (Dimitrijević-Marković, Sretenović, 2008) (Fig.1).

### Rehabilitation opportunities and problems

Despite its relatively poor condition, the complex has mostly preserved its ambience. All the facilities, regardless of their condition and individual values, participate in its

formation and testify to the establishment of the factory. These points to the necessity of planning the actions and preserving the complex with all its buildings. This is supported by all relevant institutions involved in the planning process, the Republic Institute for the Protection of Cultural Monuments, the Urban Planning Institute of Belgrade and the Belgrade City Assembly.

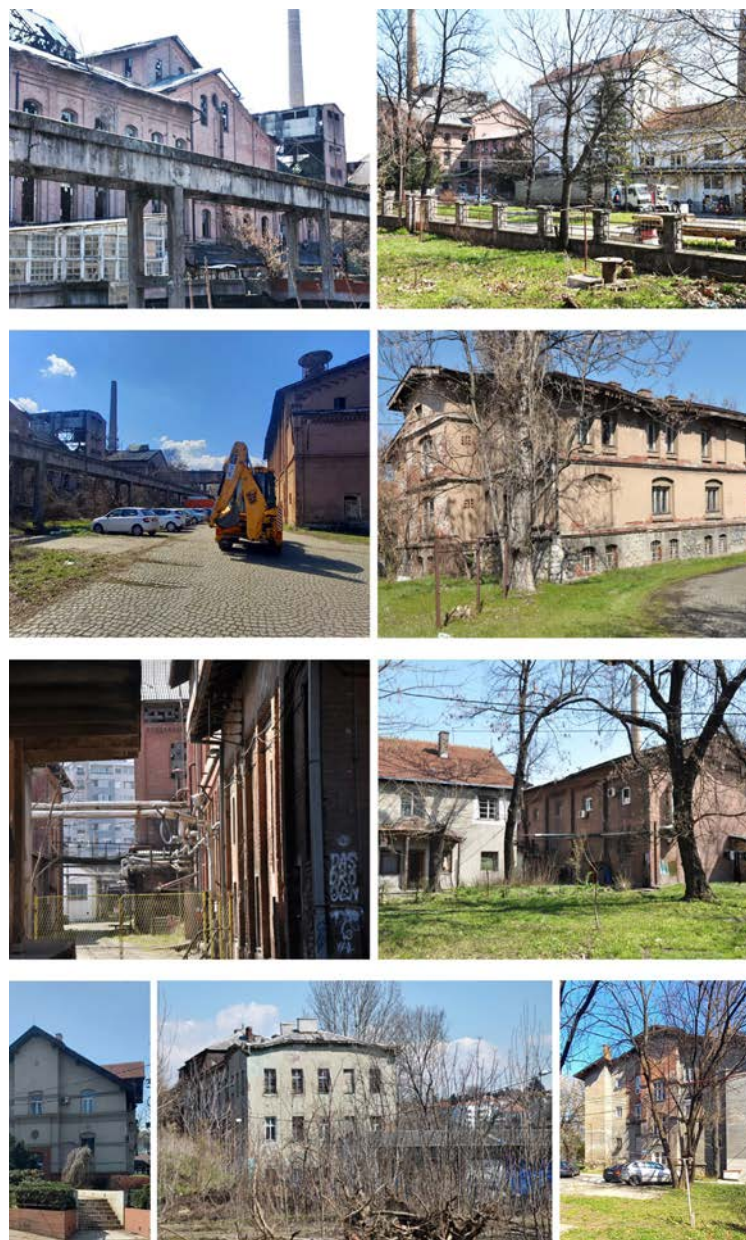


Figure 1. Current state of the Sugar Factory. Source: Dimitrijević Marković, Pucar.

## Plan basis for interventions in space

The plan creates conditions for good urban design but also successful rehabilitation of space and facilities. In the Detailed Regulation Plan for the spatial cultural and historical unit Topčider - Phase II, Unit 1, (Official Gazette of the City of Belgrade, No. 98/16)/DRP), the factory space is defined as a construction complex, with eighteen building lots for other purposes, of which seventeen building lots were formed around the existing evaluated buildings. In contrast, one is intended for the construction of a new facility, and one public lot covering the remaining space intended for open and green spaces in the function of the facilities in the complex. The DRP permits fencing of the whole complex, except for the building plots within the complex, their parcelling or re-parcelling, and changing the boundaries of the building complex (Fig. 2).

All the remaining buildings in the complex (one historic building that has lost its value due to many transformations and newer buildings that significantly devastate space) are planned for removal.

According to the DRP, the retained buildings will be re-purposed as facilities with cultural and cultural education facilities: museum exhibitions, galleries, theatres, cinemas, libraries, art and educational workshops, etc.

On a smaller scale (up to 20% of each building), the introduction of commercial contents is allowed, such as catering facilities, bookstores, souvenir and promotional material shops, etc.

In addition to the contents and purposes of the complex, within the clearly defined lines of buildings, the construction of a new building is allowed, with P+2 height and an area of up to 2400 m<sup>2</sup>.



Figure 2. Sugar factory – Purpose plan area. Source: DRP no. 98/16.

The complex, including all the buildings, is classified into several categories, and possible interventions are defined respectively. The complex is classified as category I, which requires strict protection measures to preserve the urban and architectural authenticity of the space, i.e. the environment. Hence, it has to be treated as a single whole. The facilities within the complex, directly related to the factory's construction and development phase, are classified as Category II and III facilities. They are planned to be retained and re-purposed, restored, rehabilitated and revitalized solely within the existing size and dimensions.

## The negative effects of past changes on the current rehabilitation of the complex according to the DRP

The plan gains its final sense only through realization. It requires considerable financial resources and a clear goal, i.e. political will. In the case of this complex, besides the funds for the renovation and re-purposing of evaluated buildings and adequate landscaping, it is necessary to provide financial resources. Also to find ways to solve problems related to the ownership structure in this area, which appeared as a consequence of changes made to

improve and modernize the factory and production process. Apartments in purpose-built residential buildings for workers and clerks were privatized in the 1990s, thus enabling a change of ownership.

The construction of a new factory for the production of spirits and yeast within the complex was logical and desirable for the production process and the overall performance improvement. However, it enabled the division and transformation of the ownership structure in the newly created social circumstances.

In order to be renewed and to acquire new cultural content defined by the plan, it is necessary to reconnect it to the whole functionally. Renovating and re-purposing all of the evaluated facilities of both factories and a large number of privatized apartments in residential buildings and remove facilities that devastate the space. Addressing this problem burdens the operational aspect additionally. It financially increases the enormous costs of rehabilitating brownfield sites and facilities and complexes, so the question arises whether the plan still came too late.

It could have been avoided with timely consideration, given that the Sugar Factory was established as a cultural monument in 1984 when the plants for the production of spirits and yeast were placed under the management of the newly formed company. The privatization of apartments began a few years later. Although the value of the complex was recognized, there was no clear definition of protection measures, i.e. a clear vision of the future of this complex. If it existed, there would be an opportunity to maintain the integrity of the complex and prevent the actions that led to ownership transformations, which today represent an aggravating circumstance for the rehabilitation of the complex.

However, the fate of the plans is uncertain. The plan in question is supported by the Draft Amendments to the General Regulation Plan - City of Belgrade (UNITS I – XIX) / GRP, phase I. On the other hand, the second phase of GRP is planned to be realized later to align with the future General Urban Plan of Belgrade 2041, whose development is in progress and should be adopted by the end of 2021. Time will tell how much GUP BG 2041, as a strategic urban plan, will leave the existing DRP unchanged, including the DRP for the spatial and cultural-historical unit Topčider, phase II, unit 1.

Following the adoption of the above mentioned DRP, Belgrade Land Development Agency, in cooperation with the Association of Architects of Serbia, launched an open, poll-based, single staged competition for an urban-architectural solution of the broader area of the Hip-

podrome, which included the space of the Sugar Factory. Participants were required to offer architectural solutions for constructing a new facility and the landscaping of the complex. Architectural solutions for the revitalization and reconstruction of evaluated buildings were not the subject of the competition, but merely the submission of proposals for their contents that would agree with the purpose and contents of the open public space whose design was the subject of the open competition. This competition was used to promote the location in Radnička Street (former Jugopetrol) as a location in preparation for ceding to investors, favoured it as the most commercial. However, one of the goals of the competition was a comprehensive view of all three complexes (Sugar factory, Hippodrome and Jugopetrol). Also, the recently built pedestrian walkway across Radnička Street, which connects location with Ada Ciganlija, deviates by shape and position from the first-prize winning competition solution, favouring the shopping centre in relation to the protected complex (gradnja.rs), (Fig.3).



**Figure 3.** Newly built walkway in front of one of the valued buildings of Sugar factory. Source: Dimitrijević Marković, Pucar.



2007



2021



2021

Figure 4. Visible deterioration of valued buildings (2007-2021). Source: Dimitrijević Marković, Pucar.

The authorities of the City of Belgrade still intend to acquire ownership rights over the complex of the Sugar Factory and enable the conversion of this space into a cultural centre. The city government also announced the takeover of the management of the K.P.G.T. Theatre, which is located in the part of the machine hall. The status of tenants in residential buildings remains undefined.

There is an announcement by the main city planner that the tenants will move out of the complex, but not before 2023 after new residential buildings are built for them.

What will happen remains to be seen? The fact that the condition of most facilities is such that any delay leads to further decay. (Fig. 4)

Buildings of more modest dimensions and architectural values in the complex are particularly sensitive, and their restoration, unless they completely collapse in the meantime, could be called into question. The situation supports this thesis with many brownfield sites in Belgrade where existing complexes are being cleared to allow space for new construction, with the possible retention of one building, but only if the space enjoys some form of protection.

## Conclusion

The basic prerequisites for successfully rehabilitating abandoned architecturally and historically valuable industrial complexes are their timely identification and designation as cultural property, with clearly defined values. Furthermore, measures of protection of those values, respected by urban planners and incorporated into the urban plan, which, as a rule, should be devised and adopted before potential investors get interested in the complex. Another prerequisite is clearly expressed political will to support and carry out the planned rehabilitation and a strong, responsible and conscious community to encourage and control it. Researchers have analysed the typology and morphological development of industrial heritage and the potentials and opportunities for sustainable regeneration (Nepravishta, 2015) and urban strategies for the transformation and reuse of post-industrial areas (Ozturk, Cahantimur, Beceren Ozturk, 2013). By analysing the transformations and their consequences, some lessons can be learned for future modernizations.

## References

Dimitrijević-Marković, Svetlana & Sretenović, Irena (2008). *Belgrade Sugar - Works – Potential and Problems of Rehabilitation, Heritage IX, Cultural Heritage Preservation Insti-*

*tute of Belgrade, (237-247)*

ZZSKGB - *Elaborat uslova čuvanja, održavanja i korišćenja kulturnih dobara i dobara koja uživaju prethodnu zaštitu za potrebe izrade plana kulturno storijske celine „Topčider“ (2008). Zavod za zaštitu spomenika kulture grada Beograda i Republički zavod za zaštitu spomenika.*

ZZSKGB - *INDUSTRIJSKO NASLEĐE BEOGRADA PRVA FAZA TERENSKIH ISTRAŽIVANJA (2009), Fond stručne dokumentacije Zavoda za zaštitu spomenika kulture grada Beograda.*

*Konkursna dokumentacija za javnu nabavku: Urbanističko - arhitektonski konkurs za šire područje Hipodroma, GO Čukarica (2017). Direkcija za gradjevinsko zemljište i izgradnju Beograda.*

*Nepravishta, Florian (2015). Industrial Heritage in Albania and the Opportunities for Regeneration and Adaptive Reuse, Journal of International Academic Research for Multi-disciplinary, Vol 3, Issue 6.*

*Ozturk, Aysen, Cahantimur, Arzu, Beceren Ozturk, Rengin (2013). Integrating Sustainability into Brownfield Regeneration: Sugar Factory, Eskisehir/Turkey, Conference: 39th IAHS, Changing Needs, Adaptive Buildings, Smart Cities, Milan, At Milan, ITALY, Volume: 2.*

*PDR prostorno kulturno istorijske celine Topčider - faza II, celina 1, gradske opštine Čukarica i Savski Venac („Službeni list grada Beograda“, br. 98/16).*

*<https://www.gradnja.rs/pasarela-ada-ciganlija-mall/> (19.03.2021)*



**Historical background of Lunxheri region and monastery of St. Mary of Spile**

The Church of St. Mary of Spile is located in a magical landscape, not far from the village of Saraqinishtë, in the Lunxheria region (Fig. 1). It was included in the national list of immovable culture heritage since January 1963, holding the status Cultural Monument of 1st Category. The church is the only remaining building from the monastery complex with a domed cross-in-square plan composition (Thomo, 2005). The Monastery of Spille was administered by the patriarch of Constantinople, and moreover, enjoyed the status of a stavropoic monastery (Barra, 1966). At the foot of the rock of which the monastery is built, there is a cave partially enclosed, creating so, a more intimate interior of a so-called St. Nicholas Chapel (Giakoumis, 2003). The monastery of Spile was believed to have been an important healing centre. According to different sources, the monastery also could provide medical assistance to communities. Written sources also highlight the rich library that the monastery once had, which was then lost (Giakoumis, 2002).



**Figure 1.** St. Mary of Spile Mmonastery.  
Source: Photo E. Çaushti.

The only surviving structure of the complex is the church. It is constituted by the naos, narthex, and the open porch with columns on the southern side. The naos has a domed cross-in-square plan composition, with internal dimensions 7,40x6,20 (Thomo, 2005).

By studying the architectural elements, the church may have been built before 1623 by the same masters who also constructed the St. Nikolas church in Saraqinishtë - Lunxheria (Giakoumis, 1994). Probably, we are dealing with a group of masters who acted in the region during 1620-1630 (Giakoumis, 2013).

According to the inscription above the western door, the naos was painted by Mihal (which must be the Mihal from Linotopi) in 1634 (Popa, 1998). This mural painting is considered the last work sui generis, signed by Mihal Linotopi, in Albanian territory (Giakoumis, 2003). Only 25 years later, the wall of the narthex was also painted.

According to the inscription on the eastern wall, it was completed in 1658-59 (Popa, 1998). No one was mentioned as the author of the artwork, but lastly, it was attributed to Joan Scutari and his workshop (Houliaras, 2017).

**Materials and methods**

A variety of methods can be used to investigate ancient pigments and mural paintings; the most suitable methods for each study are chosen depending on the type and amount of sample available (Gil-Torrano et al., 2019; Bahadori et al., 2012). Because of the limited amount of samples from mural painting, a portable XRF, as a non-invasive method, was used in situ to obtain preliminary information on the pigments and select the micro samples of the mural paintings. Laboratory analytical techniques such as stereo-microscopy, polarised optic microscope, sieving analyse (granulometry) were conducted to characterise the stratigraphy of paintings, the composition of preparatory layers and investigate the probable raw materials used for pigments and mortars. The study methods were determined consulting with published papers by different authors (Hadriil et al., 2003; Schmidt et al., 2016; Gil-Torrano et al., 2019 etc.).

The study of the mural paintings was carried out through several techniques, including in situ techniques such as T-XRF, Micro x-ray fluorescence ( $\mu$ XRF). The textural features of samples were studied by stereomicroscopic observation on the surface and in cross-section using a Nikon SMZ 745T Stereomicroscope. The cross-section of the painting (stratigraphy) was studied with a stereomicroscope and Polarized Optical Microscopy using a Leitz Laborlux 11 Pol S, which allowed to determine the number and sequence of layers, their thickness, as well as the composition of pigments and mortars (Gil-Torrano et al., 2019).

Sieve analysis was conducted for determining the particle size distribution of sand used for preparatory layers and binder/aggregate ratio assessment, defining their recipe meanwhile.

### Aspects of artistic techniques performed on the Naos and Narthex wall paintings

A mural painting in fresco technique requires some specific conditions and high technical skills. The master had to work on the still-moist plaster to accomplish his work. The wall surface needs to be divided into rectangular or even irregular surfaces, each of which must be painted in one day. According to Dionysius of Fournà, the plastering process has to be done on the soaked wall the day before (Da Fournà', 1971). The division of the working days for the Byzantine paintings was based on the subject. They could be multi-character scenes, total saint figures or half-figure medallions and/or ornaments.

In the case of the naos of Spile, we were able to ascertain the plaster level in different areas quickly and consequently determine the starting and ending place of a working day termed as *giornate* or *pontate* (Botticielli, 2005), (Rinaldi, 2011), (Fig. 2).

Those working days do not include large surfaces on the naos walls. The scenes are also of small dimensions. *Pontates* are presented as singular working days in the realisation of medallions. They are extended horizontally across the walls of the naos. At the same time, the lower register representing the standing saint figures has only a single joint which means that the work was accomplished in only two days. In the case of narthex painting, it does not appear easy to identify the division of painted surfaces (*giornate*). It could be distinguished only in the lower register, separated from the upper one and apparently constituted in a particular working day. Technically speaking, it is extremely difficult to paint such a large surface within a day, considering the specific requirements of the fresco technique. In this case, our reflec-



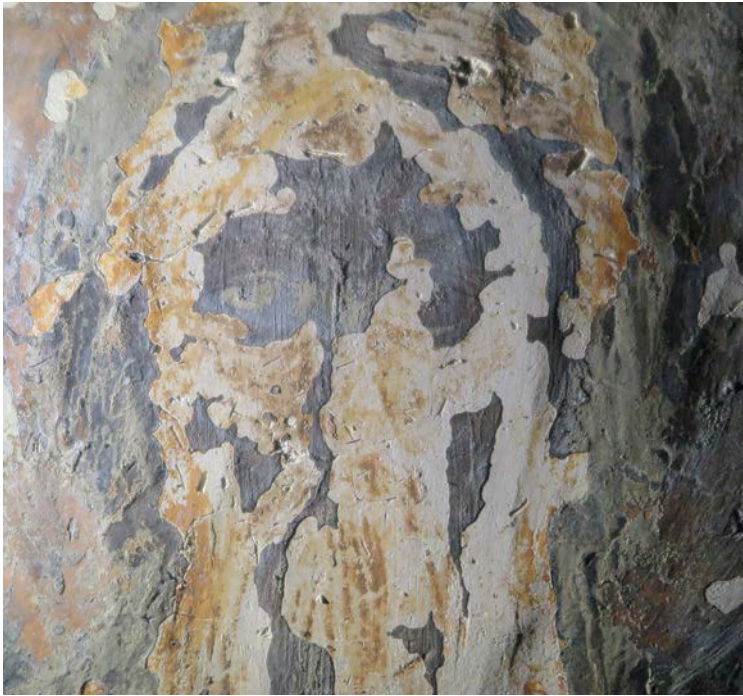
**Figure 2.** “*Giornate*” detected on the naos wall paintings at St. Mary of Spile church. Source: Photo E. Çausi.

tion leads: first, the author must have had the assistance of several adjutants to organise a significant part of the work; second, the wall may also have been divided into *giornate*, but the technical mastery of the author (s) makes the joins indistinguishable; third, each narthex wall may have been painted in a single day, and this reinforces, in a way, the first argument. It can also justify the lower register's bad state of conservation, which means that it was painted over almost a dry plaster.

As written above, while the plaster was still humid, every technical step had to be carried out in a short time. Thus, the next intervention was to establish the orientation points to help the artist better organise the daily surface (Da Fournà', 1971). In the post byzantine painting technique, the orientation points on the layered plaster were performed through the preparatory drawing (Da Fournà', 1971).

In this case, Mihal from Linotopi has used ochre colour for sketching the portraits and the red colour for the dresses (Fig. 3). The preparatory drawing is applied with a brush (Da Fournà', 1971) and is rather a kind of an indicative sketch for the realisation subsequent of the features. As mentioned above, the realisation of mural painting in the fresco technique requires good technical skill, and Mihal from Linotopi was up to the mark. As far as the narthex wall painting is concerned, the preparatory drawings are also executed with bordeaux and ochre colours. The transparency of the overlapping paint layer allows identifying the so-called *pentimento*.

It is the case when the painter has drawn a picture and then moved it to another position. It can be easily noticed in the lower register saints' halos on the western wall of the narthex.



**Figure 3.** Preparatory drawing. Wall painting of the naos of St. Mary of Spile church. Source: Photo E. Çausi.

The scratching technique, also used for organising the surface before the painting process, is carried out with sharp tools. It is mostly used in defining quadratic decorations of the garments as well as the folds or draperies (Fig. 4).

Through the tiny holes found in the middle of the portrait's figures, we could realise the use of, compass for the realisation of the halos. The initial filling colour on the portraits performed by Mihal is terra verde (green earth), a colour that could be defined between brown and green and which serves as the base for the shadows. Scutari's atelier applies the same at narthex years later. In some cases, we found the ochre colour used as initial fillers for the portraits in naos and narthex. The strongest colour accents in the shade are highlighted in a dark brown. The light areas in the portraits, such as the cheeks, the central parts of the front, the chin, the nose, as well as other light decorations, were made last.

In the narthex painting, the sections in light are presented with a hue that is influenced by the base, where the first is the most predominant between the green and brown. Other portrait details, such as the tip of the nose, the chin, and the upper part of the eyebrows, are touched by a lighter, partly white colour. The characteristic of Scutari's portraits is the soft and gradual passage from dark to light tones, masterly but without any pretence for a particular artistic treatment (Fig. 5).



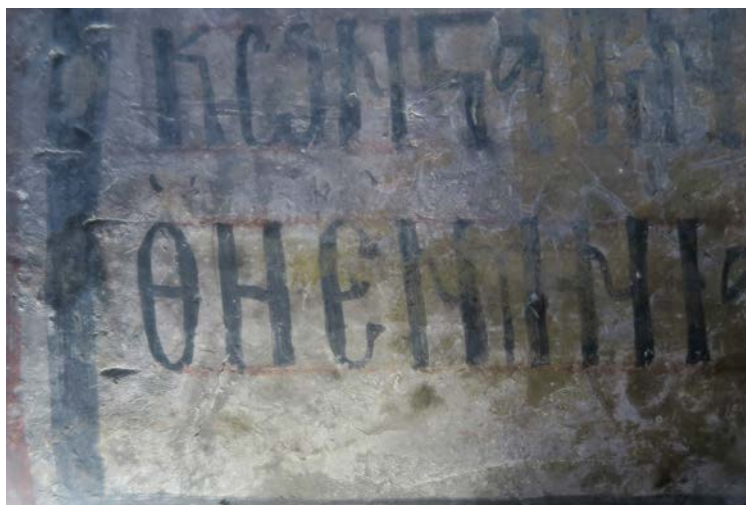
**Figure 4.** Preparatory scratching. Wall painting of the naos of St. Mary of Spile church. Source: Photo E. Çausi.



**Figure 5.** Portraits of the northern wall at narthex of St. Mary of Spile church. Source: Photo E. Çausi.

Based on the different techniques of execution, the inscriptions applied in the murals of both naos and narthex could be divided into three different groups.

a) The inscription next to the figures of the saints, showing the name and other info, b) the inscriptions in the dedicatory scrolls c) the inscriptions with the date and name placed by the end of the work signed by the author (Fig. 6). We find essential the necessity to document some relatively recent repairs applied over the original fresco in the northern and western wall of the narthex. They probably might be done simultaneously with the reparation of the cupola in which is screeched over the new plaster (Beruke, 1920).



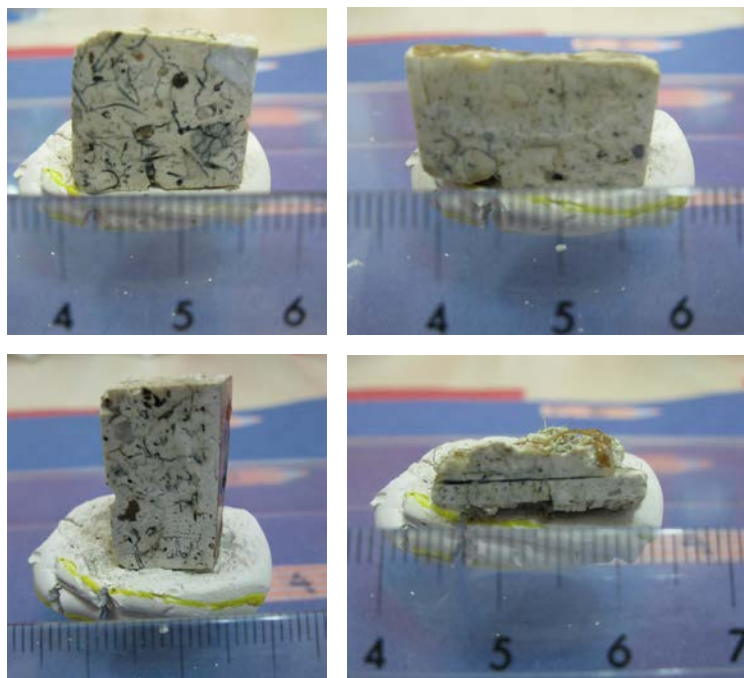
**Figure 6.** The inscriptions with the date and the name placed at the western wall of the Narthex. Source: Photo E. Çausi.

### Raw materials used for making of preparation layers and pigments

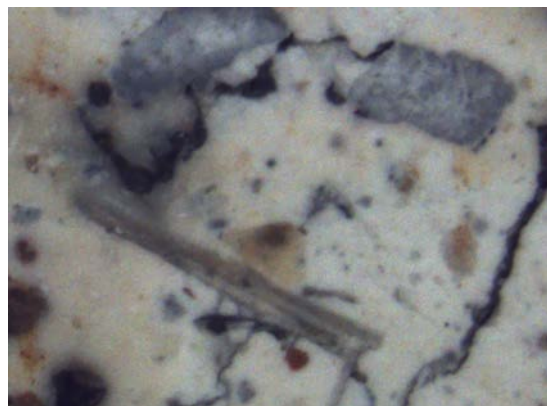
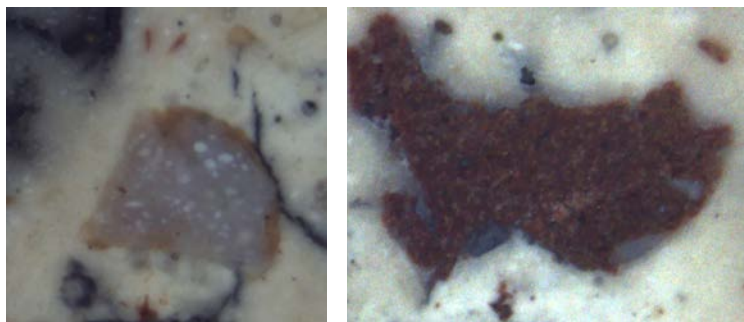
Samples were collected from naos and narthex scenes. The plaster (Fig. 7a, b, c, d) used as base-layer for the mural paintings consist of a mixture of non-hydraulic lime binder and sand aggregate, with or without fillers and pigments. Usually, its thickness ranges between 1-1.5 cm.

Stereomicroscopic and optical microscopic observations indicate a homogenous texture of the mixture aggregate-binder, where the aggregate contains angular to poor rounded grains (Fig. 8 a, b, c). Aggregate is bimodal and polymictic. Cavities are linear and two-dimensional.

Aggregate presents natural sand composed mainly of lithics such as chert, limestone, sandstone with carbonate cement, crushed ceramic and bio-additives are also detected.



**Figure 7- a), b), c) d).** Macroscopic view of collected plasters. Source: Photo E. Beqiraj.



**Figure 8- a), b), c).** Stereomicroscopic view different angular and poor rounded grains a) cherts b) ceramic c) bio additives. Source: Photo E. Beqiraj.

Usually, chert and ceramic grains were used to improve the pozzolanic properties of plaster. It is worth noting that, in the past, crushed brick mixed with lime had been used to produce mortars whenever pozzolanic materials were not available, and a mortar with hydraulic properties (i.e. a mortar that could set and harden underwater) was required (Ioannou et al., 2009) according to the granulometric analyses and optical microscopy, aggregate / binder ratio ranges from 1:7 to 1:9.

Three layers represent the stratigraphy: the coarse one described above, which is the support layer (arriccio); the second ground layer is composed of gypsum and anhydrite and the third one represents the pigments.

Based on the optical examination, earth pigments were identified. They are represented by red earth, yellow sienna and umber and may be originated from oxide-hydroxide of Fe, Mn.

## Conclusions

Based on applied artistic techniques, the Mural Painting of both Naos and narthex of the Spile church are executed on wet plaster, thus in fresco technique. This is determined by the division of working days, the presence of the preparatory drawing, and the preparatory screeching, as well as from the materials employed. The pigments used in the naos seem authentic, while in the narthex, a part of the 17 Century, some other modern pigments were applied at the lower register with the function of a reparation probably in the first half of the 20th century. Sandy aggregate is mainly composed of chert, limestone, sandstone with carbonate cement and subordinate crushed ceramic and bio-additives. Three layers are distinguished: the coarse/support layer, the ground (gypsum and anhydrite) layer, and pigments. The aggregate /binder ratio ranges from 1:7 to 1:9. Red earth, yellow sienna and umber originated from oxide-hydroxide of Fe, Mn were identified. In the end, we could observe a similarity between the two workshops in the artistic techniques of execution as well as in the materials employed. Moreover, this confirms once again the Scutari workshop as a successor of the Linotopi one.

## References

Botticelli, Guido (2005). *Metodologia del restauro delle pitture murali*, Centro Di, Firenze.  
Da Furna', Dionisio (1971). *"Ermeneutica della pittura" a cura di G. D. Grasso, introduzione di S. Bettini, Fiorentino*

editore, Napoli.

Giakoumis, Giorgo (1994). *"Monuments of Orthodoxy in Albania"*, (Mnimia Orthodoxias stin Alvania) Athina.

Popa, Theofan (1998). *"Mbishkrime të kishave në Shqipëri"*, Akademia e Shkencave, Tiranë.

Rinaldi, Simona (2011). *"Storia tecnica dell'arte, Materiali e metodi della pittura e della scultura (secc. V-XIX)"*, Carocci, Roma.

Thomo, Pirro (1998). *Kisha pasbizantine në Shqipërinë e jugut*, K.O.A.SH., Tiranë.

Giakoumis, Konstandinos (2002). *"The Monasteries of Jorgucat and Vanishtë in Dropull and Spelaio in Lunxhëri as Monuments and Institutions During the Ottoman Period in Albania (16th-19th Centuries)"*, PhD thesis submitted in the C.B.O.M.G.S., The University of Birmingham.

Τσαμπουρας, Θεοχάρης (2013). *ΤΑ ΚΑΛΛΙΤΕΧΝΙΚΑ ΕΡΓΑΣΤΗΡΙΑ ΑΠΟ ΤΗΝ ΠΕΡΙΟΧΗ ΤΟΥ ΓΡΑΜΜΟΥ ΚΑΤΑ ΤΟ 16ο ΚΑΙ 17ο ΑΙΩΝΑ, Ζωγράφοι από το Λινότοπι, τη Γράμμοστα, τη Ζέρμα και το Μπουρμπουτσικό, ΘΕΣΣΑΛΟΝΙΚΗ*.

Houliaras, Ioannis. P (2012). *"The Work of the painter Ioannis Skoutaris from Grammosta, Kastoria in Epirus and Southern Albania (1645-1672/3)\*"*, 61-75. *Matica Srpska, proceedings for fine arts; Novi Sad*.

Giakoumis, Konstandinos (2003). *"Veprimtaria e piktorëve nga Linotopi, në viset e kishës orthodhokse të Shqipërisë" in 2000 vjet art dhe kulturë kishtare në Shqipëri*. K.O.A.SH., 213-234, Tiranë.

Giakoumis, Konstandinos (2013). *"Identifikimi i objekteve të vjedhura"*, Pjesa I: *Ikonostasi i Spilesë (shek. XVII)*; *Gazeta shqiptare, (nëntor)*: 18-19.

Gil-Torrano, Andrea; Gómez-Morón, Auxiliadora; María Martín, Jose; Ortiz, Rocio; Fuertes Santos, Ma del Camino and Ortiz, Pilar (2019). *Characterization of Roman and Arabic Mural Paintings of the Archaeological Site of Cercadilla (Cordoba, Spain)*. *Hindaëi, Scanning Volume 2019, Article ID 3578083, 14 pages* <https://doi.org/10.1155/2019/3578083>

Schmidt, Birgit Angelika; Andreas Ziemann, Martin; Pentzien, Simone; Gabsch, Toralf, Koch, Werner & Krüger, Jörg (2016). *Technical analysis of a Central Asian wall painting detached from a Buddhist cave temple on the northern Silk Road*. *Studies in Conservation, ISSN: 0039-3630 (Print) 2047-0584 (Online) Journal homepage: <http://www.tandfonline.com/loi/ysic20>*

## Introduction

*“Even the most knowledgeable Christian may not remember the words of the homilies he heard as a child, but he will certainly have fixed in his memory the paintings and candles, and the details of the churches in which he spent so many hours of his childhood, youth and adulthood”.*

Richter

From a citation by the well-known German bishop Richter (2002, p. 11), we can see the importance of religious architecture in multi-ethnic contexts as it has the primary objective of forming and shaping generations of new community members and inhabitants of places (Longhi, 2008) and the territories themselves. Starting from the places of cult, over the centuries, the layout of cities has developed, consisting of squares and roads to symbolise and reinforce the importance of religious power. Starting from these premises, this contribution, realized thanks to the financing “Valere2019” of the University of Campania “Luigi Vanvitelli”, proposes the documentation and knowledge of the religious architectures of the ancient city of Zadar (fig. 1) and their new function. In particular, the research has foreseen different operational phases: firstly, a historical-critical analysis of the city of Zadar in order to identify the cultural context of the area of investigation; the second phase of the research allowed the identification and classification of the various places of worship present at the territorial scale in order to recognise their architectural typology; subsequently, a geometric survey was carried out in order to identify the configuration and current state of conservation of two case studies taken as a model for the present investigation by means of the survey for restoration and the elaboration of material and degradation images; The last phase of the research aims to devise a concept of interventions to revitalise the urban context through the insertion of services and attractions consistent with the new function of the sacred spaces, which have lost their original liturgical use to meet the new needs of contemporary society.

## Historical-critical analysis

The history of the ancient city of Zadar dates back 3000 years, as confirmed by numerous archaeological finds that testify to the presence of humans since the Palaeolithic era.

The first inhabitants of the present town were the Liburnians, an ancient Illyrian tribe, who decided to build the ancient town of Zadar in the 9th century BC. At that time, it was called Iadera, becoming first a municipality and then a Roman colony. During this period the city became a real urban centre with streets, squares, a forum and a temple, the remains of which are still preserved today near the Archdiocese. After the fall of the Western Roman Empire at the beginning of the 7th century AD, Zadar became the capital of Byzantine Dalmatia and later a Duchy. At that time Christianity spread significantly, influencing the arts and architecture. One example is the Church of St Donatus, the symbol of the place, whose construction dates to this historical period. Byzantine rule lasted until the 10th century when the city was dominated by the Croats.



Figure 1. Religious architecture in the ancient city of Zadar. Photographic documentation.

During this century, many Romanesque churches were built, including the Church of St Mary and the Benedictine monastery (Cattalinich, 1835). During the Renaissance there was an invasion by the Venetians and the Turks, which resulted in the transformation of the city into a fortress. For several centuries Zadar was one of the most important cities of the Venetian Republic, to which it was annexed until 1797 following its fall (Duran, 1921). After a brief Napoleonic rule, it was conquered by the Austrians until the early 20th century when it became the capital of the Kingdom of Dalmatia. After World War I, the city became an Italian exclave, and during World War II it was severely affected by air raids. It was only with the peace of 1947 that it was officially annexed to Yugoslavia, and following the dissolution of that republic in 1991, it became part of Croatia as the capital of the Zadar region (Fig. 2) and the country's university and archbishopric (Gambaro, 2010).

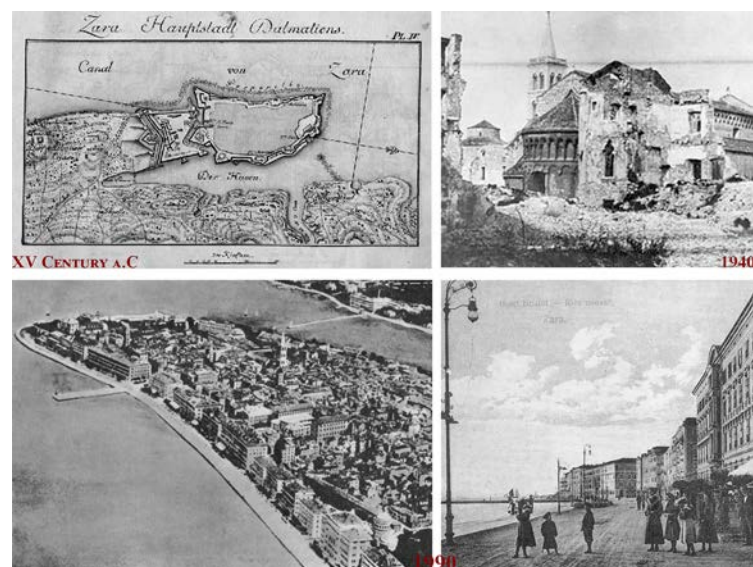


Figure 2. Planimetric identification of places of cult in the city of Zadar and architectural typology.

### Documentation and survey of the current configuration and state of conservation

Following the analysis of the historical context of the ancient city of Zadar, the analysis included an initial documentation of the places of cult. This phase of the research allowed a preliminary analysis at the territorial scale of the fourteen places of cult in the city of Zadar. In particular, it was possible to identify planimetrically the position of each place of cult and to differentiate them on the basis of architectural typology (Fig. 3).

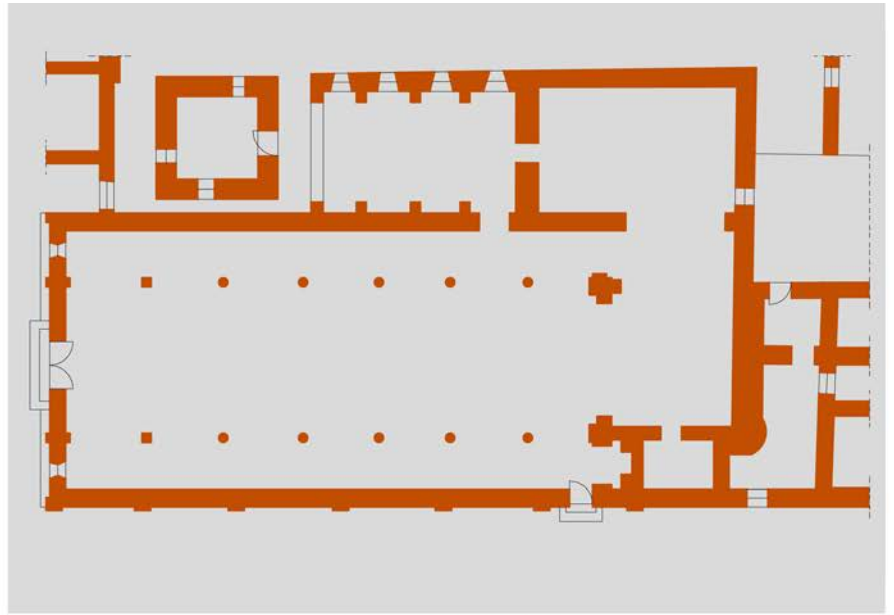


Figure 3. Planimetric identification of places of cult in the city of Zadar and architectural typology.

The places of cult include ten churches, a monastery and a convent, a cathedral, and a chapel. Subsequently, the research was carried out mainly on the central core of the ancient city of Zadar, consisting of the predominance of the Church of St Donatus, and the adjacent Church of St Mary (fig. 4). In order to analyse its configuration and current state of conservation, it was necessary to carry out several survey campaigns in July 2021. At this stage, the survey was considered as a tool for critical observation and investigation, which, combined with the graphic processing of the acquired data, allowed the interpretation of reality, acting as a fundamental cognitive basis (Carocci, Circo 2015, pp. 134-142) for documentation and valorisation. The method of knowledge allowed for the acquisition of a series of information, ranging from material to conservation, regarding the tangible aspect of the artefacts analysed. The choice of the most appropriate survey technique required the analysis of different factors, such as the purpose of the research, the available budget, the morphological characteristics and accessibility of the site, and the level of detail to be obtained (Remondino, 2011). In this context, the image-based survey procedure carried out by means of digital cameras proved to be the most suitable both for the need of a quick and economic measurement and for the possibility offered by the latter to obtain detailed digital models of the tangible aspect of the analysed artefacts (D'Aprile, Piscitelli 2020).



**Church of Saint Donatus**



**Church of Saint Mary**

*Figure 4. Planimetric survey of the Church of Saint Donatus and the Church of Santa Maria.*

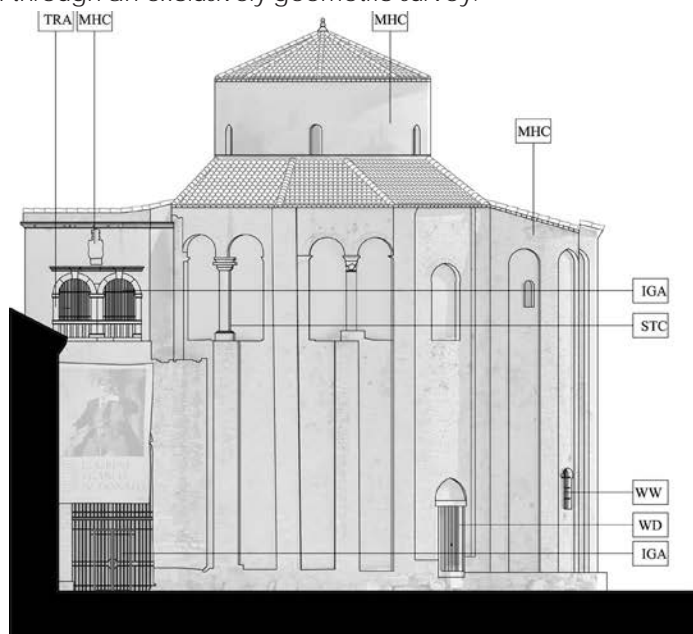


*Figure 5. Processing of point clouds and orthomosaics from photogrammetric survey.*



The photographic documentation obtained allowed the subsequent phase of image alignment, carried out using common three-dimensional modelling software. The method made it possible to obtain a series of point clouds (Fig. 5), as an intermediate representation between the real and the virtual (Manfredini & Remondino, 2010: pp. 163-193). From the latter, several two-dimensional drawings were subsequently extrapolated, consisting of orthomosaics, used as a support for the elaboration of the geometric drawing and the material and degradation survey. The material analysis, first of all, allowed the knowledge of the constructive complexity of the architectures analysed, allowing, at the same time, to highlight peculiarities that could not be found through an exclusively geometric survey.

Knowledge of materials and construction techniques, as we know, is a fundamental prerequisite for any restoration work on the historic heritage (Fiengo, 2003: 9-12). Subsequently, the survey of degradation pathologies was carried out following the Recommendations and graphic conventions of the Normal 1/88 Lexicon and the Uni 11182/2006 Standard in order to identify the surfaces affected by manifestations of degradation and the state of conservation of a historic structure (Picone, 2004). The first architecture analysed is the Church of St. Donatus, part of a complex of religious buildings constituting the Archdiocese of Zadar. It is a building belonging to the Byzantine and Carolingian architecture built in the Middle Ages between the 8th and 9th centuries, with a circular shape and two levels.



MATERIAL LEGEND

VERTICAL PARTITIONS		FINISH	
Local stone masonry with lime mortar, with horizontal and parallel courses.	MHC		White acrylic paint on the cylindrical elements supporting the domes.
Bassorilievo	BAS		Travertine arches and columns
Iron Gates	IGA		Stone columns
WINDOWS			
Double leaf wooden door	WD		Wooden window with iron gate

DEGRADATION LEGEND

	Chromatic alteration		Detachment		Casting
	Scaling		Weed vegetation		Superficial deposit



Figure 6. The Church of Saint Donatus Material ad degradation survey.

Due to its monumental shape and size, it is considered the most important pre-Romanesque architecture in the city. The material analysis carried out shows the high historical value of the structure as it is made of natural ancient materials such as local stone. From a conservation point of view, the structure does not present major problems and worrying forms of degradation, the latter consisting mainly of dripping, damp patches and the presence of vegetation due to an inadequate rainwater disposal system (Fig. 6).

From a functional point of view, the church no longer has a religious use but is currently used as a concert venue thanks to the acoustics provided by the internal structural configuration. Other architecture analysed is the Church of Santa Maria, the most important building of an ancient Benedictine Monastery built in 1091 in Romanesque style. Despite numerous restorations and reconstructions, much of its original structure has been preserved.

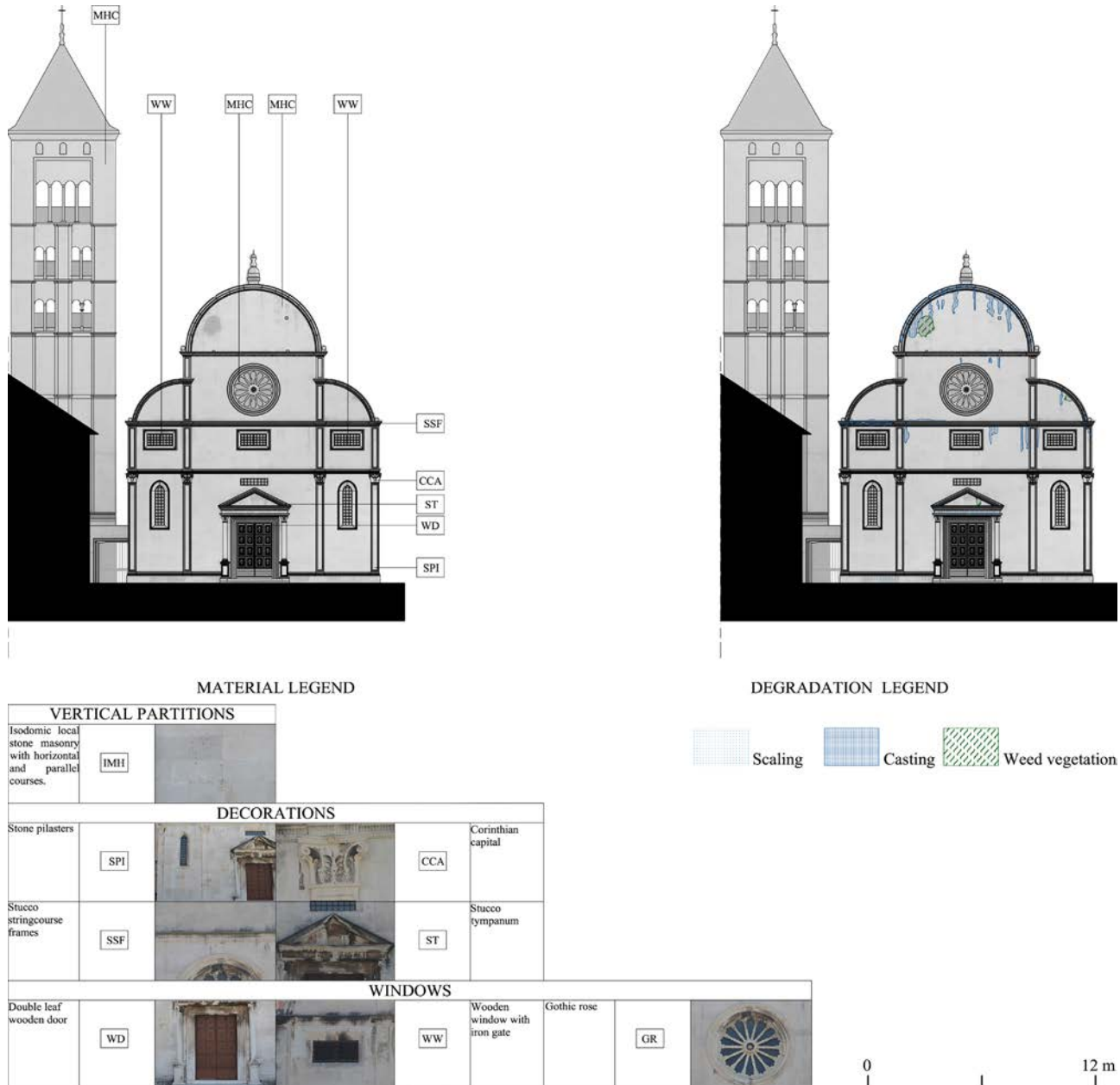


Figure 7. The Church of Santa Maria. Material and degradation survey.

In the first decade of the 16th century, the church was enlarged, and the main and southern facades were rebuilt in Venetian Renaissance style. The interior was decorated in the Baroque style between 1742 and 1744 but was partially destroyed during World War II. They were subsequently restored following major conservation operations in 1970. As in the case of the previous architecture analysed, the Church of St Mary is also of high architectural and material value and in an excellent state of preservation (Fig. 7).

The most common forms of decay are dripping, staining and the presence of vegetation from rainwater. The church is currently used as a museum, housing gold and silver objects, paintings, relics and ancient crosses dating back more than a thousand years.

### A restoration hypothesis for the revitalisation of the historical centre of the city of Zadar

The last phase of the research involved the design of a restoration and reuse hypothesis aimed at revitalising the historical centre of the city of Zadar and, in particular, the square that divides and at the same time connects the two religious architectures analysed. The studies conducted have shown that both the Church of St Donatus and the Church of St Mary do not present any problems of deterioration that would require restoration, and at the same time, religious celebrations are no longer held in either structure.

On the contrary, both structures are currently used as cultural venues for classical music concerts and for the exhibition of relics and sacred objects. For these reasons, the research aims to revitalise the square that divides both churches, in order to insert spaces of aggregation and attractiveness both for tourism and for the inhabitants of the place. The theme of reuse, whether linked to individual architectural artefacts or to urban contexts, has spread widely throughout history. Since the time of Vitruvius, in the second half of the first century BC, the concept of *utilitas* was considered of fundamental importance for the existence of any building or its context (Gros, 1997). The importance of this theme was then intensified in the 1980s when some scholars began to talk about memory (Settis, 1984) and the reuse of the ancient (De Lachenal, 1995). The objective to be pursued for the historical artefacts and their urban context, therefore, wants to be that of devising new intervention strategies aimed at a sustainable use able to create balanced relationships between territory and architecture and between conservation and innovation (Petrucci, 2016). As a result of these considerations, the project proposal foresees the revitalization of the square through the insertion of paths and ramps for wheelchair users, pedestrian paths and bicycle paths. In addition, the intervention also proposes the creation of some areas of aggregation, through the insertion of seats and ponds (Fig. 8).



Figure 8. Hypothesis of reuse and re-functionalisation of the square.

## Conclusions

The proposed research aims to demonstrate how the discipline of restoration applied to religious structures and to the urban context, with the aim of reuse and revitalisation, represents an important path to pursue in order to enrich communities from both a spiritual and a cultural point of view, in the context of contemporary society. This method of intervention allows, on the one hand, the preservation of ancient memory and, on the other, its transmission to future generations. The rational reuse of the religious heritage and its urban context, compatible with the historical-architectural value of the places, can be used as an enhancement to conservation and enhancement activities, at the same time stimulating knowledge of forgotten and often inadequately valued places.

## Bibliography

Cattalinich G. (1835), *Storia della Dalmazia*. Zara: Co' Tipi dei Fratelli Battara.

CNR-ICR, *Normal - 1/88 alterazioni macroscopiche dei materiali lapidei*. Roma: lessico, 1990.

D'Aprile, M., Piscitelli, M. (2019), *Survey, stratigraphy of the elevations, 3d modelling for the knowledge and conservation of archaeological parks: the castle of Avella*. *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, vol. XLIII (2/W9), pp. 289-296.

De Lachenal, L. (1995), *Spolia. Uso e reimpiego dell'antico dal III al XIV secolo*. Milano: Longanesi.

Duran A. (1921), *La Dalmazia nell'arte italiana*, vol.1. Milano: Fratelli Treves Editori.

Fiengo, G. (2003), *Le finalità della ricerca*. In: G. Fiengo, L. Guerriero (a cura di), *Atlante delle tecniche costruttive tradizionali. Lo stato dell'arte, i protocolli della ricerca. L'indagine documentaria*, pp. 9-12. Napoli: Arte Tipografica Editrice.

Gambaro F. (2010), *La città della memoria. Storie di vita di esuli da Zara nel secondo dopoguerra*. Venezia: Alcion editore.

Manfredini, A. M., Remondino, F. (2010). *Modellazione 3d da immagine. Pipeline fotogrammetrica. Modelli digitali 3d in archeologia: il caso di Pompei*, pp. 173.196. Pisa: Edizioni della Normale.

Petrucchi E. (2016). *Antichi edifici religiosi e nuovi usi. Un difficile processo di trasformazione nella città contemporanea*. In: *In\_bo, ricerche e progetti per il territorio, la città e l'architettura*, n. 10.

Picone, R. (2004), *Conservazione e accessibilità. Il superamento delle barriere architettoniche negli edifici e nei siti storici*. Napoli: Arte Tipografica.

Pierre, G. (1997), *Marco Vitruvio Pollione, De Architectura*. Roma: Einaudi.

Remondino, F. (2011), *Rilievo e Modellazione 3D di siti e architetture complesse*. In: *Disegnarecon, dicembre 2011*, pp. 90-98.

Settis, S. (1984), *Memoria dell'antico nell'arte italiana*, vol. III. Torino: Einaudi.

UNI III82 2006. *Materiali lapidei naturali ed artificiali. Descrizione della forma di alterazione. Termini e definizioni*.

The background features a complex, abstract geometric pattern. It consists of numerous overlapping hexagons of varying sizes and orientations. Some hexagons are solid light gray, while others are defined by dashed white lines. The overall effect is a dense, interconnected network of shapes, creating a sense of depth and complexity. The text is centered over this pattern.

# Chapter 4

Modernisation in  
the urban planning,  
design and landscape



## Introduction

“Minor squares in the historic centre of Florence” documents a research project which was initiated on the occasion of the European Year of Cultural Heritage 2018 and developed within the context of the three-year cycle (2018/2020) “City\_Heritage and Project”, promoted by CISDU-International Centre for Urban Design Studies and the UD- Urban Design Laboratory of DIDA-Department of Architecture of the University of Florence in collaboration with the UNESCO Office of the Municipality of Florence. It represents the first thematic meeting of this cycle, inaugurated in Florence in May 2018, with an international convention-exhibition-round table discussion on the topic of architectural-urban-landscape heritage to be explored in a contemporary key, through the project in its various possible alternative forms.

The reflection is articulated around a desirable culture of the project to be developed in a framework of shared operations that requires strategies and implementation tools that are both important and necessary for addressing the challenges presented by contemporary society with awareness.



Figure 1. Florence, Historic Centre UNESCO Heritage Area, 1982

Reflections that have been accelerated by the pandemic and which, beginning from the concurrence between the safeguarding and valorisation of Heritage as a cultural legacy, reaffirms its importance as a sustainable resource for strengthening the sense of belonging and identity values to be shared in a common space that is not exclusively local, so as to contribute to the well-being of the community and the quality of life in different ecosystems, both tangible and intangible.

In this sense, it is important to stress, in order to face the new challenges that make the city, the community, and the environment converges in the same process that is relevant at both the global and local scales, the important role of the project as a driving force which leads to a vision that becomes operational and choral, as well as the role of the architect as the coordinator of a transverse multidisciplinary approach.

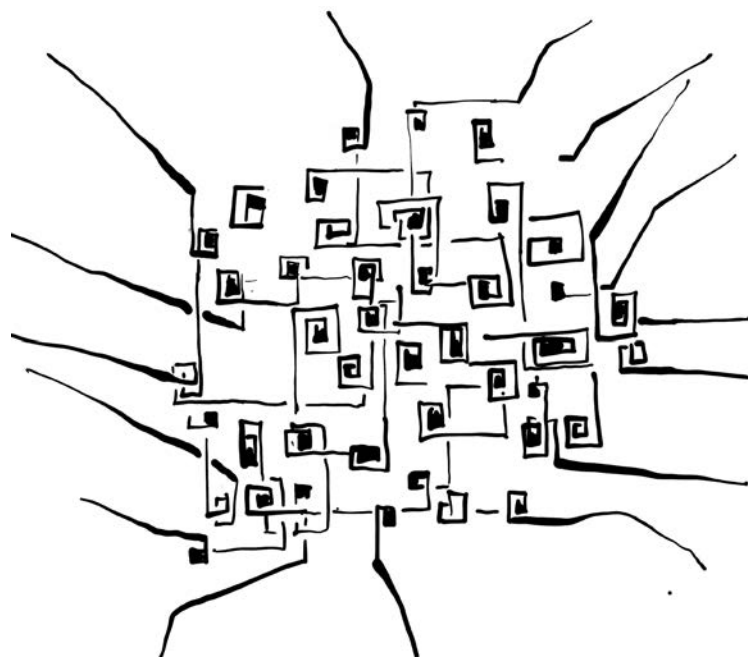


Figure 2. Concept of the system of “Minor Squares in the Historic Centre of Florence” (sketch by Antonio Capestro).

From the perspective of these new spatial, social and productive geographies, in fact, the management of the process for “making the city and human settlements inclusive, safe, long-lasting and sustainable”, as goal number 11 of the 2030 Agenda reminds us, is fundamental because it underlines the nature of the city as a complex, dynamic and organic system<sup>1</sup>, as a palimpsest on which all have the right-obligation to intervene, and as such it requires:

- An ethical attitude regarding transformations;
- Shared actions;
- Transformation of cultural heritage into a resource for development.

It is to this context of reflection that the theme of the Minor squares belongs.

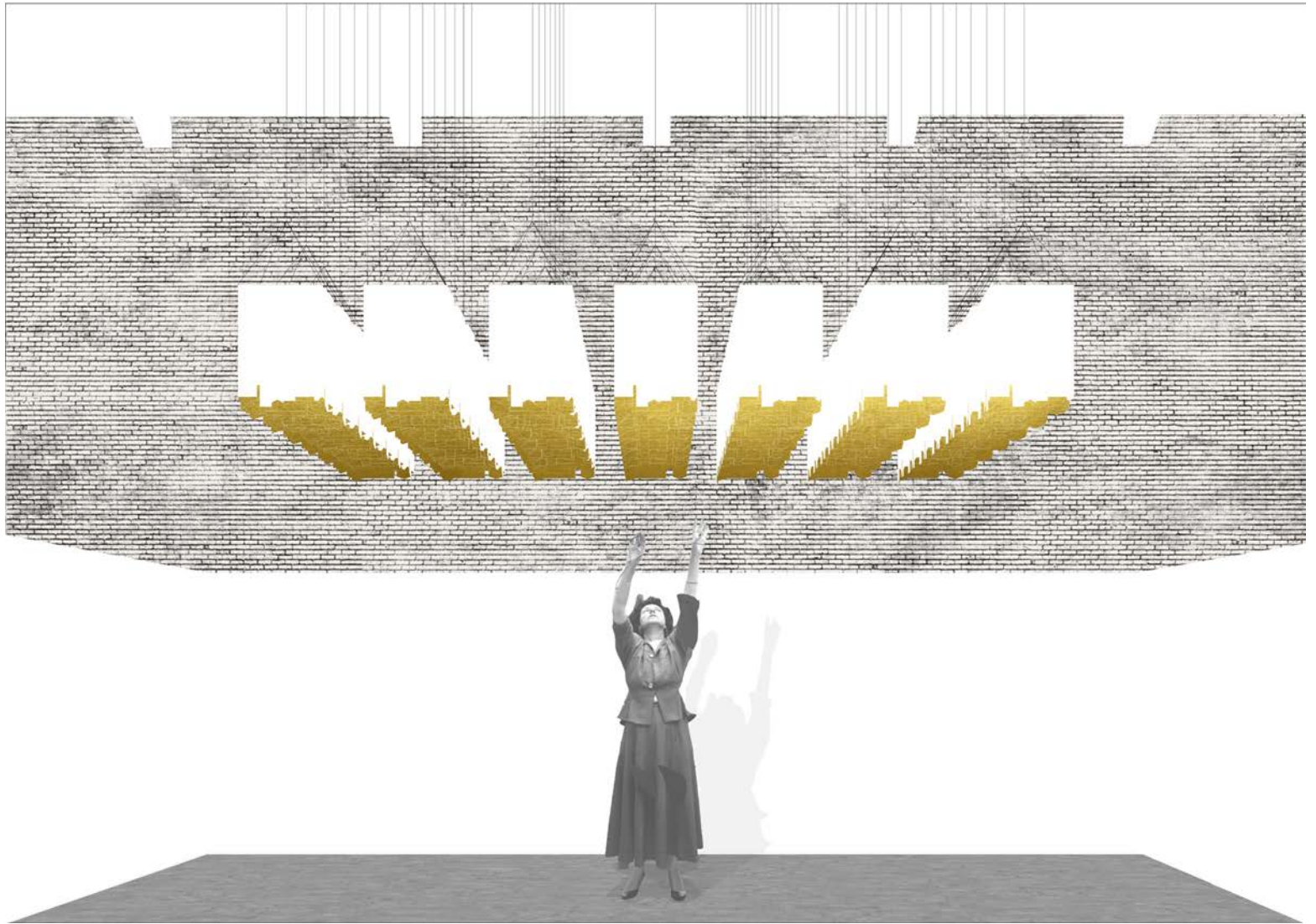


*Figure 3. Portrait of some minor Squares in the Historic Centre of Florence (photo by Antonio Capestro).*





**Figure 4.** Mapping of 49 minor squares: 1:200 scale models of the current state (Authors: students of the Laboratory of Architectural Design I of the School of Architecture - University of Florence; prof.: Antonio Capestro; tutors: Luciana Bizzini, Gabriele Salimbeni, Valentina Sullis).



**Figure 5.** Concept for the installation “Minor Squares in the Historic Centre of Florence” (Project: Antonio Capestro and Cinzia Palumbo; render: Ludovico Capestro)

### Why “Minor squares in the historic centre of Florence”?

Despite the fact that it is a World Heritage Site and an example of excellence, ingenuity and creativity, Florence has risked breaking the harmony of this relationship and losing its capacity as a resilient community. Hence the theme of the research is to be made operational through the project and best practices. More specifically, the initiative addresses the issue concerning the series of squares located within the historical fabric of Florence, which have turned into residual spaces despite the value inherent in their position. Due

to a series of phenomena, repeatedly emphasised by UNESCO (gentrification, unsustainable mobility, neglect and abandonment), these “minor squares” are generally excluded from the major tourist, cultural and commercial circuits, also because they are improperly used for functions that are incompatible with the life and wishes of their inhabitants, whether residents, city users or tourists. As a result, they are transformed from spaces for social interaction into marginal, underutilised and degraded places.

‘Minor’ in terms of their current condition and not as an indication of their role, these urban environments, often undervalued and yet with great potential, could

represent an alternative for re-establishing a better quality of life and become the goals of 'journeys' in search of dynamic and unusual urban itineraries.

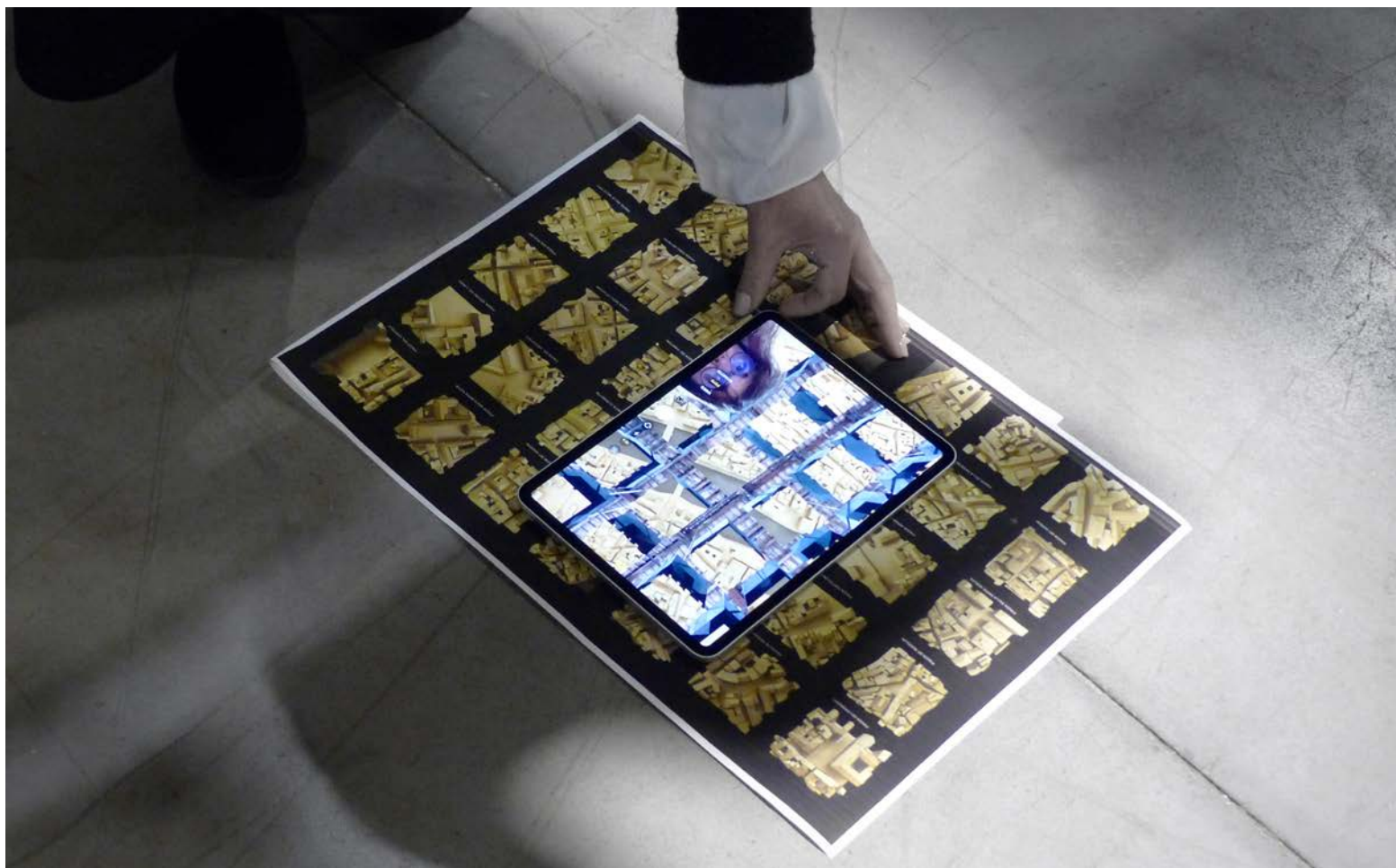
Although being small or apparently secondary realities, if reinterpreted within a serial system as nodes of an urban spatial skeleton that regenerates a social structure, these squares could, in fact, renew a collaborative pact between places and people in the area included in the UNESCO historic centre. Minor squares draw attention to this alternative vision for beginning once again to generate energy for Florence.

As a serial system of remarkable places with different but complementary connotations, it could represent a different way of reinterpreting the city's structure. This would help to reverse current perspectives which generate criticalities and to find, instead, a new relational, spatial and semantic harmony between the city of the

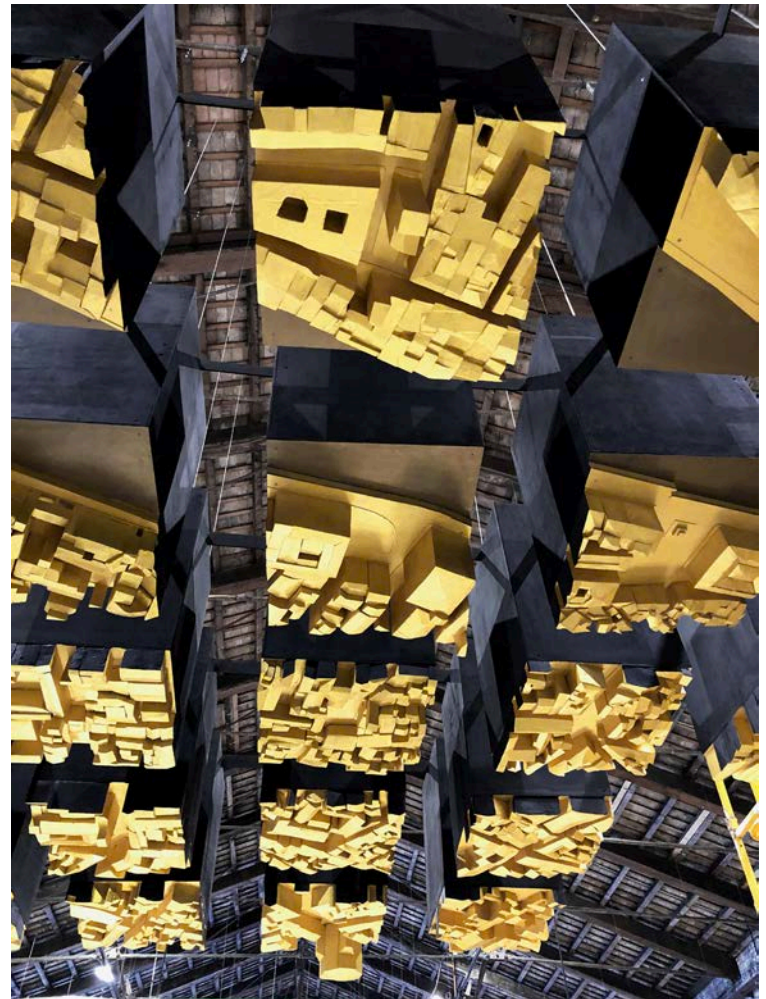
monuments and the social fabric, as has always been the case throughout history, exploring new urban narratives also through a personalised experience, so as to allow both individuals and the community to identify with the city as a field of identity-strengthening actions and not as a crystallised backdrop.

In order to recover this sense of places, re-constructed also through the aesthetic, civic and emotional dimensions of experience, it is important to reactivate the habit and pleasure of living the structure of the city as an overall vital system which includes monuments, public spaces, pathways, residences and services, but also stories, memories and unexpected experiences.

In view of this, what can be done to make Florence accessible and for experiencing the city differently, especially now in the post-Covid rethinking phase?



*Figure 6. Installation, Work in progress*



**Figure 7.** La Biennale di Architettura, Venezia 2021 | Italian Pavilion | Resilient Communities | Italian Best Practice Section. Installation “Minor squares in the historic centre of Florence” (realization: LAA-Architecture and Auto-construction Laboratory with the support of the LMA- Models for Architecture Laboratory, Department of Architecture, University of Florence).

In the case of the Historical Center of Florence, also due to the urgency of critical elements already present in the pre-Covid era, this virtuous process for making the city attractive, sustainable and accessible to all has already begun, both with the “Action Plan of the Management Plan” and through the “Regulation on Collaboration Between Citizens and the Administration concerning the Care, Shared Management and Regeneration of Urban Commons”. Both these tools have been preparing the ground for a methodically structured cross-fertilisation of ideas aimed at providing solutions through general and detailed projects, which will also help restore the alliance between the city and its inhabitants.

### **Florence World Heritage: project actions and best practices**

The theme “Minor squares in the historic centre of Florence”, the main subject of the International Conference above-mentioned whose proceedings were recently published<sup>2</sup>, continues with the dissemination activities: in 2020, the project was included in the Management Plan “Florence World Heritage and Relationships with UNESCO”, of the Municipality of Florence<sup>3</sup>; in 2021 the exhibition “How will we live together?,” curated by Hashim Sarkis, was presented at 2021 Architecture Biennial in Venice in the context of the Pavilion Italy | Resilient Communities, curated by Alessandro Melis, in the section “Italian best practice” (Venice 22 May-21 November).

Specifically, 'Minor Squares' has been included in the UNESCO Management Plan<sup>4</sup> for the Municipality of Florence as an experimental model for urban regeneration, as well as for determining new possible vocations and potentials and for activating a virtuous process through the Architecture and City project, where different professional competences, governance and civic awareness and participation can come together and interact actively and dynamically.

The goal is to develop a serial partnership system connecting the said squares. Although being places of secondary relationships, these squares are present throughout the urban fabric in a widespread and capillary manner, and therefore have a significant relational value through their connection to the existing monuments. Considering that the knowledge of these places, remarkable yet unexplored, represents the first phase of this initiative, the aim of this project is twofold:

- The first is linked to a strategy for managing tourism flow so as to establish a variety of relations and usages between major and minor squares, aimed at the construction of dynamic and renewed urban itineraries. 'Voyages in search of', within a serial system which has the squares as reference hubs for all citizens (residents, city users, students, tourists, merchants, craftsmen, etc.);
- The second is connected to the role that can be played by local citizens (residents, managers of commercial, artisan and cultural activities). To work on minor squares means to regenerate a whole system of small places where residents and owners of small businesses in the historic city of Florence who risks being expelled from it can be once again involved in leading roles as part of an "active stronghold" for an "active tutelage" of the heritage.

In the operative terms, the project sheet included in the Management Plan of the Municipality of Florence proposes the development of five interrelated actions:

1. The establishment of a Steering Committee composed of entities, institutions, associations (also temporary), through agreement protocols and/or conventions;
2. The creation of maps in the form of an implementable atlas aimed at the knowledge of the squares through a Guide and the selection of sample areas for project interventions and temporary events;
3. The selection of areas to undergo project interventions in accordance to priorities/vocations and to the adequate underlying rationale for these projects (conventions, participated projects, competitions);

4. Permanent and ephemeral interventions, also through self-construction mechanisms; Management based on common assets regulations;
5. Monitoring, communication and dissemination of good practices.

In tune with the 2021 Architecture Biennale "How will we live together?," the minor squares theme in the historic centre of Florence was selected to participate in the section "Italian best practice" of the Pavilion Italy | Resilient Communities. The need for a new "spatial agreement" (Hashin Sarkis) and the importance of the role of architecture and of the architect as 'builder of ideas' (Alessandro Melis) for significantly contributing to the betterment of environmental and social well-being, corresponds, in fact, to a change of perspective concerning the system of minor squares that are addressing the theme of urban resilience, both operatively and in terms of vision, by working on the idea of the city-system which safeguards a heritage of living memory and the promise of a future of identity and belonging where all can live "generously together".

In the installation, 49 scale models narrate some squares of the historic centre of Florence, proposing an inversion of the gaze and new experiences in the city.

The installation takes up this concept of Florence urban organism as a genetic code made up of many elements, each with its own distinctive character but belonging to the same family, which can be identified as part of a serial system based on constants, images, relationships, positions and, in general, themes both present or yet to be activated. The installation is conceived as a single body made up of various identities that together represent the current state of the squares, which, with their morphology, are already the starting point for the design process.

The installation, 25 metres square and suspended 3 metres above-ground, provocatively invites us to reassess new urban balances and perceptions. The 49 models, in colour black and decorated on top with the "gold of the squares", symbolically refer to the potential that each residual space has from the perspective of a model of resilience involving both the community and the city.

The city has always shown this fantastic dimension of 'adaptability', understood as the capacity to have a vision and a project when undergoing transformations. Pulsating, with both impetus and rigour, it has always laid the conditions for being a little bit like "Dido" and a little bit like "Ulysses".

"Dido", which, in her desire to define a territorial scope, paved the way for intelligent use of resources; "Ulysses" because our natural tendency to explore will never allow

us to stop looking beyond. From this perspective, the “Minor Squares” project wishes to represent a process in progress of urban resilience, both in terms of vision and in an operative sense. By working on an idea of the city as a system, as a living organism, it is aimed at recovering not only monuments but also the urban fabric, so as to allow us to discover every step, as well as to establish itself as an active stronghold of hospitality and inclusiveness.

## Note

<sup>1</sup> UNESCO, 2013, *New life for historic cities: The historic urban landscape approach explained*. Introduces the Recommendation on the Historic Urban Landscape.

<sup>2</sup> Capestro, A. (Ed.). (2019), “Piazze minori nel centro storico di Firenze” *Proceedings of the international conference - Florence, 19-26 May 2018*.

Firenze: DIDApres. [https://issuu.com/dida-unifi/docs/piazze\\_minori\\_nel\\_centro\\_storico\\_di\\_firenze\\_\\_anto](https://issuu.com/dida-unifi/docs/piazze_minori_nel_centro_storico_di_firenze__anto)

<sup>3</sup> Firenze Patrimonio Mondiale (2020). “Piazze minori nel centro storico di Firenze”. Accessed May 30, 2021.

<http://www.firenzepatrimoniomondiale.it/1820-2/>

<sup>4</sup> Municipality of Florence – Department of Urban Planning and UNESCO Office; UD- Urban Design Laboratory of the Department of Architecture of the University of Florence; C.I.S.D.U.- International Centre for Urban Design Studies; OAF-Ordine degli Architetti di Firenze; Fondazione Cassa di Risparmio di Firenze.

## References

Amendola, G. (2016). “Emozioni urbane. Odori di città”. Napoli, IT: Liguori.

Capestro, A. (Ed.). (2019). “Piazze minori nel centro storico di Firenze”. Firenze, IT: DIDApres.

Romano, M. (2008). “La città come opera d’arte”. Torino, IT: Einaudi.

Sennet, R. (2012). “Insieme. Rituali, piaceri, politiche della collaborazione”. Milano, IT: Feltrinelli.

Capestro, A. (2018). “Verso una progettualità strategica per gli spazi residuali del Centro storico di Firenze - Patrimonio mondiale Unesco”, in

*Piccoli spazi urbani. Valorizzazione degli spazi residuali in contesti storici e qualità sociale*, edited by Antonio Lauria, 239-261. Napoli, IT: Liguori.

Capestro, A., Palumbo, C. (2021). “Piazze minori nel centro storico di Firenze”. In *Resilient Communities/Comunità Resilienti*. 17. Mostra Internazionale di Architettura di Ven-

ezia. *Padiglione Italia. Catalogo della mostra*, edited by Alessandro Melis, Benedetta Medas, 190-193. Venezia, IT: D Editore.

Capestro, A., Palumbo, C. (2019). “Piazze minori nel centro storico di Firenze”. In *Modernisation and Globalization. Challenges and Opportunities in Architecture, Urbanism, Cultural Heritage*. IFAU, 3° International Forum for Architecture and Urbanism. November 21-23 Tirana, edited by Florian Nepravishta, Andrea Maliqari, 976. Tirana, AL: Faculty of Architecture and Urbanism (FAU), Polytechnic University of Tirana (PUT).

Palumbo, C. (2019). “Il progetto delle piazze minori: strategie d’intervento e governance”. In *Piazze minori nel centro storico di Firenze*, edited by Antonio Capestro, 242-259. Firenze, IT: DIDApres.

Palumbo, C. (1997). “Estetizzazione dell’esperienza urbana”. In *Metamorfosi urbane. Scenari e progetto*, edited by Piero Paoli (et al.), 9-32. Firenze, IT: Alinea.

Palumbo, Cinzia. (2001). “Dalla città dell’utilità alla città del desiderio”. *Firenze Architettura*. 2.01: 30-4

**Introduction<sup>1</sup>**

In the last fifty years, urban transformations have occurred in many countries of the Mediterranean area and in different areas of the world with different connotations where distribution is not organically governed. These urban changes have taken place at a discontinuous rhythm, and accelerations and sudden slowdowns have to be interpreted as outcomes of global conjunctures in local areas.

A critical observation of the results of these accelerations in urban transformation shows how the forces of urban change are always poorly distributed: a few planning activities with clarity of purpose and good design cannot compensate for the large number of widespread settlement transformations motivated exclusively by the accumulation of economic resources “freed” from particular circumstances that have developed in the various micro and macroeconomic contexts. These widespread changes to settlement patterns are mostly seen in malfunctioning and obsolete products, be they buildings, the arrangement of public spaces, urban design quality, infrastructures, and so on. Instead, a new season of reuse and the real functionalisation of transformed spaces can only be envisaged within the public actor’s capacity to implement a series of widespread and minute practices, following the example of some tactical urbanism practices, now also driven by a growing sensitivity to the urban environment increased by the pandemic crisis.

A new vision of public space must move away from the traditional concept of public endowment linked to purely quantitative elements (the presence of which involves potential use calculations and does not consider their actual effectiveness in raising the quality of the public space) and from “political representativeness” functional to more or less effective representations of power.

Urban planning, understood as a vast field of practices could play an important role in this sense. This particular theme is investigated in light of studies and observations of some Mediterranean contexts (Italy, Albania, Morocco), proposing a disciplinary framework to place some widespread approaches and practices to be fine-tuned locally.

**The different speeds and rhythms of urban transformation**

In the last fifty years, in many countries of the Mediterranean area, settlement transformations have occurred essentially without an organic government strategy. These urban transformations have taken place at discontinuous rhythms, with sudden accelerations and slowdowns, and as a result, they have been interpreted as local conjunctural outcomes of global movements and tensions (Talia, 2018). In this context, no physical signs of the transformation define a picture that can be considered final in Italy or in other parts of the Mediterranean (Munarin and Velo, 2016).

In truth, the representations that emerge mainly define a poorly constructed environment, where the advent of modernity which defined the need for a radical reinterpretation (at various scales) of an often ultra-millennial territorial evolution, did not reflect a series of past projects consistent with a clear framework; on a more serious note, this coherent framework of reference cannot be found in Mediterranean areas where the manifestation of the advent of modernity in productive and social organisation is more recent (Pace 2002).

Critical observation of the results of this acceleration clearly shows how transformation drivers have always been badly distributed. Some planning episodes with clarity of purpose and good planning cannot in any way compensate for the problems brought about by the poor construction of widespread settlement transformations, motivated exclusively by the accumulation of economic resources freed from particular local circumstances or by the prevalent transfer of family resources into construction activities, which have mostly resulted in malfunctions and obsolete building products. Among the countries of the Mediterranean area, however, it is appropriate to distinguish between those, such as Italy, where the complete advent of modernity (Berman 1982) can be placed further back in time (around the middle of the twentieth century) and those like Albania or Morocco, where, for different reasons, continuity with respect to slow transformation has occurred more recently.

As has been noted, in Italy, the “great transformation” announced as the outcome of modernity (Turri, 1998) is still dramatically incomplete: starting after the second world war and continuing with alternating rhythms until at least the first decade of the 21<sup>st</sup> century (Lanzani 2003, 2011; Lanzani and Pasqui, 2011) it seems to have crystallised in the unfinished forms of what has elsewhere been referred to as the “interrupted construction site” (Carta and Lucchesi, 2017). Among other things, sensitivity and attention to some minimal qualities of public spaces, the relationship between both public and private internal and external spaces, collective buildings and households, the organisation of urban public mobility, and the quality of public space are all factors that assumed considerable importance during the pandemic, putting the debate about the city back on the agenda (Honey-Roses J., Anguelovski I., Bohigas J., et al., 2021).

### The Italian case as an element of comparison

Within the disciplinary debate, especially in Italy, many studies describe and interpret the “interrupted construction site” of modernity as the direction of the transformation that has been undertaken but is as yet incomplete, whose presuppositions themselves have changed over time. This image seems to be effective when it comes to focusing on the need for completion and repair the “non-functioning” elements of the city and territories, which are now in a state of impasse compared to the very fast dynamism of urban transformation over the past sixty years: this impasse may bring about a clearer reconsideration of the transformation possibilities.

In this context, a critical evaluation of the Italian experience (Carta and Gisotti, 2021) can provide particularly fertile material for places in the Mediterranean area that, after a few decades, are now experiencing a rapid rate of change. The focus should be on a few elements: the diagnosis of the malfunction of cities, which we set as a premise, can be broken down into different issues. In the first place, the difficult relationship between the growing complexity of the demographic and social composition and the type of built residential stock is destined to rapidly become obsolete, making it increasingly difficult overtime to solve the problem of access to housing. Secondly, it is unresolved environmental problems, essentially linked to the treatment of natural environments, almost always linked to the aesthetic (landscape) and ecological qualities of a territory with a long historical duration, as mentioned above.



**Figure 1.** Street in the centre of Tirana, Albania. Source: Massimo Carta, 2018.

This observation shows how in Italy, at least in the most intense phase of the national transformation that has occurred over the last seventy years, inconclusive tactics have been adopted, resulting in the unsatisfactory distribution of transformation forces in the territories. Expeditionary methods have often been adopted, concentrating the transformations in some valuable territories, even in search of high land rent, often assuming a parasitic attitude towards existing infrastructures and urban centres (as occurred with the suburbs of many urban areas which became denser, or in other ways with unopposed construction in prestigious coastal and hill contexts, or excessive construction in the countryside which was never justified by an increase in agricultural production capac-



**Figure 2.** The rapid transformation of the historic centre of Gjirokaster, Albania. Source: Massimo Carta, 2018.



ity). Thirdly, the delay in assimilating even an elementary idea of the sustainability (environmental, economic and social) of settlement transformations, as well as the delay in recognising the urgency of working on a model that considers the pursuit of safety and resilience in cities as a fundamental disciplinary requirement that cannot be considered a mere engineering response to performance problems. Finally, we should not overlook the fact that the three aspects mentioned constitute, as a whole, a colossal problem of urban social justice (Secchi, 2013), also set to be influential, both nationally and globally, in the definition of political and institutional arrangements for the near future, especially with the adjustment to urban transformation priorities brought about by the debate triggered by the coronavirus pandemic (Florida R., Glaser E., Mohd Sharif M., et al., 2020).

Yet, as mentioned above, the incompleteness of this “construction site” represents a clear opportunity for the Italian context since it allows us to imagine effective adjustment actions: i.e., actions that do not require the whole urban “machine” to be replaced but rather that pragmatically adjust some of its gears, allowing them to work better together, perhaps even resorting to targeted actions from a tactical urbanism perspective (Hillson, 2018). This may be a broader and more interesting field: the thesis supported in this paper emphasises the contribution that the evaluation of the urban transformation results in Italy can make to contexts (like Morocco and Albania)<sup>2</sup> currently at a peak in terms of transformation. Therefore, the field is relevant, and it should also be recognised with respect to the foundations of urban planning: it is a question of imagining some frameworks within which to hypothesise the widespread tactics of minute transformation

### **Different speeds: defining the nature and distribution of settlement misalignments**

The issues outlined in the first part of this paper are particularly relevant in contexts where a delay in the structuring and construction of some parts of the settlement can be noted. This delay is configured as the possibility of reconsidering the transformation paradigms beyond any nostalgic temptation, i.e., considering contexts that are almost totally abandoned or marginal (Arminio, 2013).

This “delay”, which can occur in different ways, can be defined along the lines of a sort of unattained maturity of the settlement structures: incompleteness, inadequacy, ineffectiveness. At least since the Second World War, in the regions of Western Europe and the northern shore of

the Mediterranean, an economy variously mitigated by social policies has certainly established itself, but strong private capital initiatives, the preponderant role of transformations linked to the individual histories of social groups or classes (Ginsborg, 2014), and the consolidation of an economy in which household savings and investments by credit institutions are directed towards policies that encourage and promote private ownership of housing as well as real estate investments and land rent (Salzano, 2007) have also emerged.

The adoption of consequent specific settlement models, albeit with strong national variations, has indelibly marked an already highly historically structured territory with common traits: the enormous growth of urban areas around historically consolidated hubs such as urban centres, the metropolisation of entire regions (Cardoso and Evert, 2020; Gregotti, 2011), great growth in the endowment of infrastructure to transport goods and people, the increase in second and third homes, and big investment by the public sector in road traffic, in a general even if not uniformly widespread urban *laissez-faire*. This was an expression of the economic forces in the field, barely contained but not guided by subordinate planning. Referred to as “the boom” in Italy, or “Les Trente Glorieuses” in France, this period determined the specialisation of the rural territory in an intensive and industrial sense, with a progressive and dramatic decrease in the number of employees in the primary sector. This path underwent a phase of rapid industrialisation and witnessed a prevailing tertiary economy, even an advanced one, and an almost homogeneous slowdown in settlement growth compared to previous periods. In other areas of the Mediterranean, although different in many respects, the dynamics of the transformation of territories and cities have instead been slower and more specific until recently (UN-Habitat, 2016), due to histories, economies and political regimes where they determined a different transformation direction and where specific conditions caused the “delay” mentioned above.

### **The controversial acceleration of development in Albania**

Albania can be taken as an example of unprecedented urbanisation with respect to the “rhythms” and characteristics of the growth of Western Europe<sup>3</sup>: it is a context affected by the dynamics of globalisation, with their transformative effect, in a particularly delicate phase of opening up and democratisation. We will briefly discuss two very different urban contexts, Tirana and Gjirokaster.



**Figure 3.** Rapid urbanization in Morocco: Fez. Source: Massimo Carta, 2017.

Planned in detail from the second post-war period, within the sphere of influence of a real socialist regime, progressively isolating itself even within the so-called “Soviet bloc”, Albania has seen its capital Tirana gradually growing, with this growth slowed down by the regime (Aliaj, 2003; Dino, Griffiths and Kayvan Karimi, 2016).

Tirana is a hyper-planned capital: with the fall of the socialist regime and the explosion of private enterprise from the 1990s onwards, the dynamics already observed in the West were reproduced in this city but in an extremely short time, with an incursion of “modernity” through the impetuous affirmation of informal economies. The outcome of this rapid transformation reflects the “success” of a settlement model that has seen the role of the urban dimension grow faster than in Western Europe.

In Tirana, the explosion of private initiatives by small, medium and large investors is clearly perceptible, and the settlement disorder that has arisen in the city is astonishing (Dino et al., 2016). On the other hand, the creation of infrastructures, services, plants and equipment suffered a sharp slowdown, and only recently have these elements started to appear in the capital thanks to an advanced strategic plan (called Tirana 2030). This situation of rapid growth in the capital is balanced by some dynamics of the abandonment of small or medium urban centres in the mountains and rural hinterland, a situation that appears to have ample room for action compared to similar contexts in Western Europe. Some villages of the Albanian hinterland have relatively recently suffered significant abandonment by the resident population, and there are cases such as that of Gjirokastra (Dipasquale L., Carta M., Galassi S., Merlo A., Verdiani G., 2020) where the

building heritage is of exceptional quality, consisting of urban structures and building fabrics recognised as World Heritage Sites by UNESCO (Giannone and Lamacchia, 2019). Gjirokastra has clearly undergone rapid building and urban growth, evident in the lower part of the valley. The development of the town, with a historic centre of exceptional value largely unused and not transformed, with average conservation quality, can therefore also be pushed in opposite directions (Mezini and Pojani, 2015).

If the goal is to achieve urban transformation and to preserve the very nature of the local society that gave rise to its creation and conservation (with all the problems that this entails), the transformation is more likely to provide the architecture and urban form with different meanings and perspectives as a location for mass tourism. This use and tourist pressure, in the absence of careful management, had already begun to transform the centre according to the globalising dynamics recorded in many similar centres around the world (D’Eramo, 2017).

How can the problems that have already arisen in Western Europe be avoided, also given the significant and growing weight of tourist presences, which risk changing the ancient centre of Gjirokastra in a globalising sense? It must be recognised that tourist presences also have a positive side as they provide the resources and energy for redevelopment and reinterpretation projects (Carta and Maulella, 2017). How resilient is tourism specialisation, and to what extent can it withstand urban crises? The pandemic has taught us that cities with a tourist economy are fragile and need to rethink their economic model (Carta M., Tarsi E., 2020).

### **A European horizon for a North African country: the push for transformation in Morocco**

Our disciplinary attention has recently turned to Morocco<sup>4</sup>: the country has experienced a long phase of foreign domination and control, which formally concluded with the end of the French protectorate in 1952. The Moroccan state has undertaken a demanding reform of the society and the economy, which inevitably results in some choices regarding territorial transformation in a context of strong demographic growth common to the entire African continent (Carta and Gisotti, 2017). The increase in urbanisation is solid and constant and is accompanied, as always, by the radical transformation of rural areas in a nation that is still one of the main producers and processors of agricultural products on the continent. The paradigm followed seems to retrace paths already outlined in the northern Medi-

terranean contest, with the economy and society shifting towards a more urban and industrial dimension. However, with a logic of paying attention to widespread and minute transformations, it is necessary to focus on specific aspects, both in terms of new creations (for example, a vast program of building “*villes nouvelles*” is underway), and spontaneous and informal transformations (the Villes sans Bidonville program has failed to eliminate this phenomenon), and the transformation dynamics in many historical centres (the medinas) of exceptional quality. In the framework of macro-transformations, programmed on the basis of a strong homologating and globalising drive, attention to the care for some aspects of widespread quality seems to be lost: (i) the general construction quality of traditional buildings, which thanks to materials, techniques, knowledge of the locations and regulatory aspects, has for centuries guaranteed energy performances and very high formal and distributive quality; (ii) attention to the relationship with the site and the soil characteristics, especially in the transition from urban to rural and in relation to aspects such as hydraulic safety and landscape quality; (iii) a positive characterisation of public space in both democratic and formal quality terms, (iv) attention to the deep-rooted characteristics of shared mobility, which tend to be replaced by individual private mobility with the extensive use of the car. These are just a few points, which, however, perhaps indicate how studies on globalisation processes in many contexts can offer very useful insights for increasing the effectiveness of the transformations.

### **Conclusions: raise the quality of the urban areas. Towards small and widespread actions**

The problem, as described, implies the constant need to be aware that there are questions to which it is difficult to give structured and solid answers that are valid for all contexts but that nonetheless need to be asked. How can widespread urban transformations, with their extreme dimensional variety, be organically adapted? What is the most specific and pertinent contribution that can be made to the problem of restoring an operational image of the existing settlement? How can farsighted, resilient and inclusive actions regarding the variety of future directions, applying coherently to the individual components that define the nature of cities and territories, be devised? What weight and relevance should be given to the ‘clues’ found in unsystematic observation and sampling – an attitude with which many observe the territory (Petti, 2007)? What are the minimum functional, social, economic and landscape ‘performances’ that need

to be achieved in a settlement framework defined in this way, and how can they be evaluated?

Again, how can the pandemic experience and reflection on it help us to understand the useful signals and requirements to improve our development of cities? These questions can only be answered by raising the public actor’s ability to implement a series of widespread and minute practices, mostly aimed at remedying premature building obsolescence, urban inefficiency and growing social injustice with a view to achieving a series of common goals. It is necessary to start from a new vision of public space: far from the traditional conception of public endowment linked to purely quantitative elements (whose presence responds to potential use calculations and does not consider their actual effectiveness in raising the quality of the public space); abandoning transformations based on an affirmation of political power, as in the past, or economic, as occurs now in the downtown areas of many European cities. This is perhaps the key to being able to direct disciplinary efforts in these directions, also in view of the many widespread needs that emerged with the corona-virus pandemic: (i) effective legislative action, supported by systematic studies of individual territorial situations; (ii) the adoption of specific guidelines fine-tuned for the proper consideration of compositional grammars and the construction quality of artefacts and public spaces; (iii) the reuse and redevelopment of the many spaces that were built too quickly, at different scales, seeking to retrofit many urban elements created at short notice, in contexts with few constraints and/or references and in situations where the passage of time must be used to constantly raise the widespread quality, starting with the minute elements of the architecture, furnishings and floorscape.

### **Notes**

<sup>1</sup> This article was written by the two authors who set up the whole text and jointly wrote sections 1 and 7. In particular, sections 2 and 3 were written by Fabio Lucchesi, sections 4, 5 and 6 were written by Massimo Carta.

<sup>2</sup> Ours is not a random choice: the University of Florence has established collaborations with universities in these respective countries that provide common degree courses.

<sup>3</sup> Cfr. Area n°174, January / February 2021

<sup>4</sup> In 2016 the University of Florence and the Université Euro-Méditerranéenne de Fès signed an agreement on teaching and research collaboration at the Ecole Euro-Méditerranéenne d’Architecture, de Design et d’Urbanisme (EEMADU) in Fès, Morocco.

## References

- Aliaj, B. (2003). *A Short History of Housing and Urban Development Models during 1945-1990: Tirana*. Paper presented at Making Cities Work, Tirana, Albania, 25/26 May 2003.
- Arminio, F. (2013). *Geografia commossa dell'Italia interna*: Pearson Italia.
- Berman, M. (1982). *Tutto ciò che è solido svanisce nell'aria. L'esperienza della modernità*. Roma-Bari: Laterza.
- Bianca, S. (2000). *Urban form in the Arab world. Past and present*. New York: Thames and Hudson.
- Cardoso R. and Evert, M. (2020). *Metropolisation: the winding road toward the citification of the region*. *Urban Geography*, 0(0), 1-20. doi:10.1080/02723638.2020.1828558
- Carta M., Tarsi E. (2020), "Il paesaggio del turismo oltre il COVID-19: prospettive per una Firenze resiliente", in *Ri-Vista. Ricerche per la progettazione del paesaggio*, DOI: 10.13128/rv-9742 <https://oaj.fupress.net/index.php/ri-vista/just-accepted>
- Carta, M., Gisotti, M. R. (2017). "Urbanizzazioni mediterranee a confronto. La grande trasformazione marocchina e la lezione del cantiere interrotto italiano". In M. Talia (Ed), *Un futuro affidabile per la città. Apertura al cambiamento e rischio accettabile nel governo del territorio*. Roma-Milano: Planum.
- Carta, M., Gisotti, M. R. (2021). *Sei progetti per l'urbanistica. Matrici disciplinari italiane per una pianificazione integrata*, DIDA Press, Firenze.
- Dipasquale L., Carta M., Galassi S., Merlo A., Verdiani G. (2020), "Historic Centres of Berat and Gjirokastra, Albania", in *Letizia Dipasquale, Saverio Mecca, Mariana Correia (edts), From Vernacular To World Heritage*, Firenze University Press, Firenze, pp. 160-177.
- Carta, M., Lucchesi, F. 2017. "Ri-avviare il cantiere interrotto della «grande trasformazione»: ri-conoscere nuovi paesaggi, lavorare per tessuti e componenti". *Urbanistica* (157).
- Carta, M., Maulella, F. (2017). *Centri storici tra "precincts" e "commons": governare le aree ad alta densità patrimoniale*". Paper presented at the *Urbanistica e/è Azione Pubblica, Atti XX Conferenza Nazionale SIU*, Rome 12/14 June 2017.
- D'Eramo, M. (2017). *Il selfie del mondo. Indagine sull'età del turismo*. Milano: Feltrinelli.
- Dino, B., Griffiths, S. and Kayvan K. (2016). *Autocratic planning systems challenged by unregulated urbanisation: Urban transformation in post-socialist Tirana, Albania*. Paper presented at the PUARL 2016, University of San Francisco Campus, California.
- Florida, R., Glaser E., Mohd Sharif, M., Bedi, K., Campanella, T., Chee, C., Doctoroff, D., Katz, B., Katz, R., Kotkin, J., Muggah, R., Sadik-Khan, J. (2020). *How Life in Our Cities Will Look After the Coronavirus Pandemic*, Foreign policy, 1 May 2020. (<https://foreignpolicy.com/2020/05/01/future-of-cities-urban-life-after-coronavirus-pandemic/>)
- Giannone, L. and Lamacchia, E. (2019). *Argirocastro. Caratteri urbani*. Retrieved from Firenze:
- Ginsborg, P. 1989 (2014). *Storia d'Italia dal Dopoguerra ad oggi*. Torino: Einaudi.
- Gregotti, V. (2011). *Architettura e postmetropoli*. Torino: Einaudi.
- Hillson, L. (2018). *Tactical Urbanism – Short-term action for long-term change*. *Urban design international* (London, England), 23(1), 66-66. doi:10.1057/udi.2016.9
- Honey-Roses, J., Anguelovski, I., Bohigas, J., et al., (2021) "The Impact of COVID-19 on Public Space: A Review of the Emerging Questions" - <https://osf.io/rf7xa/>, viewed May 2021)
- Lanzani, A. (2003). *I paesaggi italiani*. Roma: Meltemi.
- Lanzani, A. (2011). *Il cammino nel paesaggio. Questioni di geografia e urbanistica*. Roma: Carocci.
- Lanzani, A. and Pasqui, G. (2011). *L'Italia al futuro. Città e paesaggi, economie e società*. Milano: Franco Angeli.
- Mazza, L. (1997). *Trasformazioni del piano*. Milano: Franco Angeli.
- Mezini, L. and Pojani, D. (2015). "Defence, identity, and urban form: the extreme case of Gjirokastra". *Planning Perspective*, 30, 397-428.
- Munarin, S. and Velo, L. Eds.. 2016. *Italia 1945-2045. Urbanistica prima e dopo. Radici, condizioni, prospettive*. Roma: Donzelli.
- Pace, G. (2002). "Ways of Thinking and Looking at the Mediterranean City". Retrieved from [https://mpr.ub.uni-muenchen.de/10511/1/MPRA\\_paper\\_10511.pdf](https://mpr.ub.uni-muenchen.de/10511/1/MPRA_paper_10511.pdf)
- Petti, A. (2007). *Arcipelaghi e enclave. Architettura dell'ordinamento spaziale contemporaneo*. Milano: Bruno Mondadori.
- Salzano, E. (2007). *Fondamenti di Urbanistica. La storia e la norma*. Roma-Bari: Laterza.
- Secchi, B. (2013). *La città dei ricchi e la città dei poveri*. Roma-Bari: Laterza.
- Talia, M. (ed) (2018). *Il bisogno di giustizia nella città che cambia*, Planum Publisher, Roma-Milano
- Turri, E. (1998). *Semiologia del paesaggio italiano*. Milano: Longanesi.
- UN-Habitat (2016). *World Cities Report 2016: Urbanisation and Development – Emerging Futures*. In: UN-Habitat.

Ani Tola (Panariti), Andrea Maliqari, Gjergj Thomai, Parashqevi Tashi, Paul Louis Meunier

## Introduction

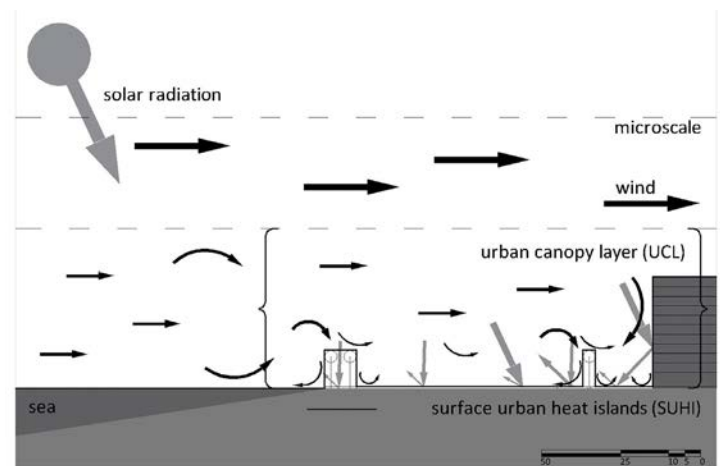
Thermal Comfort is defined as the “condition of mind that expresses satisfaction with the thermal environment” (ASHRAE, 2005). The variables influencing thermal comfort are Urban Texture (surface materials, green areas, vegetation, water and shadings), Urban Morphology (ratio between the height of building façade and the width of the street), Climate Conditions (air temperature, air humidity, wind speed and sea breeze, solar radiation, rainfall and vapour pressure), Pedestrian Movements (spatial movements), Urban Heat Islands (temperature differences of urban environments and the surrounding rural areas, which is primarily a nocturnal phenomenon) (Johansson, 2006). Why does the Surface Temperature of Urban Texture matter? It matters because it influences directly the actors that use urban spaces, the human being. This research focuses on a human being by studying how comfortable the built environment is nowadays.

Recently, waterfronts in Albania have been redesigned, changing their morphology and urban texture. So far, no thermal analysis has been considered during the design process. This article discusses the surface temperature of urban texture in the Vlora waterfront, focusing on the promenade as a case study.

Pedestrians and cyclists use the promenade, but its use during the year depends mostly on weather conditions rather than activities provided. The research mainly focuses on analysing the surface temperature measured from the infrared energy emitted by urban textures during a hot day in Summer. This research aims to show how much influence has the use of urban texture in outdoor thermal comfort. Figure 1 shows the schematic depiction of surface heat islands in public spaces alongside the sea, as it is in the coastal promenade of Vlora. The sketch is developed based on the concept “the layering to the atmosphere near to the surface” (Oke, 1978).

In the case of the Vlora promenade, the study is focused on microscale limited from 10-2 m to 103 m, narrowing the research to urban canopy layer (UCL) and concentrate only on surface urban heat islands (SUHI).

In the urban area, materials surface (pavement), vegetation directly contributes to an urban heat island, where an urban area is significantly warmer than surrounding suburban and rural areas due to absorbing, retaining and producing more heat in the built environment than the natural landscape (Oke, 1982.).



Schematic depiction of surface heat islands, coastal promenade

Figure 1. Schematic depiction of surface heat islands present in a coastal promenade. Source: Author.

## Historical background of Vlora promenade

The waterfront of Vlora has changed dramatically in the last 30 years due to rapid urbanisation. The historical background is briefly focused on 5 phases of the urban development of the Vlore city, which is closely related to the historical timeline. At the beginning (1912-1916), the city of Vlore was established close to the hills and far from the sea as an “intern urban centre” (Nepravishhta and Cuedari, 2016). During the kingdom rule, from 1932-1933, The Albanian Central Office of Housing and Urbanization developed the regulatory plan of Vlora, planning the main road “Vittorio Emanuele III” as a connection between the city centre and the port, which today is called “Ismail Qemali Boulevard”.

The second Italian occupation (1939-1943) marks one of the most productive periods in urbanisation for the city of Vlore (Vokshi, 2016). During 1941-1942 Geraldo Bosio and Ferdinando Poggi drew the regulatory plan of Vlore (Vokshi, 2014), extending the city to the seafront (Nepravishta and Cuedari, 2016). In Figure 2 is shown a photo of the 3D sketch of the town of Vlore. We can see the first concept of the Vlore waterfront, which foresaw a wide road for vehicles alongside the sea, the main port in the south, and some small peers by the coast, which connect the city with the southern part of the country.

After the Second World War, the projects of Bosio, as all other plans of the fascism era, were defined as obsolete. Still, in the case of Vlora, some parts of the regulatory plan were re-proposed in silence (Vokshi, 2016). The proposed regulatory plan was later (1973-1977) modified during the communism period, named as Regulatory Plan of the Center and "Lagja Nr.1" (Fig. 3), where the seafront was reached from the west to south connecting the city centre by the main boulevard as a sharply cut as a line to the fields (Marco Massa and Team, 2015). This marks the first concept of the coastal promenade with greenery and parks. During the transition period, in the '90, the waterfront of Vlore, as in other cities of Albania, was mainly informally developed, increasing the informal constructions without obeying the regulations in force (Nepravishta, et. al., 2014).

The waterfront of Vlora was in the focus of the municipality for more than ten years. In 2004, Territorial Regulation Council of the Republic of Albania (KRRTRSH - Këshilli i Rregulimit të Territorit të Republikës së Shqipërisë) approved the master plan of the centre and Vlore waterfront, widening the street "Skelë - Uji i Ftohtë" (today highway SH8) to 38 meters, proposing the promenade by the coastline filling the seaside (Nepravishta and Cuedari, 2016).

The municipality of Vlora in 2011 proposed the new project of the promenade, but only one part of it was implemented in 2012 due to a limited budget.



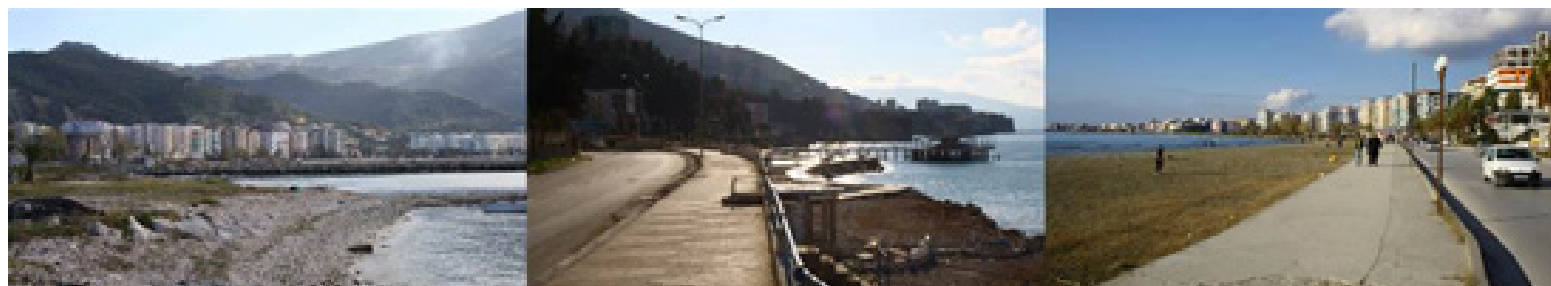
**Figure 2.** G. Bosio, regulatory plan of Vlore, the perspective of the city, 1941. Source: AQTN.



**Figure 3.** Vlore Regulatory Plan City Center and "Lagja Nr. 1", 1977, Source: AQTN.

However, the promenade of Vlora came into the focus of the Ministry of Urban Development and Tourism in November 2013 by organising a one-stage international competition. The competition area, named the Waterfront Promenade, was a 5 km long coastal band that territorially lies from the 'Soda Woods' (west) to the Tunnel (south) and bends at the Port Area it reaches the central city area.

The objective was to generate visionary and original urban design concepts that aspire to transform an entire waterfront pedestrian experience (Atelier Albania, 2015). The winning proposal for the Vlore waterfront competition was Xaveer de Geyter Architects (XDGA), and the best local team was MetroPOLIS Studio. They collaborated with the Italian Engineering Studio (IRD) to finalise the southern part in spring 2017. In the photos, we can see the current situation of the Vlora waterfront before the intervention (Fig. 4) and after (Fig. 5).



**Figure 4.** Vlora Waterfront, October 2013 Before the Competition, Source: Author.



**Figure 5.** Vlora waterfront, October 2017 winning project implemented. Source: Author.

The existing situation had different identities divided from the port in the middle; the western part is traditionally called the “old beach”, and the southern part is called the “new beach”. The winning project consisted of four phases:

1. Promenade and trees;
2. Waterfront and points of interest;
3. Proposed new links (water & land);
4. Programs.

By constructing a white concrete board-walk alongside the promenade, reducing the width of the road, providing more guidance and order in the layout, different activities led to increased pedestrians, so the seaside was accessed- easily to the citizens and visitors. Also, planting local species “Pinus Pinea” creates a structure that enhances the spatial quality of the waterfront with minimal effort. The existing trees of “Soda Woods” are extending along the entire coastline. The waterfront intervenes as a connection between the sea and the city (XDGA, 2019). This research is focused only on the first phase, at the promenade and the trees, which was implemented in October 2017. The methods used for measuring thermal comfort are field studies and computer simulations.

A few authors have studied the impact of urban texture and geometry of public spaces in air temperature on a hot day in summer with a Mediterranean climate. Arens and Bosselmann in 1989 have studied the wind, sun and temperature in outdoor spaces downtown San Francisco, predicting the thermal comfort of people (Arens and Bosselmann, 1989). Similar studies are done by Oke since 1987 using wind tunnel tests and field measurements (Oke et al., 1978), followed later by Ali-Toudert and Mayer (Ali-Toudert and Mayer, 2005) Arniefied (Arnfield, 2003), (Nikopoulou et al., 2001).

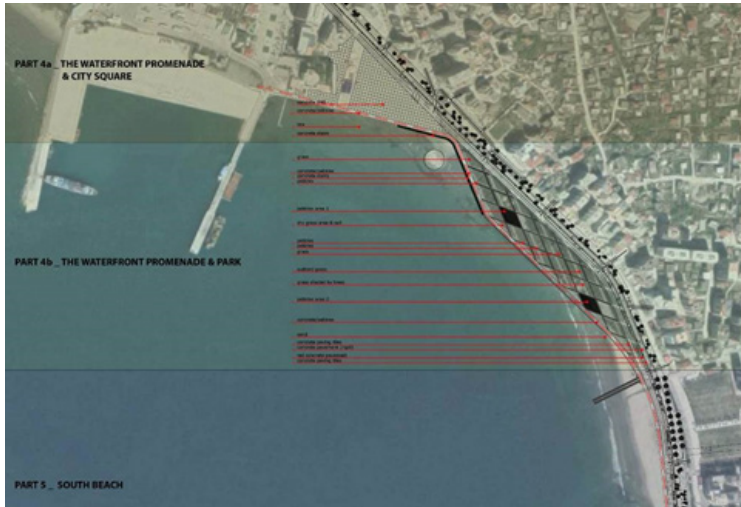
This research is experimental and analytic using field measurements. In the beginning, weather data from the local station such as air temperature ( $T_{air}$ ), relative air humidity (H), wind speed ( $V_{wind}$ ), wind direction, dew point, visibility, cloud cover, wet bulb, precipitation, gusts, UV in-

dex and visibility are obtained alongside the promenade. Some other measurements using a digital thermometer are taken in 22 locations of the promenade, such as Air Temperature down in the ground per the surface of each material (Tdo) and Air Temperature at human eye level 1.7 m (Tup) and Humidity. After that, the average temperature in the ground and the one at human eye level are calculated, which directly affect the human being.

Then, the material’s surface’s emitted temperature is measured per each material using thermal camera type FLIR Therma CAM B360. After that, each finding is evaluated in terms of urban thermal comfort. All the measurements are taken on 10th August 2018 at local times 08:00, 12:00, 04:00 and 20:00. It is important to mention that almost there is no shade in the promenade, and all the Aleppo Pine trees are recently planted, so they do not have a big enough crown for creating the appropriate shade. During the summer in Vlora, the average temperature is 29°C -31°C, but it increases up to 40°C, and humidity varies 40-80 % in July and August. This is why the field measurements are taken on a hot summer day, as we can easily see the UHI effect, which is mainly observed during summer (Arnfield, 2003), especially in the late afternoon as a nocturnal phenomenon (Oke, 1997).

### Current urban texture

The promenade is divided into five parts based on the concept of XDGA. The study analysis first phase promenade and trees (part 4), dividing it into two parts: 4a, where it is located the city square and part 4b where it is located the sidewalk 3 km (5-7 meters wide) and the green park (wildness varies). Both parts are next to each other and are frequently used by human beings (mainly pedestrians and cyclists). The urban texture used in the promenade varies from soft to hard materials. The rugged materials used in paving are granite tiles in concrete, concrete/pebbles, white pebbles, concrete tiles, concrete pavement (rigid) and red concrete pavement.



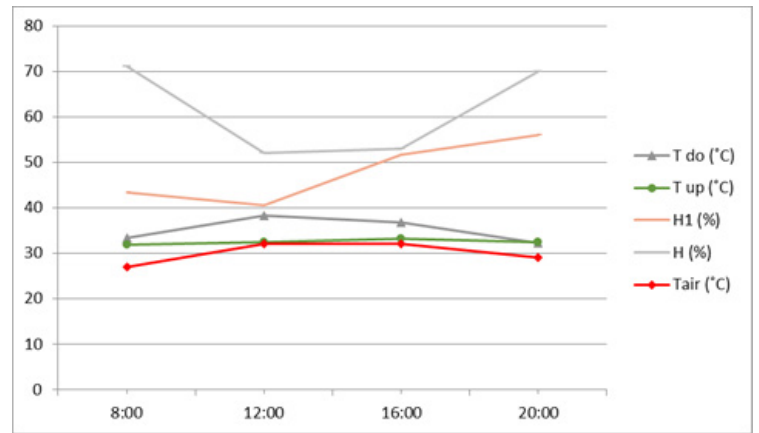
**Figure 6.** Urban Texture of Vlova Promenade. Source: Author.

Grass occupies a large area compared to the total of these two parts. It is essential to mention that the grass is maintained very well by usually watering it in some parts, but we can see only the soil in some parts. Also, local trees *Pinus Pinea* are used alongside the promenade and sometimes in the park with an area of 23,500 m<sup>2</sup>, giving to the promenade its Mediterranean landscape. If we compare the areas of all the materials used in the promenade, we can notice that a big part of it is paved with granite tiles in concrete, settled in part 4a, where the city square is designed for public events an area of 12,500 m<sup>2</sup>. Figure 6 shows the urban texture mapping and measurements locations of the implemented project.

### Data analysis and results

The field study consists initially of site measurements using thermometer and climate data taken from the local station. The surface temperature varies considerably depending on material and colour. Horizontal surfaces are warmer than vertical surfaces (AIAA, ASTM, IES, NASA, 1973). As in the promenade, most of the surface is horizontal. The effect of heat is highly present, specifically at the pedestrian level. Figure 7 shows a comparison of Temperature and Humidity between measurements in the site using digital thermometer and weather data taken from the local station.

In the morning (08:00), air temperature measured by the thermometer in site both  $T_{up}$  and  $T_{do}$  (pedestrian eye level and ground) is 4-6°C more than  $T_{air}$  (air temperature) measured by the local station (red line), humidity measured on site is 32% less than the one measured by the local station.



**Figure 7.** Temperature & humidity comparison graph (site measurement & local station)

At noon (12:00), the temperature measured on site is 0-6°C more than  $T_{air}$  measured by a local station, humidity measured on site is 12% less than the one measured by the local station. In the afternoon (16:00), the temperature measured on site is 1-4°C less than  $T_{air}$  measured by a local station, humidity measured on site is 2% less than the one measured by the local station. In the evening (20:00), the temperature measured on-site is 3°C more than  $T_{air}$  measured by a local station, humidity measured on site is 14% less than the one measured by the local station.

After that, the field measurements continued with a thermal camera (FLIR ThermaCAM B-360) to obtain different values of emitted temperature in the surface of each material used in the promenade (Table 2 and Figure 8). The amount of absorbed solar radiation in an urban area depends on the reflectivity of the urban surfaces and the geometry of the urban canopy layer (UCL).

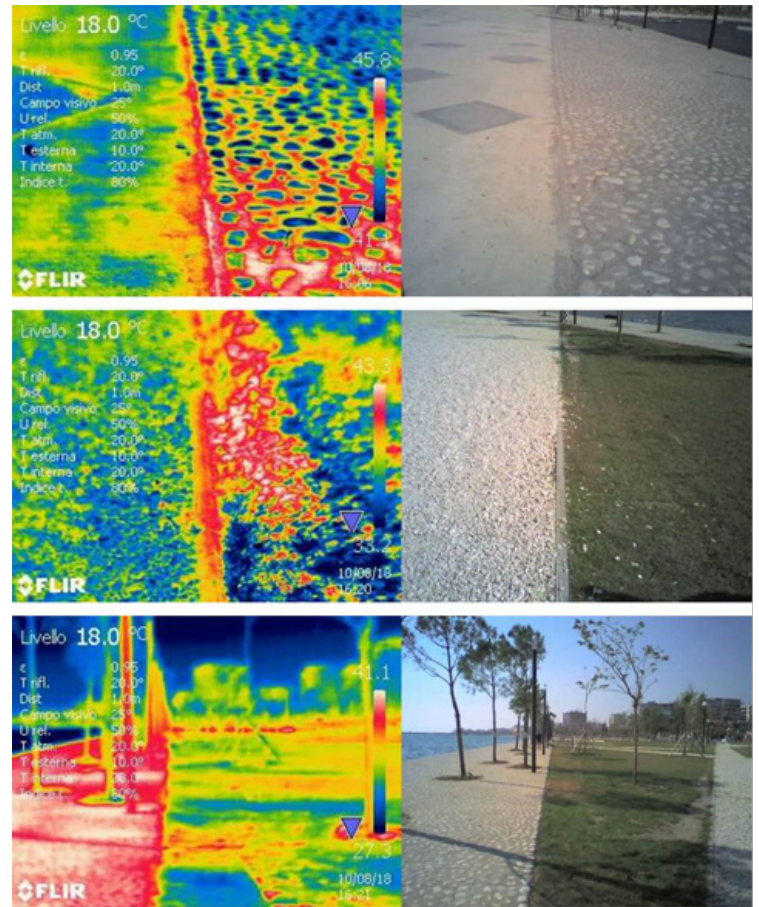
A pedestrian or cyclist in the promenade is exposed to direct, diffused and reflected short-wave radiation from the sky and the urban surfaces. The sun emits short-wave radiation (UV), the Earth's atmosphere (clouds and the surface) absorb the solar energy, the ground heats up and re-emits the energy as long-wave radiation in the form of infrared rays (NCST, 2020).

The Infrared camera detects the infrared energy emitted, transmitted or reflected by all materials at temperatures above absolute zero (0°Kelvin). It converts the energy factor into a temperature reading or thermogram (FLIR, 2018).



**Table 1.** Surface Temperature STF, using Flir Thermal Camera

	10 <sup>th</sup> Aug 2018				
Time	08:00		16:00	20:00	
1	concrete/pebbles Dry	29.8	43.9	43.7	34.6
1'	concrete/pebbles Wet	28.7		33.9	31
3	granite tiles in concrete under sun	30.8	44.6	45	34.7
4	concrete stairs	28.7	47.5	48.1	37.7
5	grass	27.6	42.3	33	26.8
6	Pebbles	29.9	40.3	35.8	27.3
7	concrete/pebbles Dry	30	43.8	41.5	35.1
7'	concrete/pebbles Wet	28	35.8		
8	concrete stairs	27.8	48.1	42.1	35.7
9	dry grass area & soil	35	49.7	41.1	28.2
10	pebbles	29.9	39.7	38.7	29.4
11	pebbles	27.8			
13	grass	29.9	36.5	39.3	27.3
14	grass shaded by trees	27.2	35.6		
15	pebbles area	28.6	40.2	36.4	28
15''	pebbles area wet	27.1	33.8		
16	concrete/pebbles Dry under sun	31.4	43.7	40.8	35
16'	concrete/pebbles Dry under shadow	28.8	37	39.2	
17	sand	32.8	37.1		
18	concrete paving tiles under sun	28.7	46	43.8	35.5
19	concrete pavement (rigid) under sun	34.5	43.3	44.2	34.7
19'	concrete pavement (rigid) under shadow	29.1		40.6	
20	red concrete pavement under sun	35.2	54.5	50.4	36.2
20'	red concrete pavement under shadow	30			
21	concrete paving tiles under sun	32.7	49.7	48.6	36.1



**Figure 8.** Example of the thermal image using Flir, 10th August 2018, 16:00

In the morning at 08:00, the field measurement in the site have shown that: Surface temperature of each material is 1-8°C more than the air temperature.

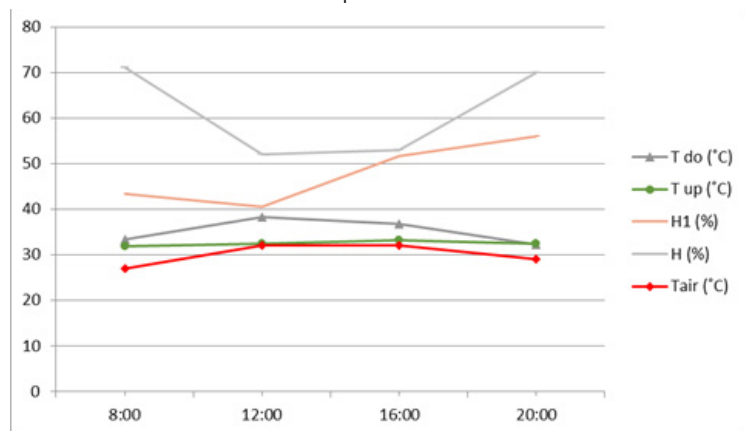
Granite tiles in concrete, red concrete pavement, concrete/pebbles and concrete tiles indicates 3-6°C more than the air temperature. Pebbles area indicates 1-2°C more than the air temperature. Maintained grass indicates 0.6°C more than the air temperature. Dry grass and soil indicate 8°C more than the air temperature. Small Shaded areas and watered areas indicate almost the same temperature as the air. The surface sea temperature is 22.5°C. At noon at 12:00, the field measurement in the site have shown that: Surface temperature of each material is 2.4-22.5°C more than the air temperature.

Granite tiles in concrete, red concrete pavement, concrete/pebbles and concrete tiles indicates 11.3-22.5°C more than the air temperature. Pebbles area indicates 8°C more than the air temperature. Maintained grass indicates 2.4°C more than the air temperature.

Dry grass and soil indicate 17.7°C more than the air temperature. Small Shaded areas and watered areas indicate almost the same temperature as the air. The surface sea temperature is 27.7°C. At 4:00 p.m., the field measurement in the site have shown that: Surface temperature of each material is 1.2-18.4°C more than the air temperature.

Granite tiles in concrete, red concrete pavement, concrete/pebbles and concrete tiles indicates 9.5-18°C more than the air temperature. Pebbles area indicates 3.6 – 6.7°C more than the air temperature. Maintained grass indicates 1°C more than the air temperature. Dry grass and soil indicate 9.1°C more than the air temperature. Small Shaded areas and watered areas indicate the almost same temperature as the air. The surface sea temperature is 26.3°C.

In the morning at 16:00, the field measurement has shown that the surface temperature of each material is 5.6-7.2°C more than the air temperature. However, for some materials is 1-2.6 °C less than the air temperature. Granite tiles in concrete, red concrete pavement, concrete/pebbles and concrete tiles indicates 5.6-7.2°C more than the air temperature. Pebbles area indicates 1-1.7°C less than the air temperature. Maintained grass indicates 1.7-2.2°C less than the air temperature. Dry grass and soil indicate 0.8°C less than the air temperature. There is no shade at this time. The surface sea temperature is 26.3°C.



**Figure 9.** The impact of materials' surface temperature at urban thermal comfort

## Conclusions

The yellow line indicates the impact of heat emitted from the surface temperature of urban textures close to ground level. The orange line shows the effects of the materials' surface that emits heat at the pedestrian eye level. Such materials as concrete/pebbles, concrete granite tiles,

concrete paving tiles, concrete pavement (rigid) and mainly red concrete pavement increase the surface temperature at ground level and create the Surface Heat Island. Such materials as maintained grass, pebbles, watering surfaces during the day, natural and artificial shades reduce the surface temperature, and sometimes (after 8 p.m.) it is less than the air temperature. Furthermore, they do not permit the presence of Surface Heat islands. In this case, during the day (10th August 18), Pedestrians feel hot when they go for a leisure walk. They do not feel comfortable due to the thermal conditions of the promenade.

On 10th August 2018, based on on-site measurements with digital thermometer and thermal camera, are highlighted: Temperature measured in the site is higher than Tair measured by local station due to heat emission of urban texture. Humidity in the site is lower than humidity measured by the local station. Radiation of surface material such as concrete, granite tiles is highly present all day. Maintained grass, pebbles, watering surfaces during the day; natural and artificial shades reduced surface temperature. There are no shadings in the promenade, at least when Pine trees are recently planted. Surface Urban Heat Island (SUHI) is critically presented, mainly at the public square at the beginning of the promenade.

Due to the thermal discomfort, mainly at noon and afternoon during summer, the promenade has become a "dead space" (Ranasinghe, 2004) simply because it cannot be helpful for pedestrians and cyclists. The appropriate urban textures can mitigate surface urban heat islands and can make liveable public spaces, including promenades, at any time. The professionals such as urban designers, urban planners, architects, engineers and local decision-makers should intervene to make cities a healthy and liveable place to breathe and enjoy at any time of the year.

## Recommendations

1. Increase green areas and maintaining them.
2. Watering the pavements and green areas with recycling water will lower the temperature than their surroundings, even during noontime.
3. The thermal properties of surface materials also greatly influence the urban micro-climate (neither too dark nor too light).
4. Using permeable or porous paving allows water to filter into the ground, keeping the pavement cool at night.
5. Shade the area with artificial and natural shadings.

## References

- AIAA, ASTM, IES, NASA. (1973). *Space Simulations. Space Simulation Symposium*, November 12-14 (pp. 920-923). Los Angeles: NASA and AIAA. Retrieved 28th May 2020, from [https://books.google.al/books?id=oTU-HLNjj-uIC&pg=PA922&lpg=PA922&dq=Horizontal+surfaces+are+warmer+than+vertical+surfaces&source=bl&ots=frL\\_xvDdfd&sig=ACfU3U3oRsWKcIOzkUO\\_Fag9u-b60GBmoFQ&hl=en&sa=X&ved=2ahUKewiG3tHEjdXpAh-WNw4sKHUzDmcQ6AEWAHoECAoQAQ#v=onep](https://books.google.al/books?id=oTU-HLNjj-uIC&pg=PA922&lpg=PA922&dq=Horizontal+surfaces+are+warmer+than+vertical+surfaces&source=bl&ots=frL_xvDdfd&sig=ACfU3U3oRsWKcIOzkUO_Fag9u-b60GBmoFQ&hl=en&sa=X&ved=2ahUKewiG3tHEjdXpAh-WNw4sKHUzDmcQ6AEWAHoECAoQAQ#v=onep)
- Arnfield, A. J. (2003). Two decades of urban climate research: a review of turbulence, exchanges of energy and water. *International Journal of Climatology*, 1-26.
- ASHRAE (2005). *Handbook: Fundamentals - SI Edition*. Atlanta: American Society of Heating, Refrigerating and Air-Conditioning Engineers.
- Atelier Albania, Agjencia Kombëtare e Planifikimit të Territorit. (2015, October 15). <http://competitions.planifikimi.gov.al/vlora-waterfront/>; [http://competitions.planifikimi.gov.al/wp-content/uploads/2015/10/VLORA-WATERFRONT\\_COMPETITION-BRIEF.pdf](http://competitions.planifikimi.gov.al/wp-content/uploads/2015/10/VLORA-WATERFRONT_COMPETITION-BRIEF.pdf)
- Arens, E., Bosselmann, P. (1989). Wind, Sun and Temperature - Predicting the Thermal Comfort of People in Outdoor Spaces. *Journal of Building and Environment*, 24, 315-320.
- ENVI-met. (2020, 28th January). ENVI-met. Retrieved from ENVI-met: <https://www.envi-met.com/>
- EU Mies award 19. (2019). Retrieved from <https://miesarch.com/work/3839>.
- Ali-Toudert, Fazia; Mayer, Helmut (2005). Thermal comfort in urban streets with trees under hot summer conditions. 22nd International PLEA Conference (pp. 699-704). Lebanon: Notre Dame University.
- FLIR (2018, 15th August). [flir.ca](https://www.flir.ca/instruments/building-diagnostics/building-inspection/). Retrieved from <https://www.flir.ca/instruments/building-diagnostics/building-inspection/>
- Nepravishta, F., Cuedari, A. (2016). *Regeneration of Vlora Waterfront Promenade. A Obra Nasce*, 46, December 2016.
- Nepravishta, F., Meniku, J., Devetakovic, M. (2014). *Waterfront regeneration through PPPs: The case of Vlora. Symposium Architectural, Engineering and Information Sciences, University of Pécs*. Pécs: University of Pécs.
- Johansson, E. (2006, September 15). *Urban design and outdoor thermal comfort in warm climates – studies in Fez and Colombo*. 238. Lund, Sweden, Sweden: Grahns Tryckeri AB.
- Lin, T., Matzarakis, A. and Hwang, R. (2010). *Shading Effect on Long-Term Outdoor Thermal Comfort. Journal of Building and Environment*, 45, 213-221.
- Massa, M. et al. (2015). [planifikimi.gov.al](http://planifikimi.gov.al). Retrieved from [competitions.planifikimi.gov.al/vlora-waterfront/](http://competitions.planifikimi.gov.al/vlora-waterfront/): <https://www.scribd.com/document/211340642/Marco-Massa-Team#scribd>
- Matzarakis, A., Mayer, H. & Iziomon, M. (1999). Applications of a universal thermal index: physiological equivalent temperature. *International Journal of Biometeorology*, 43, 76-84.
- METROPOLIS, M. (2014). *Vlora Waterfront Competition*. <http://planifikimi.gov.al>.
- NCST, N. C. (2020). [climate.ncsu.edu](http://climate.ncsu.edu). Retrieved from North Carolina Climate Office: <https://climate.ncsu.edu/edu/RadiationTypes>
- Nikopoulou, M., Beker, N., Steemer, K. (2001). Thermal Comfort in outdoor urban spaces: the human parameter. *Solar Energy*, Vol. 70, No. 3.
- Oke, T. R. (1978). *Boundary Layer Climates*, Second Edition. New York.
- Oke, T. R. (1982). The energetic basis of the urban heat island. *Quart. Journal of Royal Meteorological*, 1-24.
- Oke, T. R. (1997). *Urban climates and global change*. London.
- Cohen, P., Shashua-Bar, L., Keller, R., Gil-Ad, R., Yaakov, Y., Lukyanov, V., Bar (Kutiel), P., Tanny, J. (2019). Urban outdoor thermal perception in hot arid Beer Sheva, Israel: Methodological and gender aspects. *Building and Environment*, 106169.
- Ranasinghe, D. (2004, January). *Urban Geometry as a Determinant of Outdoor Thermal Comfort*. Moratuwa, Colombo, Sri Lanka: electronic theses and dissertation.
- Sashua-Bar, L., Hoffman, M. E. (2000). Vegetation as a Climatic Component in the Design of an Urban Street: An Empirical Model for Predicting the Cooling Effect of Urban Green Area with Trees. *Journal of Energy and Building*, 31, 221-235.
- Vokshi, A. (2014). *Tracce dell'Architettura Italiana in Albania*. Florence: DNA Editrice.
- Vokshi, A. (2016). *Le architetture italiane di Valona 1916-1943*. In S. Bergesio, A. Frisenna, N. Nika, A. Vokshi, & M. Panunti, *Il Consolato Italiano a Valona tra storia e architettura* (pp. 22-44). Tirana: Consolato Generale d'Italia a Valona, Istituto Italiano di Cultura a Tirana.
- XDGA. (2019). [xdga.be](http://xdga.be). Retrieved from [xdga.be/gallery/vlora-waterfront-promenade/](http://xdga.be/gallery/vlora-waterfront-promenade/): <http://xdga.be/gallery/vlora-waterfront-promenade/>

Caterina Padoa Schioppa

**River, people, identity**

The antithesis between antagonism and solidarity, competition and symbiosis, reveals the contradictory character not only of the relationship between man and nature but also of that within human organisations. Understood as a projection, as a design, as a planning exercise in which a rational order is imposed on the chaos of nature, the city carries the signs of this equivocal harmony. As both a physical and metaphysical entity, the city results from a process in which material form and meaning, architectural image – or the *urbs* – and institutional ideology – or the *civitas* – are confused but also contrasted dialectically.

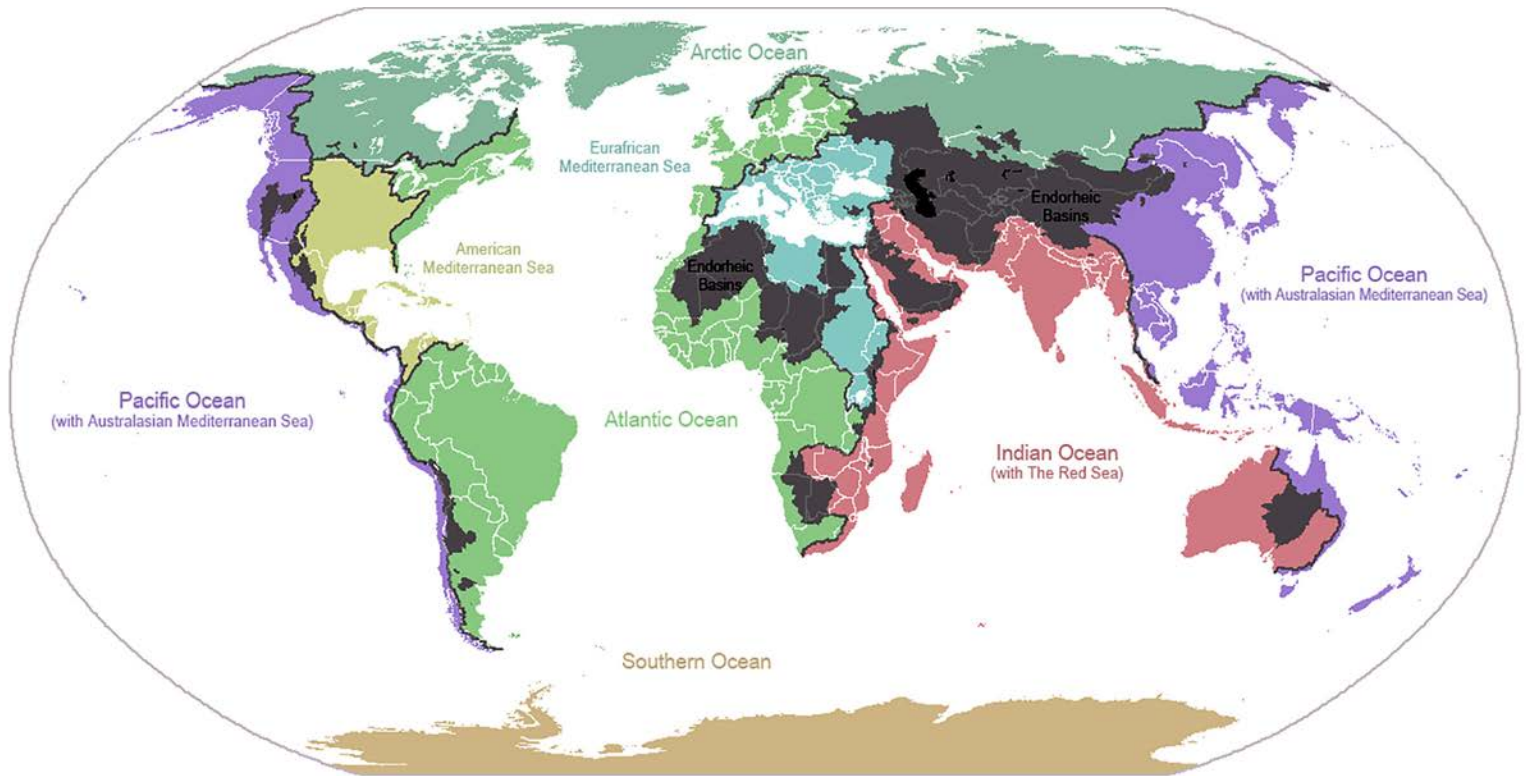
The first cities, built near hollow spaces modelled and engraved by rivers, made use of what, from a geomorphological point of view, represents the most important opportunity for territorial continuity and discontinuity. Indeed, rivers ‘naturally’ offer bridges and docks to connect, and walls and embankments to separate, symbolically embodying the dualism and synchronism of the elements of the cosmos, which, paraphrasing Georg Simmel “can be seen as connected, but can be seen as divided as well” (Simmel, 2011, p. 12) given that only through their semiotic decryption can they become significant and legible, or acquire their own semantic individuality. Around this founding ‘anatomical type’ – formed together with the other raw materials that compose the surface of the earth – human beings have developed the habit of assigning a distinctive character to places, transforming them into devices for memory and measurement.

As macroscopic manifestations of a branched geometry, ruled by precise physical and mathematical laws, hydro-graphic networks, with their degrees of hierarchisation and their bifurcation relationships, made an exceptional subject of study for geographers who, while engraving their textures on stone, sealed the idea of an analogy between the cosmos and the human body, between the lifeblood from which the vitality and mortality of worldly things depend, and the human blood within the arterial system. Like any other human actions defying nature, earthworks – designed to stem, channel, divert water

and secure land exposed to natural calamities – took on a meaning that far exceeds the completion of a mere constructive purpose. Indeed, intertwined religious, political and social elements underlie the colossal efforts that turned uncontaminated wild-lands into the agrarian landscapes familiar to us. Carlo Cattaneo poetically defined them as “immense deposits of labours” (Cattaneo, 1971; p. 327), an expression that should be extended to the engineering works carried out with repeated perseverance in river landscapes. From a functional point of view, rivers hosted the first infrastructures invented by human beings, the first navigable waterways, exemplifying the primordial idea of reciprocity, exchange and economy.

Before the birth of modern states, the sense of belonging to political organisms was often assimilated to the objective and lasting confinement determined by geomorphological structures, in particular hydro-graphic basins, through which the principles of an identity coherence were established – the same that, in a romantic vision, sometimes led to an idealistic universalism – also in correspondence to vast and therefore composite, diversified, multi-ethnic and polyglot territories. As the writer and Germanist Claudio Magris has affirmed on several occasions, the case of the Austria-Hungarian Empire was indeed exemplary within European history. After all, the so-called Danube Monarchy was a political and cultural representation sanctioned by the solemn and barycentric figure of the Danube, “a road that connected Europe and Asia, Germany and Greece, along which poetry and the verb, in the time of myth, had risen to bring the sense of being to the German West” (Magris, 1986; p.14).

Like many poets, writers, pilgrims and explorers before him, Magris follows the current of his river – which, like all rivers, carries debris, materials, people, stories and traditions – using it as a narrative device to question the problem of identity and belonging, in its personal and collective significance. After all, the journey to the river source always takes on an initiatory character (even more than that in the direction of its mouth, which instead conceals the imaginative design of an escape).



**Figure 1.** Terrestrial drainage basins are vast geomorphological structures, defining objective and lasting confinements. Source: Wikipedia.

Similarly to Joseph Conrad's iconic character Marlow—that goes up the Congo river by crossing a territory filled with dangers down to the bowels of the earth as well as, allegorically, to the darkness of his soul – the journey to the prehistory of the landscape is a gateway to the mystery of the origin. Thus, the Danube of Magris, “the river along which different peoples meet, intersect and mix unlike the Rhine, a mythical guardian of the purity of lineage” (Magris, 1986; p. 28), with its uncertain demarcation – the source is indeed obscure, and its mouth that mixes with the Black Sea water is indeterminate – seems to explain the fatalistic, paradoxical spirit, stretched between the real and the imaginary of the many peoples who have drawn from its waters, united by a “continental and earthy” identity, as well as “elusive, made up of mixtures, subtractions and eliminations” (Magris, 1986; p. 227-228). Magris's Danube is the place where he encounters his most latent cultural roots and unmasks the existential condition of post-modern civilisation – and, between the lines, that of the present world too – that is indefinable, changeable and unstable, as well as open, contaminated and stratified.

Therefore, in the construction of urban identity – irrefutably linked to the circulation of both tangible and intangible assets – the presence of navigable waterways was crucial. The industriousness around rivers, justified by economic, energetic, as well as ritual and social reasons, has created the overflowing congestion typical of “spaces of transit” that are also “places of living” (Sennett, 2018, p. 49). Despite the picturesque representation that the propaganda of bourgeois society contributed to creating, river landscapes were only apparently ‘domesticated’ places, populated by barges transporting goods and people, by porters, laundresses, filibusters, bathers and children rolling in the mud. Stormy days announced high tides and possible disasters in the city too.

At the same time, in urban environments, rivers are exceptional wildlife and promiscuity reserves, fragments of a complex ecology where the biological, energetic and aesthetic exchange with the environment is no way artificial. Out of the ordinary space and time, urban beaches, today as yesterday, fulfil a peculiar *ludic* and ‘compensatory’ function; they belong to the category of free places – where idleness is granted – which Michel Foucault



**Figure 2.** Joseph Vernet, *A Sporting Contest on the Tiber, Rome* (1750).

calls “mythical and real contestations of space”, whose purpose is not to hold or to accumulate time, but, on the contrary, to suspend, to neutralise, to erase it in order to ideally return to «the nakedness and innocence of original sin” (Foucault, 2006, p. 22). Indeed, this is the unusual yet essential attribute of ‘middle lands’, confined between two entities, where temporary overflow is allowed on both sides, and which “always have a system of opening and closing that isolates them from the surrounding space” (Foucault, 2006; p. 23). In functional, spatial and cultural terms, such territorial intervals embody the very unique condition in which centrality and marginality, specificity and generality are juxtaposed. A condition the modern city would restore in roads network, while the globalised city, in the worst sense, would allocate to public spaces far more informal and impersonal (Augé, 1992).



**Figure 3.** Scalo del Pinedo, Rome (1932). Source: <http://www.trastevereapp.com/barcone-ciriola/>.

## The case of Rome: new potential alliances between city and river

During the nineteenth century, many urban rivers lost their hydraulic and infrastructural functionality due to the erection of hard embankments – justified by hygienic and flood-protection reasons – which abruptly interrupted the continuity between urban soil and water. In the stretch crossing the centre of Rome, the case of the Tiber was paradigmatic of this new functionalist culture. The erection of the so-called Muraglioni (massive walls) dissolved a millennial partnership between the city and the river, forever changing the link with the urban life epicentre.

The resulting damage was not only sentimental and perceptive but also morphological and material – with the demolition of outstanding architectural works such as the Porto di Ripetta, the port built in the early 1700s by architects Alessandro Specchi and Carlo Fontana. The disruption of the gradual of the orthographic surface and the demolition of terraces ‘concealed’ not only the riverbed but also the differences between the two banks, depriving the city of a fundamental element of legibility of the geomorphological structure, which had notably conditioned the anthropic settlement, even before the city’s foundation. In addition, the river, which had kept the ‘roughness’ and ‘shape’ of its natural riverbed and preserved the riparian vegetation – an essential element for speed control and water filtering – was deprived of part of its environmental value.

Finally, on an emotional level, the Muraglioni violated the impalpable yet significant bond that had figuratively connected citizens and peasants.



**Figure 4.** Engraving by Giovanni Battista Piranesi, *View of the Porto di Ripetta* (1793).

A bond founded on the common subjection to the river's monotonous rhythms, in whose current both had projected their dreams and most hidden desires for escape, as Michelangelo Antonioni has painted with delicate lyricism in his *Gente del Po* (People of the Po Valley).

As a supreme spatial margin and mental and perceptive horizon, the Tiber – as well as many rivers crossing European cities – had been the most tangible point of reference for urban planning, a veritable element of measurement that had determined the city's topographical development. Since the earliest Italic civilisations, starting from the river banks and in the multiple urban changes of level, altimetric differences had been considered as great design and scenic opportunities rather than obstacles to creative solutions in which to compose mineral gardens, porous landscapes, inhabited walls, in other words, pretexts to explore the architecture of oblique planes, or spatial connective devices capable of capturing and sublimating the dimension of time while turning movement and endless narration into the fulcrum of the architectural event.

Indeed, on a symbolic level, the Muraglioni's right angle inaugurated a design culture that would consolidate during the first half of the twentieth century, whose moment of culmination as well as epilogue can be considered Le Corbusier's *Poème de l'Angle Droit* (1955).

In fact, in 1964, Claude Parent and Paul Virilio (Parent, 1970) would react to the Corbusierian obsession for the crystalline boundaries between tectonics and nature and to the stable figure of the right angle, an unequivocal symbol of the logic of separation, with the principle of obliquity, an anti-rhetorical figure symptomatic of the post-WWII culture dominated by relativism and doubt. The obliquity appeared as an operational manifesto of the new poetic of inclusiveness, relationality and relativity, antithetical to the dual and hierarchical method of rational thinking.

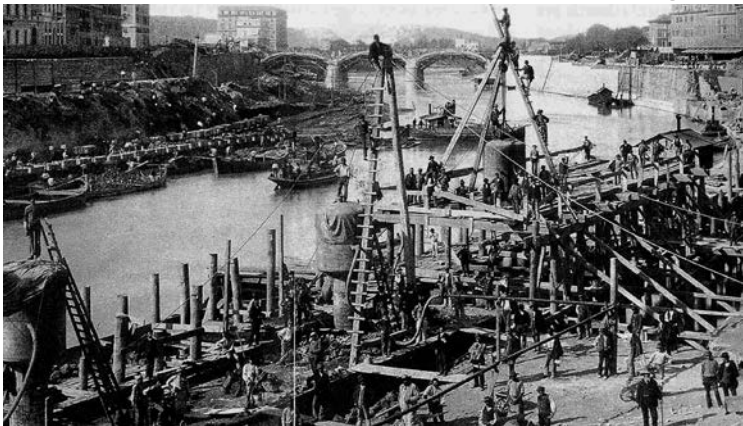


Figure 5. *Muraglioni during the construction, Rome (1877-1926).*

The radical decline of urban rivers, their final loss of identity and ecological and social functionality, occurred in the second half of the twentieth century, when – with the parallel modification of production systems and the metropolitanization of territory – water pollution, the privatisation of shores and savage colonisation transformed legendary river valleys into liminal spaces, or 'wastelands' fatally separated from their urban bodies.

With the same timeliness that accompanied the rise of the myth of the 'performative city' where nature is reduced to a "technical infrastructure that makes exhausting life more bearable" (Koolhaas, 2001; p. 146), the current processes of urban regeneration and environmental remedy – begun on a global scale in the 1990s – identified the crucial role of such 'immersions', as Ludovico Quaroni (1967) defined the large voids fraught with symbolic contents. As fixed points within the urban environment, such voids may engender 'affective memorisation' processes linked to "elements that are not only visual but acoustic, olfactory, tactile, of *Stimmung*, of atmosphere" (Dorfles, 1965; p. 102). Thus, as ecological corridors and thanks to their often barycentric position, rivers – which are essentially 'common goods' received as a gift from nature – are again perceived as privileged collective spaces where the so-called common ground can once again find its roots renew its definition.

Along with art and its persuasive tools for excavation and interpretation of common, tangible and intangible roots, architecture has steered this semantic reversal in many ways. As Olafur Eliasson's *Green River* installation shows, even low-intensity, ephemeral, low-cost operations such as soil works and simple graphic operations that modify the relationships between objects and the perception of space may sometimes arouse shockingly effects. In many cases, the spatial event begins with and sometimes is limited to extirpation, the thinning of both natural and anthropic parasitic components that restore the unadorned anatomy of the earth. By operating on the profile that defines the passage from urban soil to the water – through a tomographic model of representation that designs the topological nature of a space ready to absorb deformations – architecture rediscovers the aesthetic dimension of the intermediate realm made up of uncertain thresholds between inside and outside, above and below, matter and non-matter – or what in ecology is called 'ecotone', the transitional environment between two ecosystems.

In recomposing such profile in plastic terms, in rethinking it as an oblique plane resilient to the pressures coming from both the underground world of nature and the aerial world of architecture, not only space is altered but time.

From this point of view, those shifting strips of land along the rivers turn into figures of becoming, spaces of interference between past and future, where the very notion of ground and underground – as well as the one of 'palimpsest', omnipresent in the history of stratified cities – loses its abstract connotation and becomes a sort of 'carnal' experience.

In correspondence with these new urban breaches – slight fragments where the secular and global fracture between places and individuals is potentially repaired – the geological and archaeological stratification of the city is virtually laid bare.

Ultimately, a bit like in the artwork *Triumphs and Laments* William Kentridge created on the Tiber's Muraglioni in 2016 (Fig. 2b), embankments become meta-historical spaces that evoke archaic myths, revive the ancestors' slowness, project us into an anachronistic time that, as Giorgio Agamben (2008) points out, awakens the ability to look at the present with unexpected lucidity.

The ultimate goal of these regeneration processes and re-discovery of the city identity - in Rome as in many other European cities - is to radically reclaim the soil and river waters, with such programmes looking upstream at the entire water basin to mitigate and ideally remove the pollution. As is well known, pollution was the one factor that interrupted the ancient practice of bathing. While waiting for long-term fruitful benefits, cities have equipped themselves with entertainment and recreational areas as well as artificial beaches where possible - large and small floating pools fed by mechanically purified water. Some examples include PLOT's Harbour Baths in Copenhagen (2002), the more recent Aarhus Harbor Bath by Bjarke Ingels Group (2018). Only in rare cases - such as the Flussbad Berlin in the Spree Canal (2012-2015) or the Paris Plage in the Bassin de la Villette (2017) - is the bathing literally done in the reclaimed waters of the city's canals. The spirit of these places is to celebrate with due solemnity the ancestral custom of communal bathing, born with the invention of the first urban settlements.



*Figure 6. William Kentridge, Triumphs and Laments, Rome (2016).*



From the Islamic *hammam* to the Roman baths, from the Jewish *mikveh* to the Scandinavian sauna, all civilisations associate the immersion of the body in water – coming from a natural spring – with the purification from material impurities or sin.

This symbolic return to the urban river waters – consecrated through bodily gestures – could re-establish that crucial link between the *urbs* and the *civitas*, that is, the link between places and their meanings. The river cities receive these meanings from history and should be willing to pass them on to posterity.

## References

- Agamben, Giorgio. 2008. *Che cos'è il contemporaneo?* Milano: nottetempo.
- Antonioni, Michelangelo. 1943. *Gente del Po*. See: <https://www.youtube.com/watch?v=twj4BgAPj8o>
- Augé, Marc. 1992. *Non-lieux*. Paris: Édition du Seuil.
- Conrad, Joseph. 2016. [1899]. *Heart of Darkness*. New York: W. W. Norton & Company, Inc.
- Cattaneo, Carlo. 1971. [1844] *Scritti sulla Lombardia*. Edited by Anceschi, Giuseppe & Armani, Giuseppe. Vol.I, Ceschina, Milano 1.
- Dorfles, Gillo. 1965. *Nuovi Riti. Nuovi Miti*. Torino: Einaudi.
- Eliasson, Olafur. 1998. *Green River*. See: <https://olafureliasson.net/archive/artwork/WEK101541/green-river>
- Foucault, Michel. 2006. *Utopie, Eterotopie*. Napoli: Edizioni Cronopio.
- Kentridge, Willam. 2016. *Triumphs and Laments*. See: <http://tevereterno.org/progetti/triumphs-and-laments/>; <https://www.artribune.com/television/2017/05/video-triumphs-and-laments-film-william-kentridge-roma/>
- Koolhaas, Rem. 2001. *Delirious New York*. Milano: Electa.
- Koolhaas, Rem & Mau, Bruce. 1995. *S, M, L, XL*. Rotterdam: 010 Publ.
- Le Corbusier. 1955. *Le de l'Angle Droit*. Paris: Éditions Tériade.
- Magris, Claudio. 1986. *Danubio*. Milano: Garzanti.
- Parent, Claude. 1970. *Vivre à l'oblique*. Paris: L'Aventure Urbaine.
- Parent, Claude & Virilio, Paul. 1996. *Architecture Principe: 1966 and 1996*. Paris: Les Éditions de l'Imprimeur.
- Quaroni, Ludovico. 1967. *La torre di Babele*. Padova: Marsilio Editore.
- Rossi, Piero Ostilio. 2013. *Il mare come destino di Roma. Una storia di lunga durata*. In "Rassegna di Architettura e Urbanistica", n. 141, pp. 20-39.

Schama, Simon. 1995. *Landscape & Memory*. London: Harper Collins Publishers.

Segarra Lagunes, Maria Margarita. 2016. *Il Tevere e Roma: Storia di una simbiosi*. Roma: Gangemi Editore.

Sennett, Richard. 2018. *Costruire e abitare: etica per la città*. Milano: Feltrinelli.

Simmel, Georg. 1976 [1903]. *The Metropolis and Mental Life*. New York: The Sociology of Georg Simmel Free Press.

Simmel, Georg. 2011 [1909]. *Ponte e porta: saggi di estetica*. Edited by Borsari, Andrea & Bronzino, Cristina. Bologna: Archetipo Libri.

Yu, Kongjian & Padua, Mary (eds.). 2006. *The Art of Survival*. Victoria: Images Publishing Group.

Zevi, Bruno. 1993. *Ebraismo e Architettura*. Firenze: Editrice La Giuntina.

### **Pescara, two years or so, of a Pandemic**

More than a year has passed since the start of the pandemic crisis, at the beginning of March 2020, when the whole country, together with the whole world, found itself - completely unprepared and inexperienced - to face the first generalized lock-down, with the closure of all public and collective services and activities, including schools and universities. For a city like Pescara, which, together with nearby Chieti, gathers a considerable population of university students, with a very significant share of non-resident students, this was not a marginal episode. The presence of the university maintains important economies, linked precisely to the presence of students, as well as originating different types of induced activities, so much so that for a long time, some have already recognized the University in Pescara and Chieti as the main economic enterprise (M. Ricci, P. Rovigatti, 1996). A calendar year of a pandemic is actually equivalent to almost two consecutive academic years, or at least so it will certainly be remembered by the students and teachers who lived through them. The closure of the university, required by the rules of the so-called social distancing, was not supported by any significant administrative act. On the university's part, every effort has been directed to the organization of distance learning and to the impromptu organization of university classrooms to carry out lessons in blended form. University fees have been increased, as already planned, and no measures have been adopted towards first-year students, as promoted at the central government level, to counter the feared drop in enrolment, which has not occurred, at the start of the new academic year 2020-21. The local administrations have implemented no concrete measures to meet the students' understandable inconveniences, including economic ones. Most off-site students also continued to pay the rents of the privately rented houses, given the persistent limited presence of public hospitality facilities in the cities in question. Absent off-site students in the cities, the economic inducement linked to their presence has almost disappeared, especially in terms of consumption of food and services.

Therefore, the de facto closure of the university and its teaching centres was reflected in the closure of almost every activity linked to catering and services, including private services for students, which have characterized for over twenty years that part of the city recognized as the university judicial. A closure for many commercial establishments is destined to become permanent, even with the reopening of the university, scheduled for September 2021. Also, the traffic, which has always been characterized, due to high levels of congestion, this area of the city, together with a permanently unsolved problem of accessibility and parking, has come to drastically reduce, in the desolate and sad months of the first and second lock-down in Pescara.

### **University and Pescara city. Relations, economies, opportunities**

Therefore, the pandemic has frozen the university district, perhaps even to a greater extent than in other city areas. It is also true that this "neighbourhood" had long since lost much of its character as a growing area, an inner suburb in transition, linked above all to the presence of the university and the adjacent Criminal Court.

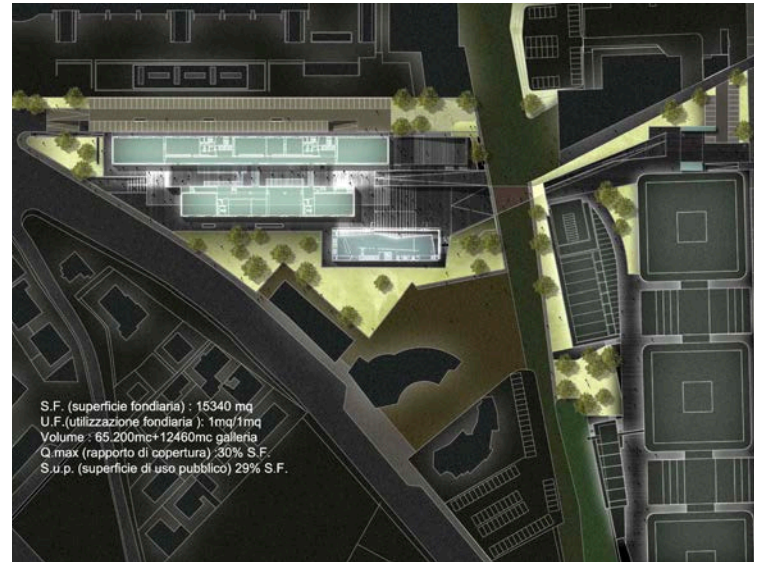
A university on which many, in past years, we had bet on for its ability to prove to be the "engine of urban redevelopment", "a company that produces and distributes income on the territory", or even "strategic investment for development and a factor of modernization and redevelopment of the settlement and territorial system in the broadest sense"<sup>1</sup>. There is little space available in this paper to try to argue why, and how, all this did not happen. Perhaps errors in the overall assessment of structural and conjectural factors, but also errors in political, urban and administrative strategies, largely explain this situation.

First of all, a nefarious program agreement for the development of the University and Judicial Center<sup>2</sup>, built around an objective of public interest that has never been realized - the Strada Parco, the vast linear park on the route of the former Adriatic railway link, also designed to support "fast and mass" local public transport, and which in fact



**Figure 1** Bird's-eye view of the University of Pescara (satellite image processing from Google earth, accessed April 2021).

has rewarded substantial interests speculative on vast areas then undeveloped around the university. Today it isn't difficult to observe how the University in Pescara, well before the sad days of COVID, is far from being the engine of anything, with the exception of the real estate gains produced by real estate transactions that are so rapid in completion, but modest in formal outcomes and urban planning. Well before COVID, the University of Pescara began to contract, also with regard to the presence of students suffering from a reduction in first-year university students, which appears as a national trend due to the post-2008 economic and financial crisis, and which affects the South to a greater extent than in other parts of the country. For this reason, the growth projects for the new Pindaro, the complex of spaces for teaching and student services that the university has planned since 2001, remain unrealized. Also, the reduction of this project, such as the Mediateca, developed, at the university's expense, up to the executive project scale, for a cost of approximately 5 million Euros, remains unfulfilled. In short, what COVID finds in Pescara is a university whose latest developments date back to almost two previous decades, clearly without services, sports or culture. And where the condition of off-site university students is right, they use to live in low-quality precarious rented houses, which in the summer season pass to the seaside market, tells better than any other factor the still unfortunate outcome of the desired relationship of quite another nature and perspective.



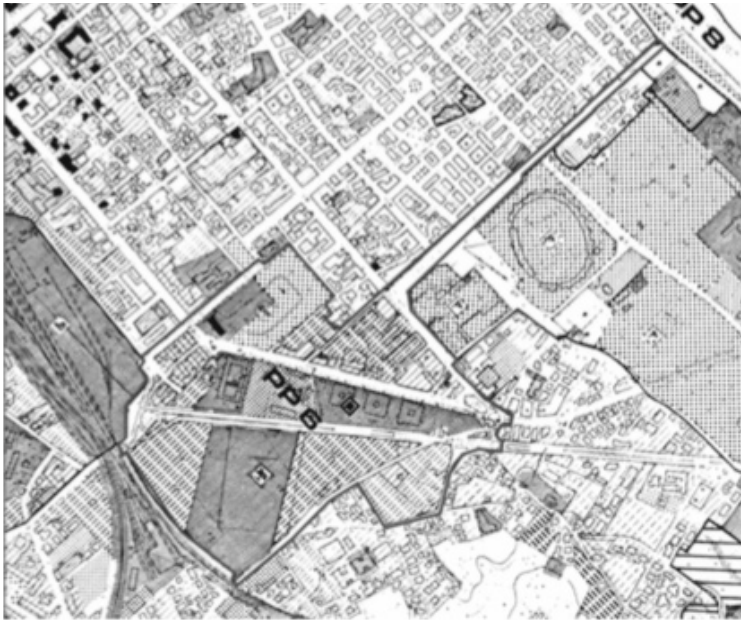
**Figure 2.** Project of the new Polo Pindaro, Studio ABDR, 2001. Overall plan with urban planning data

### University and Pescara city, after COVID 19. What happens now?

In the past year, 2020, the year of COVID, in the face of substantial immobility of public entities in the field of development and redevelopment of the university district - and there was also a Master Plan and Sector Plans, which they had tried to stir the waters in this sense - the theme of the transfer of the university in its entirety to a new urban location takes on great vivacity on the initiative of the new Rector. The choice concerns the Ex Cofa area, an abandoned industrial area located near the city's canal port. The operation does not go through for different reasons. In the meantime, the University Centre of Pescara is affected by an almost interminable series of ordinary and extraordinary maintenance works.

The University of Pescara has long been a permanent, endless construction site for works and interventions that try to correct, often without success, initial infrastructural and structural deficiencies, none of which are linked to strategic choices, which focus on the eye-catching deficit in terms of accessibility and availability of services dedicated to students. Within this overall scenario, at the beginning of January, the news of the "creation" of a "new University Campus" in the city appears, within an area, the former Bartolomeo area, of about two hectares, stopped for almost thirty years.

An area present within the perimeter of the Detailed Plan of public initiative laid down by the General Town Plan,



**Figure 3.** Extract from the PRG before the 2002 Program Agreement for the University and Judicial Centre;

never implemented, which very appropriately linked the structure of all the functions to the relationship with the sea and the other public centralities present, then “replaced” by the Agreement for the Judicial and University Pole, which is already discussed.

**On the story of the “New University Campus” project, in the former Di Bartolomeo area, between Viale Pindaro and via Marconi in Pescara**

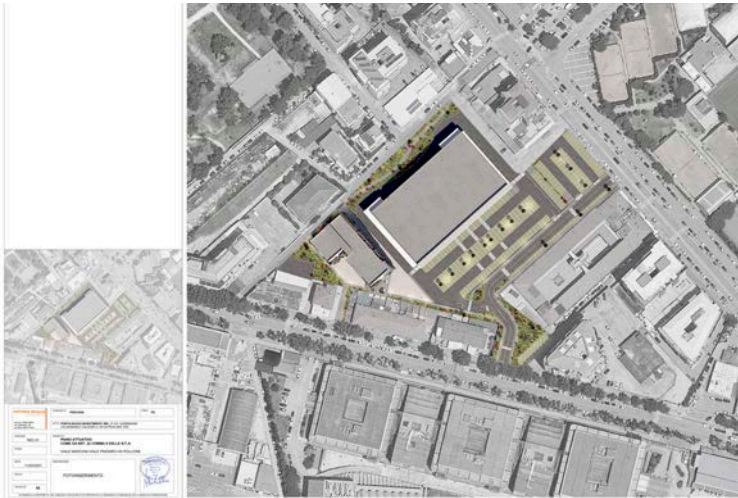
What starts now, in Pescara, has absolutely nothing to do with the multitude of projects, plans and proposals that have long been produced within the Department of Architecture, in the over 30 years of its activity of third mission, at the service of the city that hosts it. It is a clear private project, of a speculative nature, which should be analysed, evaluated as such; it is in fact a Variant to the General Town Plan, with substantial changes regarding the intended uses and urban planning parameters already defined by a specific implementation tool, the Urban Planning Section PP6, and it is by no means a project of public interest, as it is artfully presented by the local press and by the endorsement of the Magnificent Rector. The operation involves the inclusion of a shopping centre, reducing the public spaces, initially planned, with a partial reduction of the load, but with a variation in the maximum height of the building, which goes from 25 ml to 34 ml. It is difficult to believe that all this does not constitute a sub-



**Figure 4.** University and Judicial Centre; with black lines the perimeter of the detailed plan of public initiative PP6.

stantial modification of the urban planning instrument, on which the City Council has a binding opinion. It, therefore, entails the approval, in time and manner, of an “Urban Planning Variation” or a “program agreement”, which, however, can only be defined based on a clear public interest, which is difficult to recognize in the proposed program. However, the basic question remains what all this has to do with the heralded promotion of a “university campus”, supported by public declarations also by the university. In short, what all this has to do with the needs of the university and students in the current city (of the post-COVID) is something complicated to prove.

The students first opened a glimpse into this affair, who solicited its attention, meanwhile within the university community. Finally, it is discussed in a public seminar entitled “Universities and Cities, a study day on the University Pole of Pescara, which at least has the merit of raising a minimum of public debate around this incredible story. What this story, which is still in progress, teaches, however, is the inability to assume and deal with the theme of the relationship between the university and the city as an urban planning problem. And the alleged solution that someone thinks to corroborate to the problems of the university risks turning out to be, if anything, an aggravation of the problems, or perhaps only a solution to the economic interests of the private operators who suddenly appeared on the scene, replacing those who kept this frozen area for decades, waiting to capitalize on its revenues.



**Figure 5.** Subdivision Plan of the Implementation Plan of private initiative and related urbanization works for the redevelopment of the former DI Bartolomeo area - District 6.03 of the PRG, general plan of the intervention

It is quite the opposite of what is set out in the strategic plans that the city has adopted in recent years, even with the partial collaboration of our university. Personally I have tried to suggest both within the scientific community to which I belong, as well as the associations for the defence of common rights, very present in the city, the possibility of presenting public observations against the adopted plan, listing the numerous factors that penalize both the university as a structure of public interest and service, and the community as a whole: the loss of a strategic area for the overall reorganization of an important part of the city, and its rebalancing in terms of standards and public spaces; urban planning loads that will aggravate an already heavily congested urban area; the increase in traffic and the irreducibility of the road solutions proposed by the Allotment Plan to the development of alternative mobility systems proposed by the sector instruments; the loss of public space and green areas compared to the provisions of the current PRG; the repercussions of this on climatic conditions, the permeability of the soils, the hydraulic risk that has always characterized this urban area.

### Universities and cities in Pescara and Chieti after COVID 19. What could happen instead?

Many, during the pandemic in progress, have evoked gloomy scenarios regarding the condition of Italian universities in the post-COVID, in particular for those of medium and small size, and located in the South.

The reduction in the number of registrations that followed the years of the financial crisis in 2008 seemed destined to resume, and perhaps even worsen, after three semesters in DAD, due to the understandable lack of propensity of families to invest, in times of crisis, in the life prospects of their children. The legacy of fears and inconveniences produced by the experience just lived, in reality still in progress. Official data relating to the last academic year belie these hypotheses. Contrary to expectations, "the University is full of students with online lessons: freshmen up by 7%"<sup>3</sup>; and perhaps the most surprising news is that "the Centre South is growing". It is, therefore, interesting to compare these happy and unexpected data with the situation of the University of Annunzio and, in particular, with that of the Polo of Pescara. The resulting picture actually seems only partially to confirm the positive national picture.

The University of Annunzio has started to grow again in terms of enrolment, but not as much as the national average. In terms of new enrolments, then, factors that are difficult to assess, both of a general and local nature, weigh - the preference that new degree courses seem to encounter, such as "Digital marketing", "Speech therapy" and, "Biomedical Engineering", or Design - or other factors, which lead many observers to note a progressive "regionalization" of university catchment areas, which unexpectedly rewards many southern and central-southern universities as well. On the other hand, the fact that "families saw enrolling in university as the best way to deal with the crisis could also influence this increase".



**Figure 6.** Project of the new Mediatheque of the University of Pescara, Studio ABDR, plan and rendering.

The basic question - to what extent the pandemic emergency, which is still ongoing, is destined to profoundly change the relationships between universities and urban systems, in the post-pandemic cities that await us, or whether this experience is destined to leave no trace in the balances, and imbalances, which have long characterized the territorial organization of universities in Italy and the relationships between local systems - there is a risk, however, of remaining unanswered, until the availability of data makes accurate and documented analyses will make this possible.

Perhaps a possible explanation for this condition refers to various causes. People tend to enrol in the nearest university to protect themselves from the risk of new lock-downs. Or, by choosing universities closer to their home of origin, the costs of off-site attendance are reduced, and perhaps the structural deficiencies of complimentary services - sport, culture, leisure - characteristic of some southern universities, weigh less among them - which can be resolved privately.

If we were satisfied with this kind of explanation, largely consoling, we could also conclude that this is okay and

that there is not much else to do, to hope that both the Italian university system as a whole, as well as a case like the one dealt with in Pescara, can overcome the pandemic crisis with enthusiasm, and resume normality that has marked its existence up to now.

If, on the other hand, one is still convinced of the fact that the university is something other than its caricature that was broadcast during the long months of the DAD - with all the respect of those teachers and students, who have committed themselves to at least partial emergency function - then it is necessary to implement other thoughts, other actions, other projects - seizing all the opportunities that old and new strategic planning and programming tools can put in place to give new vigour to the relationship between university systems and urban systems already compromised for some time and further affected by induced effects of the pandemic that perhaps we are finally leaving behind.

In Pescara, there is a lot to do and rebuild, starting from a definitely cracked relationship of trust and mutual esteem between administrations and communities, to be developed and reinvigorated through the sharing of visions, scenarios, and perspectives of common sense.



**Figure 7.** Project for the reconfiguration of the internal open spaces and fences of the Polo Pindaro, project coordination prof. Enzo Calabrese, prof. Antonio Basti.

Looking, in particular, at the condition of non-resident students as a strategic indicator of the quality of these relationships, also putting under observation forms of governance, projects, current plans to these more or less implicitly dedicated, which have occurred in the last twenty-five years, is perhaps one of the ways to follow.

Building a city of proximity, which focuses on the production of services, and of new, inclusive public spaces, both for temporary citizens and for those who have always lived in neighbourhoods that today are crossed and experienced by young creatives and bearers of new ideas and approaches, can become a common objective, a testing ground for setting up integrated policies - between the State, public, local and university administrations - in support of this condition, for example by creating new student services integrated with neighbourhood services, within policies dedicated to this important urban population, also recognizing a particular status of citizenship for non-resident students, also through acts of local empowerment. Well then to resume from the drawer, and soon, the projects that have been ready for some time, such as the splendid university media library designed by some of the best teachers of our university, illustrated in the images to come, good to give substance to the internal arrangements of the current, rundown university campus, as suggested by the project of other valuable resources of our university, perhaps with more courage to also deal with the public spaces around, the "university sagradi" that it seems appropriate to suggest in analogy to the "scholastic sagradi" proposed by Paolo Pileri and his group, for the Milanese schools, as suggested in the images of the degree thesis that conclude the iconographic set of this text. The prospects of any possible urban regeneration program of the city, which contemplates the consideration of the still unexpressed opportunities for relations between the university and the city also as an opportunity for the regeneration of parts of the city that are still substantially marginal, perhaps within the resources of the EU Next Generation Plan, and the newly born National Recovery and Resilience Plan (PNRR) could, and should, be framed in this direction, in favour of the public interest, looking at the university as a common good, and not as an opportunity for private profits.

## Note

<sup>1</sup> Cfr.: A.Clementi, *Premessa*, in M. Ricci, P. Rovigatti, *Università e città*, Fratelli Palombi Editore, Roma, 1996, pag. 7

<sup>2</sup>P. Rovigatti, *L'Università a Chieti e a Pescara*, in: N. Martinelli, P. Rovigatti (a cura di), *Università, città e territorio nel Mezzogiorno*, Franco Angeli Editore, Milano, 2005

<sup>3</sup>[https://www.ilsole24ore.com/art/l-universita-le-lezioni-online-fa-pieno-iscritti-matricole-del-6percento-corre-sud-ADLK4R3?refresh\\_ce=1](https://www.ilsole24ore.com/art/l-universita-le-lezioni-online-fa-pieno-iscritti-matricole-del-6percento-corre-sud-ADLK4R3?refresh_ce=1)

## References

N. Martinelli, P. Rovigatti (a cura di), *Università, città e territorio nel Mezzogiorno*, Franco Angeli Editore, Milano, 2005

N. Martinelli, *Spazi della conoscenza. Università, città e territori*, Mario Adda editore, Bari, 2012.

P. Fusero (a cura di), *Verso Pescara 27. Vision e Summer School*, e *Dossier di ricerca*, Gangemi Editore spa, Roma, 2016.

M. Ricci e P. Rovigatti (a cura di), *Università e città*, *Quaderni del Dipartimento di Architettura e Urbanistica di Pescara*, collana del DAU e della Facoltà di Architettura di Pescara, n. 1, F.lli Palombi Ed., Roma, 1996

Book chapter:

P. Rovigatti, "Università e processi di trasformazione urbana: il caso di Pescara", in: *ASUR, Archivio di Studi Urbani e Territoriali*, n. XXVIII - XIX, n. 60 - 61, F. Angeli Editore, Milano, 1997, pp. 219 - 250.

P. Rovigatti, "L'Aquila, città universitaria, prima e dopo il sisma del 2009", in: *L'università italiana tra città e territorio nel XXI secolo - Parte Prima The University between City and territory in 21st century Italy*, sezione monografica della rivista *Urbanistica*, n. 149, INU Edizioni, 2012.

[https://www.ilsole24ore.com/art/l-universita-le-lezioni-online-fa-pieno-iscritti-matricole-del-6percento-corre-sud-ADLK4R3?refresh\\_ce=1](https://www.ilsole24ore.com/art/l-universita-le-lezioni-online-fa-pieno-iscritti-matricole-del-6percento-corre-sud-ADLK4R3?refresh_ce=1)

<https://www.paolofusero.it/universita-e-citta-un-rapporto-complesso/>

*Xhejsi Baruti, Gladiola Balliu, Fiona Nepravishta*

## Introduction

The “100 villages” model paves the path and sets the standards to serve as a success model in order to expand across the country.

The program selected villages endowed with potentials that have, despite no particular attention, succeeded in attracting tourists, building restaurants and/or hostels, and generating their traditional homemade products. Therefore, the “100 villages” program picks and supports those areas that have already displayed items and are willing to take steps forward.

The idea is not only to upgrade, improve and not to invest everything by the government, but develop a functioning model that would show the path towards development and expand it elsewhere all over the country.

Arreza still carries its historic treasured, architectonic values, scenic view and perennial tradition. These values should be protected and restored to be returned to the community and used to develop cultural tourism.

## **Arrëza, Dardha, Sinica, Nikolica and Qyteza, part of upper Devoll**

Upper Devolli is one of the richest areas with forest and water resources. A diverse floristic and faunal world is evidenced in it.

The natural environment is the basis on which human society was created and developed. The intervention of the human factor in the environment has brought about its damage. After the 1990s and onwards, the great changes have somewhat diminished their importance due to misuse or mismanagement. Upper Devoll villages face intense population movements, low economic development, significant infrastructural and environmental problems, etc. This territory still preserves values that are best inherited from the nature and cultural development of the population. Today, the villages of Upper Devoll are presented as areas with abundant natural resources and with great opportunities for their economic, demographic and cultural development.

This study aims to identify natural and human resources as the main potentials that will bring rural integration into the study area. These resources must be managed appropriately to ensure their continuity in the future. Upper Devolli includes five villages' territorial space: Arrëza, Dardha, Sinica, Nikolica and Qyteza.

Several methods have been used to achieve the purpose and objectives of this study, such as descriptive and analytical depending on the collected materials or their identification in the field. The methods used in this paper are research method, analysis, cartography and field survey. The field survey method was used to collect materials and identify the study area more closely. This method defines the problems that this area faces today, such as erosion, mass migration of the population, economic development, infrastructural difficulties, etc.

Together with their history, these villages testify quite well not only to their early population but also the culture, traditions, and religious beliefs inherited from the past to the present. They have been inhabited since antiquity, and this is evidenced by the numerous archaeological finds belonging to different historical periods since antiquity and the early Middle Ages. Their traces are in the form of apartment ruins and have been found by locals. They date back about 2500 years ago, maybe even more. Their location is quite suitable for living as they have a protective position from winds or bad weather conditions, as well as being close to water sources and sunlight. In addition to the ruins of dwellings, other objects that testify to the early population are various items, coins, human bones, metal ornaments such as bracelets of various shapes and sizes, metal spearheads, pieces of ceramic dishes, etc. These archaeological objects have been found in one of the residential centres of the village of Sinica in the area called Selisht.

The arrival of the Slavs in Albania in the first half of the VI century AD, around 548 and the Slavic toponyms in Sinica, are factors that help and strongly support the early roots of the village of Sinica. We find these traces and Slavic toponyms in the village of Nikolicë. Documentary records say that Nikolica in the Middle Ages had over 6000 inhab-



itants, had an episcopal centre (Metropolis), was a commercial centre, a centre of crafts revived in economic and cultural life. Arrëza is also thought to have had the same developments as Nikolica and Sinica in this period. There were about 150 houses in Arrëz.

The Ottoman occupation also left its mark where the surrounding villages, to escape the invaders, were forced to relocate from their homes and establish a permanent settlement in Dardhë. Thus in Dardhë, from 35-40 houses it had at the end of the XVII century, reached 400 flats in the following years.

This ensured the continuity of the population and development of these villages. It is worth mentioning that the population has been high from the 1920s until the 1990s for several decades, despite different historical or physical-geographical conditions.

Due to its geographical position, Sinica, together with the other four villages, Qyteza, Dardha, Arrëza and Nikolica, separated at a special angle from the plain part of the province of Devoll, form a separate territorial community. From the 1920s until the years 1960-1970, this community was administered as a single locality, with Dardha centre, which depended on Korca. Then, the new administrative division after the 1990s passed into the administration of Devoll. With the new administrative division in 2015, the villages Sinicë, Nikolicë, Qytezë and Arrëz are an integral part of the Commune of Miras and depend on the Municipality of Bilisht, while the village Dardhë depends on the Municipality of Korca.

The villages communicate with each other through the road network. The connecting roads of the villages to each other are paved with gravel but damaged as a result of slope processes, falls, slides or small mud streams.

Due to the poor conditions of the road network, the transport of people, goods or information is carried out only by special vehicles, which hinders the development of these areas.

In the village of Arrëza, the village with the largest population of Upper Devoll, in 1992, the registered population was 882 inhabitants. This considerable population, unfortunately, has been lost over the years. In 2017 the registered population was 677 inhabitants. The decline has been gradual where initially from 1992 to 2007, about 158 residents left. In 2010 we had a slight improvement in the situation.

### **The rural landscape**

The rural landscape is typically traditional, where the nat-

ural environment prevails and the villages are affected by depopulation due to mass migration. The main economic branches are basic agriculture, livestock and beekeeping with which the vast majority of the population lives. The rural landscape of the villages has the features of a diverse Mediterranean landscape which is adapted to the physical-natural conditions. An important role was played by the mountainous relief where as a result, agriculture has managed to develop only on those flat land areas located along the Devoll River valley, inside the study area. Most are in the villages of Nikiolica, Qyteze and Arrëz, while in Dardhë and Sinicë, agricultural areas are scarce due to not only the difficult mountain relief but also the harsh climate. Land plots are small and often insufficient for the needs of families.

Biodiversity and its elements are one of the main components of creating a rural landscape. The specific natural vegetation consists of evergreen vegetation such as pine, fir or deciduous plants such as oaks, hazelnuts, and fruit trees such as plums, cherries, etc. Here we find a variety of medicinal and aromatic plants which are collected and used by the local population.

Agricultural crops are also part of the rural landscape. Unfortunately, they are found in small quantities due to inadequate relief and climatic conditions—mainly cultivated basic vegetables such as tomatoes, potatoes, cereals, orchards. The rural agricultural landscape is found in villages such as Arrëz, Qyteza and Nikolica. We find pastures in all villages, and consequently, the livestock landscape is more evident with herds of cattle, pastures, livestock stalls, haystacks, etc. In addition to them, one of the branches of the economy that is quite widespread is beekeeping, where beehives are seen in many homes or nature.

### **Arrëza: historical, architectural and cultural background**

Arrëza is a mountain village, located at 1030 m above sea level, on the Devoll River, which emanates from the Gramoz Mountain. Arrëza is located in the centre of the ethnographic sub-region of Upper Devolli. The village is an early settlement with solid culinary traditions of artisanal, agricultural and livestock products processing, thus adding to the tourist potential. The stunningly built houses in each other's shelter still retain the tradition, old customs or legends, inscribed on carved stone and well-paved porch. The main economic activity is agriculture, which develops mainly along the Devoll Valley.

According to the materials written by the archives of the time, we learn that Arreza is a 600-year-old settlement. The



*Figure 1. Photo of Arrëza, natyre and laocation.*

village of Arreza was founded by families who, along with their livestock, camped inside the mountains to avoid the time wars. The village's name can be explained by the word "little nut", arable land where the first inhabitants settled and laid the foundations. Ottoman. This is documented by Pope Spiro Zengo, based on the confessions of his clergyman's father, Pope Nicholas Zengo: According to family tradition, this clergyman, a parishioner of Arreza, was a period where she was forced into Islam, not wanting to convert to Islam and become a Muslim, he took refuge in Pear, where many other families had begun gathering around the parish priest. According to records written in the History of Dardha, five generations of the Zengo tribe have continued to run the Orthodox Church from this tribe.

The houses of this mountain village retain the characteristic features of the constructions in the area. The dwellings are built of stone extracted from the surrounding area, while the roofs are covered with slabs of stone slabs. The most characteristic house is the one with two floors, two entrances and four rooms. For the extraction of stone

slabs, there are special places called "madem" located in Gollomboçe, Mbalze, Dobiôt, etc.

Before the '50s, the inhabitants of Arreza left their houses unpainted from the outside, while the inside was painted with typical clay as well as the floor. The windows were made small and closed with crossed rosettes. In the winter season, they were given pig lids. The doors of the houses were made of pinewood, without special works. In every neighbourhood, there is a natural source where residents used to drink water.

The main activity of the villagers is agriculture and livestock, as natural and climatic conditions favour the breeding of cattle and small animals. The valley of the river Devoll has very fertile land in which the villagers plant agricultural crops such as potatoes, beans, corn, vegetables, but also fruit trees such as apples, plums, cherries, etc. Agricultural products are mainly for personal consumption, while among the products for sale, we mention bee honey, brandy, meat and dairy by-products winter, as well as spear weaving of various garments or pieces for home decoration. In recent years, the inhabitants of



*Figure 2. Old foto of Arrëza, historical background.*



**Figure 3.** Foto of Arrëza, architecture and urbanism.

Arrza have started cultivating mountain tea, an aromatic plant endemic to Gramoz Mountain, benefiting from the suitable climatic conditions and altitude.

The village has three grocery stores that also serve as gathering places for residents. The host family hostels that serve local and foreign visitors have also started to function in recent years. There are about 30 houses which have reception capacities for visitors that with less investment can increase them or the quality of services.

The main problem remains the road infrastructure that connects the village with the national roads. There is 4 km of roads that connect Arrëza with Dardha and 9 km of roads that connect the village with Miras, and both

of these axes are unpaved and difficult to cross with low cars. As we mentioned above, Arrëza is a mountain village on the border with Greece.

The cars only work during the summer months, because the winter is harsh and the road becomes impassable. In Nikolice, 6 km from Arrëza, in 1977, a hydropower plant was built, supplied with the water resources of Devoll and distributed electricity in 9 villages of this area.

Since 2001, the village of Arrëza has organised an annual event in Dobergore. This day has taken on the dimension of a pagan holiday, where residents from all over Devoll and Korça, regardless of religion, gather and celebrate together.



**Figure 4:** Dobergore, annual event



**Figure 5.** Arrëza agro-tourism

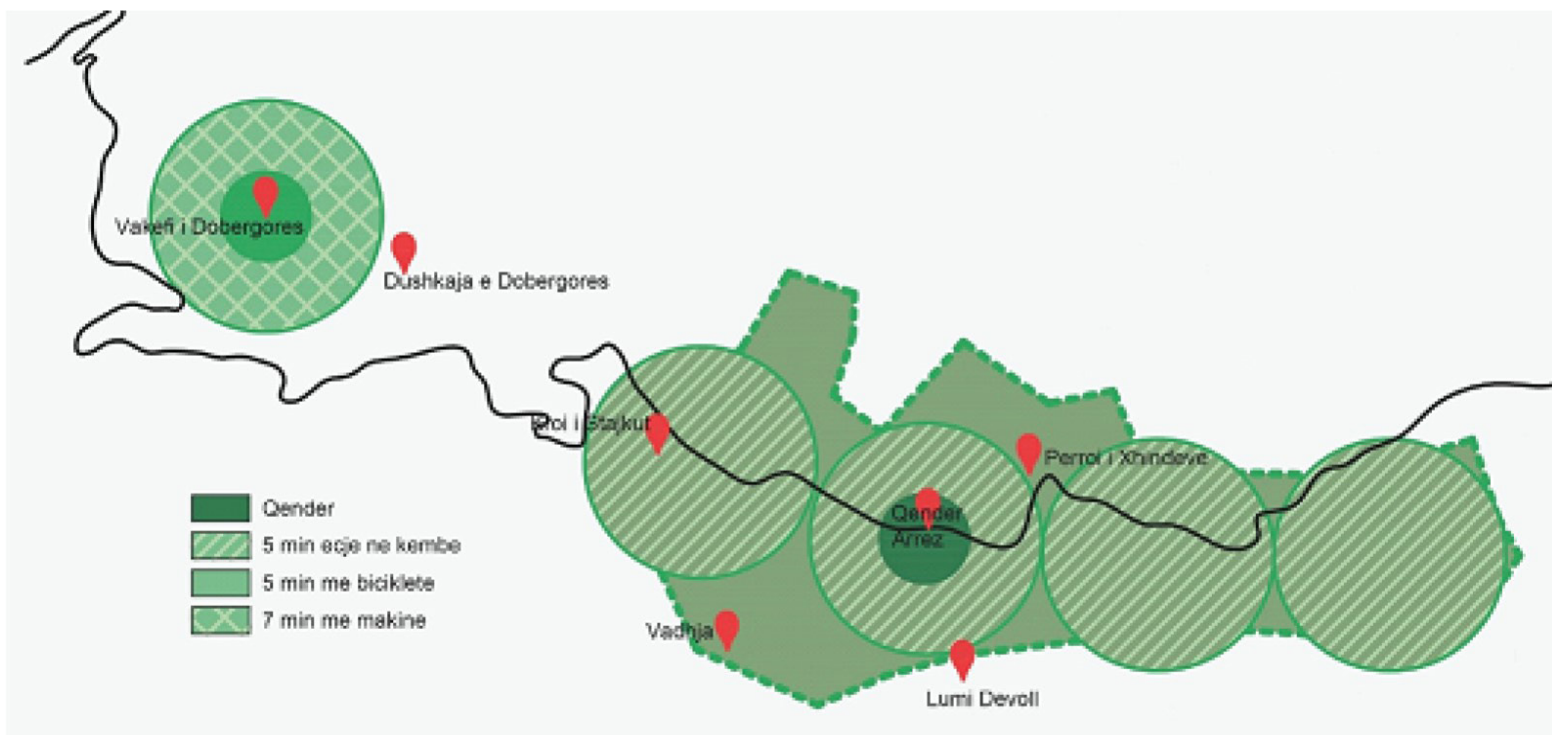


Figure 6. Revitalization strategy

Dobërgora is the reference point of Arrëz village and its inhabitants. This sacred mountain, which does not belong to any particular religion, along with the Waqf standing at its head, is a well-known pilgrimage site in the area. Described as a place of wonders, it is composed of 157 year old oak and pine trees, and the height from 18 to 20 meters, constituting a perfect resting place. The name of the place can be explained through Slavic languages as "good mountain" (Dobro-Gora), or even in Albanian as Do-Bër-Gur, which means "The sacred object must be marked or built with stones". The time of the Bulgarian conquest of the area, in the 9th-11th centuries AD, as well as the meaning of the name, testify to the antiquity and importance of this holy place, which the inhabitants hold in their hearts wherever they are.

The area benefits from an ideal mountain climate and fertile soil to produce high quality agricultural and livestock products. Naturally delicious produce, as well as the cooking of Arreza's housewives, are well-liked by visitors.

Revitalisation strategy

The strategic program topics are:

Improvement of the public infrastructure (Support for road infrastructure, revitalisation of public/urban spaces, community infrastructure, public services, environmental and touristic infrastructure, monuments of cultural heritage, landscape, implementation of multifunctional community centres)

Economic development through diversification of economic activities (amelioration of the touristic potential in the rural areas, agro-tourism, rural tourism, investments in the improvement of commercial services, investments in the production of traditional products, and other economic services. Support for incubators of traditional local products, promotion and marketing of rural areas, transport, fairs)

Development of social and human capital (support for the creation of rural networks, local action groups as well as civil society in rural areas, vocational training for women and the youth, support for cultural of the traditions and lifestyle)

## Conclusions

The social, cultural, economic and environmental potential inherent to Arreza indicates the importance of rural communities and points out the necessity for their regeneration.

The assessment strategy can be applied by government institutions (Ministry of Culture, Ministry of Agriculture and

Rural Development) to suit the needs of a rural community in the broader context of Albanian to manage the entire resources better. Regeneration of rural areas needs to be an important part of the local and national planning policies.

The analysis Arreza has to conclude that such rural areas offer great potential for development improvement and a new opportunity for the country's overall economy.

## References

- Guri Seferi (2014), "Century of Arreza's values."  
Katerina Mihal (2018), "Integrated rural development in upper Devoll."  
Municipality of Kolonja (2018), Plani operacional i zhvillimit vendor 2016.  
National Territorial Planning Agency (2018), 100+ Villages Academy Programme, Group Lot 14, Rehove, Borove, Nikolice, Arrez

*Irina Branko, Andi Shameti*

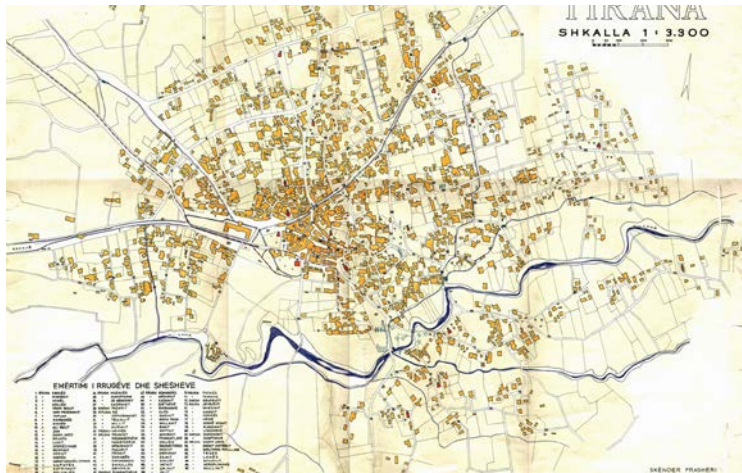
### Introduction

Tirana was founded in 1614 and declared the Albanian Temporary Capital on February 11<sup>th</sup>, 1920, and the Definitive Capital of Albania in 1925. Being between a rich territorial morphology, the Adriatic Sea and Mountain "Dajti" have also offered a perfect position in terms of micro-climate for its inhabitants.

The city of Tirana has a modest history compared to European metropolises. However, it deserves special attention not only for its being the Albanian people's capital city but also because it exemplifies one of the particular models of urban development in Europe. Tirana is a typical example of a mixed structure between the sea and the mountain, between Illyrian, Roman, and Byzantine cultural heritage and the Oriental atmos-



**Figure 1.** Map of Tirana; Position of Case Studies.  
Source: Author.



**Figure 2a.** Tirana Map drafted by Austrians, 1916. Source: Google.

phere; between European elements and those that are typically Mediterranean and Balkan; between the most authoritarian urban planning discipline of the times and the most anarchist chaos of modern times,.....In short, Tirana is one of the dynamic cities in Europe and represents a city of a typical and prolonged transition to the present day .

The above paragraph illustrates the dynamics of the city, which is still at high levels nowadays (Figure 1), bringing continuous transformations, especially in its urban spaces having as the main result not only the perceptive character but also the city life quality. In the conditions of the high demand for construction, ongoing processes such as the urban infilling and densification of city footprint, the urban space remain the most vulnerable element in the city - from its centre to its most remote neighbourhoods.

This particular article comes as necessary in analysing different neighbourhoods differing from their urban morphology, mostly due to belonging to different periods in terms of their creation. It also analyses the spatial changes and transformations these have undergone throughout the years for later have a better understanding of the space quality.

We need to understand the changes in the lifestyle due to different urban morphologies and their modifications due to changes and transformations that occurred.

This study aims to contribute to understanding our living environments and how they stand against the global approach of the city's liveability. The study tends to be further developed by generating models and theoretical approaches to increase such qualities.



**Figure 2b.** E. Lear Drawing, 1848. Source: Google.

## Materials and methods

The neighbourhoods as the main pattern in the city are the object of study; therefore, the study is concentrated in these city units. The first model represents that of the original Ottoman neighbourhood as the first model introduced to the city of Tirana. The other case studies are five different areas, defined by 200 meters, chosen from the existing urban fabric. Three of them represent some of the oldest modern neighbourhoods dating from the late 50-s, and two others represent the new patterns of the latest 30 years, that of informal developments and that of new planned models in the city. While the three first models represent important areas defined by their strong identity, the second ones are the most representative developments of the latest years, such as informal settlements and nowadays modern complexes. Through this mosaic, it is possible to read the urban fabric and understand all the timeliness of space transformation in the city neighbourhoods.

There has been little database developed and conserved during these years; old orthophotos, current maps, and old photos are used to frame a main structure and analysis.

The mapping of different urban layers on the same area is being used for reading their urban typo-morphology. The orthophotos and additional materials such as old photos and documentaries are being used to interpret the transformation of activities related to such space qualities. The interpretation tends to understand in detail the materiality, colours, and chromatics, the space aesthetics, clearness and simplicity, and the presence of the natural environment.

As per the typo-morphology school's methodology, represented by Italian, British and French schools, elements such as building, plots, and streets are the subjects of study from their creation till nowadays in terms of their physical shape and form materiality, chromatics. The French school of morphology with Henri Lefevre also considered the social life, mostly due to the modern architecture introduced in the cities. This theory could be used to understand better the people's relationship with the space between the buildings. Jan Gehl and other authors also talk about the relationship between space and social life in a city.

We are living in an area where the keywords of development are sustainability and liveability; therefore, elements such as solar radiation, vegetation, and comfort could not be out of the evaluation framework.

By summarising, the reading of the territory is based on three main elements that of (1) Space quality, (2) Environmental quality, (3) Functional and social quality, all three important in evaluating the quality of life indicator. Although many studies have been made on the history of Tirana, not too many maps have been digitalised and refined for giving a better idea of the city neighbourhood anatomy at the formation of its early phases. Most of the database is still described schematically in images and through stories. This is another goal of this paper: to define clear methods of study for such an important understanding of the past, the present, and a better projection of the future.

## Background

### ***From 14th to the 20th Century:***

In its early phases, Tirana has developed its nucleus based on family or clan urban islands. The social life of these nuclei was developed near the cult objects, where public squares, markets, and other social objects were also developed at this period (Figure 2a; 2b). The neighbourhoods were constructed based on properties. The typical dwelling was developed on 1-2 floors, with a garden and behind walls. While the streets of the neighbourhoods were sometimes narrow and sometimes wide, irregular, and often blind (cul-de-sac), inside the walls, the gardens were developed. The human scale, presence of the natural environment in the gardens influenced the public areas of the neighbourhood of the period.

### ***From 1912 to 1944:***

This was the period of Regulatory plan implementations and the first attempts to structure the city by interventions

in infrastructure and administration. Individual villas of a Western-style were seen for the first time, mainly to the unconstructed part of the city, but not only. The old neighbourhoods have remained of the same type, and therefore, the social life was developed around public squares, markets, and other social objects.

### ***From 1944 to 1990:***

The directive of the first years of this period was the densification, planned residential areas that were seen for the first time. Planning in terms of standards were being applied, but with a rationalist and repeated architecture. For the first time, space was developed around the neighbourhood. As shown in Figure 3, Figure 5, Figure 6, the first buildings dated around the '50s defined blocks with a considerable open space in between.

### ***From 1990 - Today:***

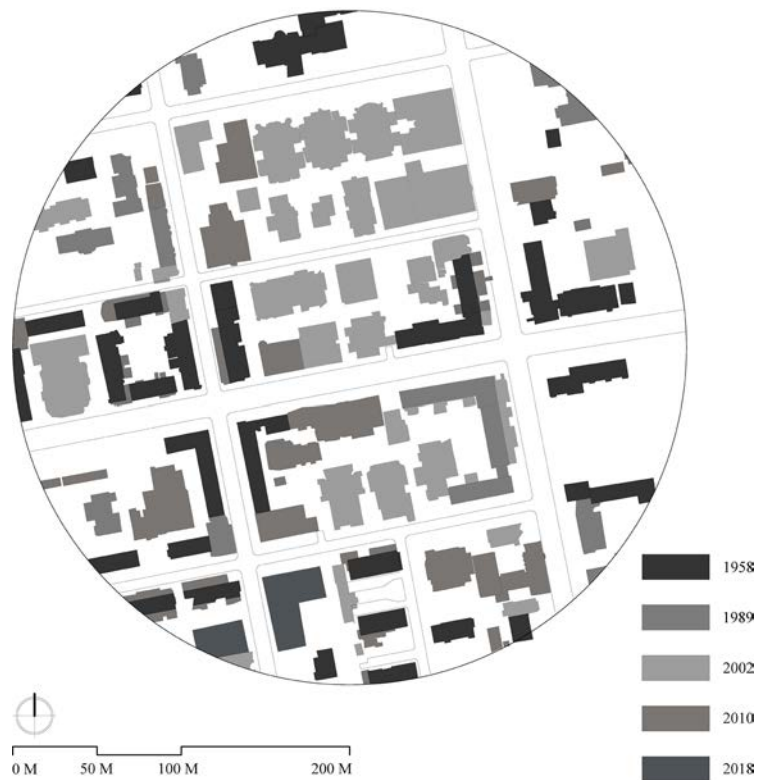
Several urban morphologies were developed in this period, each bringing its urban form and social life characteristics. There have been (1) Informal Settlements; (2) Informal Additions to existing buildings, (3) Formal Settlements but based on property; (4) Development of modern neighbourhoods, all of them having a powerful impact in the city itself. These kinds of morphologies still do continue to be developed, although at different ratios.

Unfortunately, the urban morphologies in the city do get transformed in time. The new buildings usually tend to get developed within the plot without any specific consideration of the pre-existing, therefore strengthening the urban form. This explanation is necessary for a better understanding of such phenomena and also of the samples. As illustrated later, although there has been an attempt to bring clear morphological urban forms, it seemed impossible to find such areas in the city except for a few new neighbourhoods invested lately.

## Results

*Case 1 (Figure 3)*, it is evident that the oldest buildings result to be built around 1958 in an area where single villas with single plots were present. The tendency for creating buildings aligns with the streets, it is evident. The clear façades of the rationalist buildings have lost their clarity by the additions made and other cheap materials used in the informal additions to the buildings. The later buildings completed till 1989, 2002, 2010, and 2018 (dates of maps updates) have substituted the previous villas with large-scale buildings in terms of footprint and height.

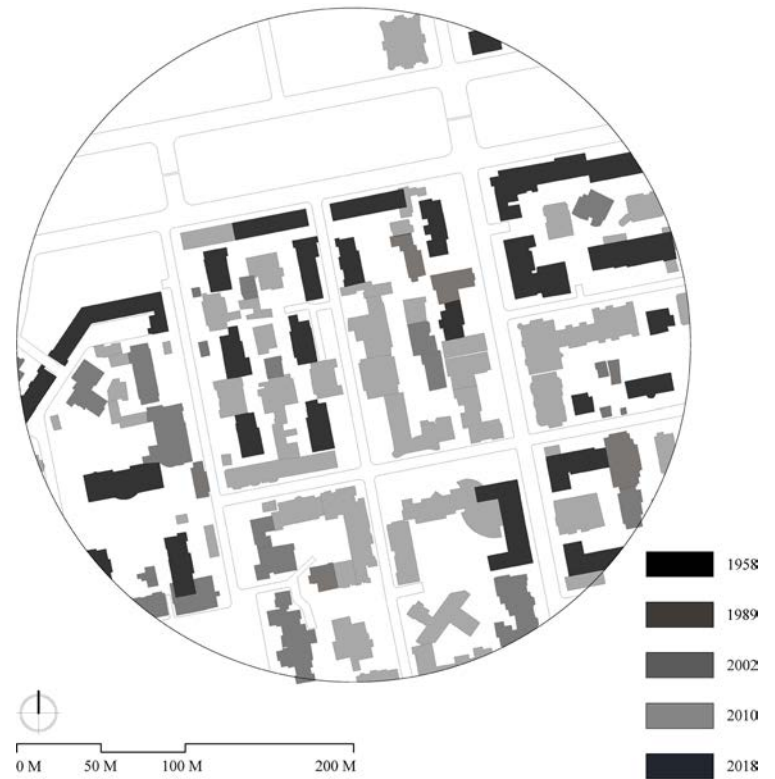




**Figure 3.** Map of Tirana; Case Study 1 – “Abdyll Frashëri” and “Ibrahim Rrugova” Street. Source: Author

All these processes are accompanied by densification of the area, but the lowering of the quantity of space between buildings now gains only a distributive character for people and/or vehicles. The multi-story buildings are of different heights. From a low-rise area with rationalist residential blocks, private villas and a sense of a human scale, these areas have turned into mixed-ones, mostly with buildings at 10-13 stories. In terms of environmental qualities, due to the presence of complex materials and small distances between buildings, negative effects get developed, such as low solar radiation, absence of ventilation, high presence of impermeable surfaces as per the drainage, and almost no presence of the vegetation. This last one is present mainly in the streets but not in the space between blocks. All the above mentioned gives a slight possibility to the space to gain social importance.

*Case 2 (Figure 4):* another particular area of the city, is taken into consideration. The area is between “Gjin Bue Shpata” and “Sami Frashëri” Streets. Till the late ‘90, it is known for its low-rise residential buildings organised into separate green plots. In the same way, like Case 1, it has been transformed through the years.



**Figure 4.** Map of Tirana; Case Study 2 – “Gjin Bue Shpata” and “Sami Frashëri” Street. Source: Author

Differently from that case where there was the substitution of villas to high rise buildings, in this case, there is a high urban infill process. There is a high amount of construction implemented in between the buildings. In the same way, all qualitative semi-private spaces between buildings have lost their character, turning mostly into distributive spaces with low environmental and social qualities. Related to Case 1, it still preserves a few green pockets in its internal space.

*Case 3 (Figure 5):* the block between “Myslym Shyri” and “Sami Frashëri” Streets. It is one of the only areas of the city which still preserves some of its original identity. As could be observed, there are no interventions in parts of it. It is not clear the reason, but we see either the possibility of a “bunker” presence or the unclear status of the property. However, the space qualities remain partially in terms of existence. In terms of its use, the vehicle is its main occupant, bringing a very low social and activity performance. *Case 4 (Figure 6),* an informal area, is being analysed in terms of its typo-morphology. These are ex-informal due to the ongoing legalisation process, but the term informal is used more as an identification due to the unplanning.



**Figure 5.** Map of Tirana; Case Study 3 – “Abdyll Frashëri” and “Ibrahim Rrugova” Street. Source: Author

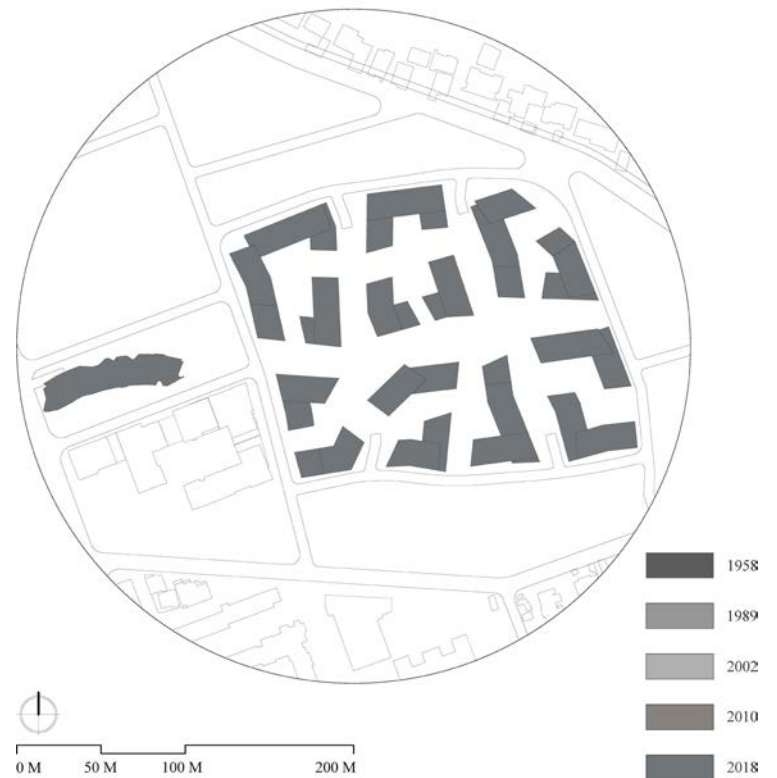


**Figure 6.** Map of Tirana; Case Study 4 – “Gjin Bue Shpata” and “Sami Frashëri” Street. Source: Author

These areas are self-developed, mostly on a previous agricultural land. The buildings started to fill the territory, and later the streets were created. The individual buildings are placed in plots that have direct access to the streets. The previous agricultural infrastructure has helped these areas on having a linear and hierarchical order of the streets. As per other types of spaces, it is evident that the territory infill is uniformly, and there is a lack of social space and, therefore, social life. In terms of environmental qualities, being formed by one family building with a yard contains a lot of natural space.

This is also due to the local tradition of growing in the yards productive plants, such as olives, vineyards, lemons, and other fruit trees and vegetables. Due to this and also the unpaved streets, in terms of several environmental issues, these areas perform better than neighbourhoods in the centre of the city.

Case 5 (Figure 7) represents a new neighbourhood in the city. It is an initial concept developed by Studio Daniel Libeskind, which somehow was transformed during its realisation, but still was able to preserve the main concept.



**Figure 7.** Map of Tirana; Case Study 5 – “Ndre Mjeda” and “Frosina Plaku” Street. Source: Author, Studio Daniel Libeskind

Although it provides a new pattern in the city and is easily identifiable due to the architectural language used, it also represents a new type of neighbourhood where pedestrian movement predominates. The buildings are organising in such a way that they create spaces with privacy differences. There is a public space standing as a spine in the middle and semi-public spaces between blocks offering a more private open space.

In terms of environmental quality, due to the building's placement and presence of green spaces, the area is ventilated and offers a pleasant place to stay. Not too much is being invested in providing social activities, but first floor activities somehow fill this void. This new development somehow has brought a new concept in the lifestyle of residents, and it is brought as an opposition to the most usual development happening in the city – that of the development of singular plots.

## Conclusions

Especially with the neighbourhood typology developed in the latest years, developing the buildings based on the property is prevailing, causing non-usable space in the neighbourhoods. As per our interpretation, this is not due to the lack of planning instruments, rather than insufficient attention to the space between buildings. All these developments influence the quality of space and modify the lifestyle of the neighbourhoods, not offering what is necessary for different social groups of people.

Throughout this material, we've tried to compare several models and start and evaluate them from this perspective. Moreover, while in this particular paper, we needed to raise the problematics of the space quality in the neighbourhoods, while in other researches spaces at city levels are being studied, for being able to evaluate the liveability indicator better. In conclusion, there is too much to do from professionals and local authorities towards the most vulnerable element in the city – the preservation of the qualitative space as it is closely related to the life of the inhabitants. Understandably, the city will be developed, densified, nevertheless should not lose the positive effect of the negative space.

Hopefully, this study, together with others in the field, will serve as a voice in future planning.

## References

Aliaj, B., Lulo, K., Myftiu, G. (2003). "Tirana, The challenge of Urban Development".

Bekkering, H. C., De Bois, P. G., Boot E., Calabrese, L. M., Hermans, W. J. A., Meyer, V. J., Stolk, E. H., (2004). "Urban Analysis Guidebook, Typomorphology."

De Hong, T. M., (2008)., "Sun, Wind, Water, Earth, Life, Living; Legends for Design."

Gehl, Jan., (2010). "Cities for People."

Gehl, Jan., (2011). "Life Between Buildings; Using Public Space."

Gehl, Jan., Svarre, B., (2013). "How to Study Public Life"

Iovene, M., Smith, N.B., Seresihne, C.I., (2019). "Of Streets and Squares."

Jewson, N., Macgregor, S., (1997). "Transforming Cities"

Lefebvre, H., (2014)., "Towards an Architecture of Enjoyment."

Lynch, K., (1981). "A Theory of Good City Form."

Meksi, A., Baçe, A., Riza, E., Karaiskaj, Gj., Thomo, P., (2016). "Architectural history in Albania", [original title: Historia e arkitekturës në Shqipëri].

Vokshi, A., (2015). Traces of Italian architecture in Albania [original title: Tracce dell'Architettura Italiana in Albania 1925-1943].

Ward, Th., Aspinall, P., Bell, S., (2010). "Innovative Approaches to Researching Landscape and Health"

Scheer, B.C., (2017). "Urban Morphology as a Research Method" In Planning Knowledge and Research, edited by Sanchez, T.W. 167-81, Routledge.

<https://invest-in-albania.org/albania-through-the-eyes-of-edward-lear/>

<https://libeskind.com/>

<http://www.vidiani.com/large-old-map-of-tirana-1921/>

## Introduction

In the European Landscape Convention, the landscape is understood as that *“part of the territory that is the result of natural and/or human actions and relationships, a place of life for the population and an expression of the diversity of the cultural and natural heritage as well as the foundation of their identity a place of anthropic transformations<sup>1</sup>.”*

Therefore, with the term *“urban landscape”*, it is possible to identify those territories – recognised and perceived by the populations that inhabit them – as places of excellence, places of daily life, degraded places, or places of change in the territory by the hand of man. The European Convention was created to introduce local, national, and international administrations to the provisions, acts and policies of landscape protection through safeguard, management and planning interventions, pushing all the protagonists (with decisional power over the landscape) to look towards sustainable development. All this is to improve citizens’ quality of life and strengthen the relationship between the community, territories, and cities. The urban landscape, therefore, is intended as a place of life, meeting, as a dynamic space natural or anthropic to explore, discover or reinterpret.

In this scenario, the relationship between the population and the urban landscape is very important as, on the one hand, the landscape promotes the consolidation of territorial identities, and on the other, it requires a certain level of competence, availability, and awareness to take responsibility for the actions that affect it (Caramaschi, 2018).

By acquiring a social conscience, it will be possible to consolidate local and regional identities and diversity, recognising an interest in participation in public decisions<sup>2</sup>.

Some national and international urban realities, taking inspiration from the European Convention on Landscape guidelines, have applied best urban re-qualification and regeneration practices, which have become an example of planning worth imitating. In this study, we will talk about *“Countless Cities”* – the Biennial of the Cities of the



**Figure 1.** Urban setting in the Province of Agrigento and different views of the Historic centre of Favara. Source: [www. google.it](http://www.google.it).

World – an event/exhibition where urban planning and architecture are discussed, and the urban landscape in the transformation of different cities around the world are analysed in greater depth.

The meetings take place in Favara (Fig. 1), a small town in the Sicilian hinterland, in the province of Agrigento, which – through collective participation, the support of institutions, cultural associations and the sensitivity of the local-government – is investing heavily in the theme of urban regeneration, thereby reacting positively to the ecological and economic crisis that has pervaded our cities.

## Urban landscapes: Identity and recognition

The form of a place is fundamental in the perception, understanding, readability and identity recognition of any site by its users. Knowledge of a place takes place first of all through the senses, through the recognizability of symbols—capable of concretising and transmitting profound meanings—and of the distinctive characters that emerge in the memory of those who live it, frequent it, and walk through it.

In fact, in contemporary urban landscapes, it is possible to recognise one's own identity thanks to the scenic spatiality or the strong expressive charge of urban elements<sup>3</sup>. Instead, the interpretative key offered by all those places that define their identity through the performance of activities that attract a large number of users is different (Corsini, 2017).

In these situations, identity and recognition are determined by events, active uses, and stories that follow one another with a certain continuity. Many places, in fact, are perceived by their communities vividly and coherently since activities are practised there that foresee the involvement of the inhabitants. And it is precisely the link between social life and the urban landscape that leads the community to responsible action in the territory and to an emotional, intellectual and practical approach that gradually strengthens the sense of belonging (Nogué, 2017). For some scholars, the functionality of a place is the parameter capable of generating attraction, grafting mechanisms, accumulation, confluence and inclusion.

The success of a particular urban landscape would therefore depend on its ability to attract different uses in a close-knit network of reciprocal relationships, allowing the space to become a reference point for a small compact society. Here, particularly attractive activities and functions can intensify the characteristics and meanings of the place, generating the active involvement of people, such as to trigger the positive perception of the place and a general feeling of pleasantness whilst visiting it (Zagari, 2006).

This is what happened in Favara—a peripheral town in south-western Sicily, in the province of Agrigento, a few kilometres away from the UNESCO heritage site the Valley of the Temples—where the functional transformation of a small part of the historic urban landscape has led the community to regain possession of a place (abandoned for years to its own destiny), thus becoming a driving force of contemporary creativity and language.

## Favara: A example of urban regeneration

Favara city is of Arab origin, is rich in history and unique architectural heritage and value and has a particularly degraded urban fabric, which has undergone a profound transformation in the first decade of the 2000s, following an experience of self-managed urban regeneration implemented by Farm Cultural Park—which has attracted numerous subjects from all over the world: architects, urban planners, artists, entrepreneurs, cultural operators, ordinary citizens sensitive to the protection and safeguarding of the common good<sup>5</sup>. The area of interest, now partly inhabited, called the Cortile Bentivegna, and known to the inhabitants as “*U curtigliu de setti curtiglia*” thanks to the seven small courtyards one beside the other—has been transformed through a project of urban regeneration, which has radically changed both its appearance and identity (Fig. 3). The built environment, made of small houses *dammusi* and *case terrane* has been transformed in a contemporary key into art galleries and residences for artists. The project, which does not take urban planning rules and norms into account, aims to enhance a historical site and strengthen its position in the tourist circuit through contemporary art and design and contemporary architecture languages. The idea of the original project only involved the recovery of some dilapidated houses. Then some residential buildings were subsequently transformed into exhibition halls by identifying a museography path that can be used both inside and outside the space. The “*Farm*” area is a social innovation construction site: an ambit in which a community of citizens and creative collaborate to solve the city's problems and propose intervention strategies through reuse, recycling, recovery, reinterpretation, and revitalisation. A precise example of participatory democracy<sup>6</sup> that starts from below local urban governance—through dialogue and consultation of the interested parties, as well as integration between civic culture, politics and expert knowledge, by way of a collaboration between the administration and the community, in order to permit a move from the dimension of “deciding” to that of “doing” (Cilona, 2017). Moreover, the proximity of the city of Favara with the great material and immaterial heritage present in the territory—the Archaeological Park of the Valley of the Temples, the Scala dei Turchi in Realmonte, the Natural Reserve of Torre Salsa in Siciliana and the Ducal Palace of the Tomasi di Lampedusa in Palma di Montechiaro, just to name a few—has reactivated a social, cultural, and economic development that had seemed to have stopped.



Figure 2. Farm Cultural Park. Source: [www. google.it](http://www.google.it).



Figure 3. Farm: overhead views. Source: [www. google.it](http://www.google.it).



Figure 4. Urban redevelopment actions:  
 a) The historic centre of Agrigento-Vallicaldi Street  
 b) The town of Siculiana. Source: [www. google.it](http://www.google.it).



Figure 5. Urban redevelopment actions: Grotte. Source: [www.google.it](http://www.google.it).

Finally, it should be remembered that the “Farm” model was seen as a point of reference by other cities in the province (Fig. 4-5), such as Agrigento (in 2014, the Non So Stare Lab Mura and Artificio associations revived a very degraded neighbourhood in the historical centre called “Vallicaldi”), Siculiana (in 2017, the ALT association with the project “Adopt a neighbourhood” has redeveloped Santa Lucia street, Umberto I square, Finestre street, Giuseppe Basile square, Sant’Antonio district), Grotte (in 2018, the historic centre, in the hamlet of San Nicola, has been regenerated by the intervention of several streets artists who have made it a small open-air museum), and many other Municipalities are taking action along similar lines. Favara is

therefore configured as a model to imitate and an important example of rebirth and renewal of the territory. In the same Favara, on the premises of the “Farm”, it is possible to visit the pavilions of the Biennial of the Cities of the World: “Countless Cities”. Moreover, this is also the reason why we chose to recount the experience of urban regeneration and change in the town of Favara. The biennial of the cities of the world is an event where, through meetings, debates, and the construction of exhibitions, it is possible to deepen the theme on the future of urban landscapes with the aim of understanding what cities are, how they work and what makes us love these places where more than half of the world’s population currently live (Cilona, 2019).



## The Biennial of the Cities of the World

The biennial of the cities of the world has arrived at its second edition and involves scholars, urban planners<sup>7</sup>, artists, photographers, architects, and creator who utilise different approaches and languages to speak visitors about various cities of the world by focusing on good practices and innovative ideas that contribute to making them special. There were three main themes of the first edition of the biennial: Governance and Leadership; Urban Resilience; Woke Youth.

The event/exhibition - open from the 29 of June to the 27 of October 2019 - was held in various pavilions located in five locations around the historic centre of Favara: Cortile Bentivegna, Palazzo Micciché, Palazzo Cafisi, Quid Vicololuna and Opera Pia Barone Mendola. The central pavilion of the Biennale was located within the seven courtyards of "Farm XL" (Fig. 6a). In the pavilions, it was possible to visit exhibitions dedicated to various cities, including Beirut (with the evocative installation curated by Jad El Khoury), London (with the photographic work "Brutal London" edited by Alessia Gammarrata), Luxor (with the work of the children and kids centre Funtasia developed by the Elisa Sednaoui Foundation), Berlin, Birmingham, Detroit, Douala, Koniakow, Nairobi and Tel Aviv. The first biennial of cities was an opportunity to reflect on the future of our cities and propose possible actions to ensure optimal quality of life.

The biennial set-in motion a long-term process involving several citizens and public authorities in enhancing their neighbourhood and city. The aim is to find tools that can facilitate experiments to enhance under-utilised spaces or improve the quality of public spaces. Given the success of 2019, this year marks the second edition of the biennial, open from the 26 of March 2021 to the 12 of January 2022 - in various pavilions located in five locations around the historic centre of Favara (Fig. 6b).

The three main themes of the new edition of Countless Cities will be:

1. Housing Diversity, which explores various types of individual and group living for people with different means and in different stages of life.
2. Good Business, which researches all those jobs and trades, with a rediscovery of some manual professions, that can fuel passion, territoriality, and durability, with particular attention to the phenomenon of social entrepreneurship committed to finding innovative solutions that respond to social, environmental, economic, and cultural challenges.

3. Parkifying the future investigates strategies for implementing educational processes about the plant world, re-building a new relationship between People and Plants, which promotes de-paving portions of the city to improve citizens' quality of life.

Particularly interesting for the theme of sustainability is the pavilion called Urban Jungles. It is a participatory project that presents a new concept of open spaces and green areas in the city of Prato, where nature is an important element for safeguarding the health of citizens<sup>8</sup>. Urban Jungles generate high-intensity green areas by introducing trees and plants on the façades and roofs of existing buildings.

The Urban Jungle project in Prato radically improves the social and environmental quality of the urban context through the combination of Nature-Based Solutions developed, using innovative and sustainable technologies specifically designed and applied to façades and green roofs, introducing new qualitative spatial housing (Fig. 6c).

The use of state-of-the-art irrigation and rainwater collection systems and the selection of native plants - with a high capacity for accumulating and storing CO<sup>2</sup>, removing atmospheric pollutants, and attracting pollinating insects - are among the key points of the intervention to increase comfort inside the buildings and create well-being for the community.

Among the challenges of the project are: an increase in permeable green surfaces and the creation of vertical and horizontal green surfaces; improving the energy efficiency of buildings by isolating them laterally and on roofs, with vegetation; the creation of new social spaces by transforming car parks into common green areas; the reduction of building exposure to atmospheric and acoustic pollution; and opportunity to provide new hotspots for Prato's urban biodiversity as well as to generate innovative green connection hubs in the city's ecological corridor system. Therefore, it is a good example of sustainable urban regeneration to be imitated and implemented in all the cities of the future.

## Conclusion

Some different factors and elements identify a place and make it special: the physical and spatial conditions of the context, the activities, the events, the collective and individual experiences that take place there. From this point of view, it appears evident that actions on any landscape of the contemporary city must put forward a process of analysis and evaluation of all those forms and contents that help urban communities recognise such places.

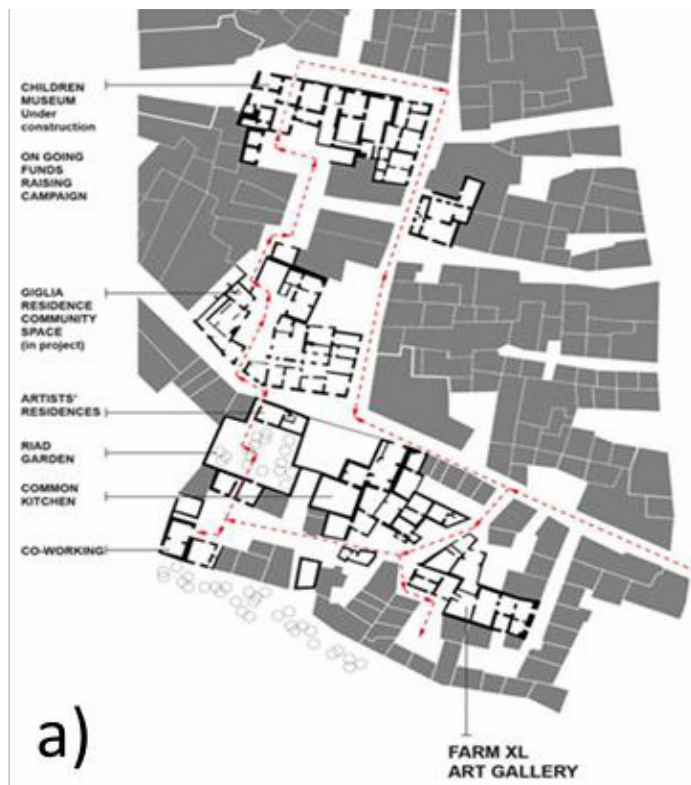


Figure 6.

a) Pavilions map of the first edition Biennale located in the Historic Center of Favara; b) Pavilions map of the second Biennale; c) Particular view of the Urban Jungle Project. Source: [www.google.it](http://www.google.it).

In this scenario, the system of participatory and concerted planning strategies must pursue the quality of the environment as an objective – that is both anthropised and urban – and which requires tools and an integrated approach among all the actors of the production chain to transform the city into a “Competitive city”. The territory and its urban quality are not negotiable elements, and they belong to the community. They are elements of public utility, and sustainable urban development policies must necessarily move towards qualitative paths. For these reasons, we are all called to contribute to the revision of an innovative, participatory cultural model for the regeneration of the urban landscape and its transformation, contributing to the promotion of projects that are capable, competitive and strategic, by way of processes of integration and comparison as well as the promotion of processes of involvement of the entire stakeholder chain in urban transformation. The secret lies in seeing the cities with different eyes, in rethinking the management of urban centres and suburbs, and in investing economic resources in the protection and enhancement of the assets that are present (Cilona, 2017).

In this study, the experimentation carried out at the Farm, and told in the Biennale of Cities in the World, highlights how participatory processes are the tool for the success of the reuse of abandoned spaces and buildings and, at the same time, through the experiences of reuse and recycling it is possible to activate creative workshops on a local and supra local scale. Unfortunately, in the past, the combination of two elements lacked: a widespread cultural awareness and economic interest, which – as in basic chemistry – sets in motion a process that involves the participation of those who are striving for profit above all else. If we consider the returns in the middle to long term as well as their environmental costs, always left to be paid by others, a complete revision of our methods of building, living and enjoying our cities would be advantageous: avoiding waste and recovering and recycling where possible (Cilona, 2019).

## Notes

<sup>1</sup> Taken from the “European Landscape Convention”, a document adopted by the Committee of Culture and Environment Ministers of the Council of Europe on the 19 of July 2000 and officially signed at the Palazzo Vecchio in Florence on the 20 of October 2000. To date, 32 Council of Europe member states has ratified the Convention and six have signed it. Italy has ratified the European Landscape

Convention with law n.14 of the 9 of January 2006.

<sup>2</sup> Taken from Good Landscape Practices, taken from GELSO - Local Management for Environmental Sustainability, [www.Sinanet.Ispraambiente.it](http://www.Sinanet.Ispraambiente.it).

<sup>3</sup> For example the Eiffel Tower for Paris, the Colosseum for Rome, Tower Bridge for London, the concrete Pyramid of the modern era for Tirana.

<sup>4</sup> Contemporary cultural tourism centres.

<sup>5</sup> The urban transformation project of Favara was presented at the 15th and 16th Venice Biennale, arousing interest at the national and international levels.

<sup>6</sup> The participatory planning model applied in Favara is that of Action planning.

<sup>7</sup> Among the guests was Charles Landry, one of the world experts on the use of creativity and imagination for the city's rebirth.

<sup>8</sup> The intervention - divided into three pilot areas and carried out by the Municipality of Prato with European funds from UIA Urban Innovative Actions - sees the participation of the architect Stefano Boeri.

## References

- Caramaschi, S. (2018). *Forma, funzionalità e socialità come qualità progettuali degli spazi pubblici contemporanei*. Landscape Design Lab – DIDA Università degli Studi di Firenze.
- Cilona, T. (2016). *Sustainability, territorial resources and social capital*, 11th International Conference on Urban Regeneration and Sustainability, Wit Press, Sustainable City, SDPV12N4, pp. 819828.
- Cilona, T. (2017). *The promotion of the historical, cultural, and landscape heritage Active citizenship*. Le Vie dei Mercanti. XV Forum international World Heritage and disaster. Knowledge, culture and representation. La fabbrica della Conoscenza n. 71, la Scuola di Pitagora editore, pp. 13311338.
- Cilona, T. (2019). *Urban Landscapes In Transformation: From A Case Study To The Biennial Of The Cities In The World*. In Nepravishta, F.; Maliqari, A. (a cura di) *Modernisation and Globalisation Challenges and Opportunities in Architecture, Urbanism, Cultural Heritage* (pp. 598-605). Tirana: FLASH Publishing.
- Corsini D. 2017, *Spazio Pubblico*. Grammatica, poetica e opportunità d'uso. Libria, Melfi.
- Nogué J. 2017, *Paesaggio, Territorio, Società Civile*. Il senso del luogo nel contemporaneo. Libria. Zagari F. 2006, *Questo è paesaggio*. 48 definizioni. Mancuso Editore, Roma.

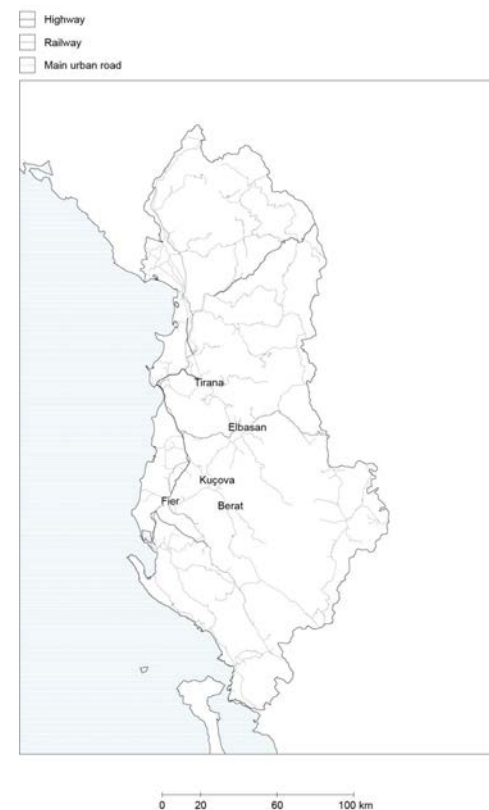
## Introduction

The disclosure of the places of the *industrial decommissioning* as potential valuable areas for the reasons of urban regeneration is certainly belated. A critical reflection on the problems and on the effects it keeps on producing on the progress and quality of the urban context began to be proposed only around the Seventies. It can be argued that what affirmed happened contextually with the emergence of those economic and social problems that caused the crisis of the dominant *Fordist* model and the following introduction of the flexible production. This condition quickly determined the functional and architectural obsolescence of the industrial settlements and, therefore, their consequent abandonment. These decisive modifications have had a profound impact on the change of the urban and rural landscape<sup>1</sup>.

Entire cities or, more generally, variously extended parts of the anthropic territory lost what has contributed to defining the continuity of their specific morphology<sup>2</sup>. It's all about places that the city produced and which, despite having extinguished the reasons of their existence, continue to testify, with their physical presence, the image and memory of what the city was.

Only by looking with care at their value, which has to be intended in spatial terms - and not at their actual condition - it would be possible to realize the importance that, even nowadays, these marginal realities can have in the process of redefinition of the contemporary city. Those realities are not places awaiting a mere functional re-activation - sufficiently proportioned to restore an urban metabolism - but waste of the Western civilization history complicated to govern with the traditional urban planning tools. Their presence shatters the *forma urbis* but generates planning opportunities, leading to a profound revision of the contemporary reasons for urban regeneration. Recognizing the universality that the decommissioning problem has taken on in the contemporary debate on the culture of the project for the city, the proposal of new meanings of intervention is invoked as a state of decisive necessity to determine its progress.

Moreover, suppose it can be realistic that contemporary architecture may have identified a new great unifying theme in the interest for the negative spaces, abandoned areas, weak settlements, underused artifacts<sup>3</sup>. In that case, it acquires an even more relevant significance in the case of Albania, whose anthropic and natural territory have undergone drastic changes as a result of the considerable industrial development, which took place between the mid-twentieth century and its last decade. Industrial cities and productive agglomerations isolated in the periurban territory, or swallowed up by the city in extension, still retain the ability to determine the monumental character of the landscape they belong to.



**Figure 1.** Map of the main Albanian dismantled industrial sites and indication of the main connection infrastructures. Source: Drawing of the author.

Considering this specific context - even before aspiring to a revision of the points of view of the architectural discipline, without which the political instruments would inevitably lag behind the current changes - it is necessary to define an overall vision of the different constitutive characteristics attributable to the Albanian productive areas in a state of disuse. Precisely the attempt will be to refer them to critical and *interpretative categories*, based on the understanding of the different relationships those areas still are able to establish with the urban context or with the natural landscape. This must be seen as a preliminary act to recognize their different predisposition to a wider recovery and conversion strategy.

### **The industrialization in Albania: from production to heritage**

The significance of the proposed question can only be identified through a reconstruction of the industrialization process that has characterized the recent history of the Republic of Albania. This process, in fact, despite recognizing its origin only from the mid-twentieth century, extremely late compared to what happened in the rest of Europe, was perhaps even more relevant. Between 1946 and 1948, a government of Marxist origin was established in the Albanian territory and proceeded to build up important relations of collaboration with the Eastern Communist regimes. The country's economic development - such as the consequent industrialization - was in fact strongly influenced by the patronage of the USSR, whose government identified the underdeveloped territory as ideal support to valorise for exports and imports to the bordering Mediterranean. Through the first two-year plan (1949-1950) and the two subsequent five-year plans (1951-1955 and 1956-1960), the USSR imposed a process of forced industrialization and the application of an Agrarian reform, known as *collectivization*, through which new agricultural cooperatives were created and subsequently merged to include different villages, variously extended. The factories and the industrial settlements built in this historical period referred to the project methodologies of the Russian plants, which still reveal a clear Fordist imprint, inherited from the relationships established with the American planners (Bucci, 1992). It is possible to reconstruct the complexity of their architectural guiding criteria through the consultation of a couple of articles hosted on the Architectural Forum of 2019:

- To choose the site by promoting the proximity to the sources of raw materials and contiguity to the final export border;

- To plan the layout of the plants taking care of the connections with the territorial infrastructures (railways, roads, canals, power lines);
- To choose the building material according to properties and convenience;
- To know the production process and to establish adequate lighting and ventilation levels with large windows, shed roofs etc;
- To apply fire prevention systems;
- To define the routes of the technical systems avoiding interference with the structure;
- To dimension the buildings according to the needs of the production process.

The Soviet aid ceased with the introduction of the third five-year plan (1961-1965), right after the communist revisionism was denounced, on the occasion of the fourth congress of the Albanian Labour Party. Albania sided in the anti-revisionist camp together with China, which started to represent a new powerful partner capable of playing the same former role of the USSR. Although the Chinese investments amounted to about 10% of the Russian ones, the fourth five-year plan (1966-1970) determined Albania's even more impressive development, making it a highly industrialized country. Through Chinese investments, some of the most impressive industrial complexes of the country were built, such as the "Kombinati Metalurgjik" in Elbasan, the Laç Superphostat, the Fertilizer Complex, the Fier Extractive and Refinery Industry and the Berat Textile Factory, while the Textile Kombinat of Tirana, the most important factory of the capital, was extended. Even though starting from 1978, Albania decided to introduce a policy of isolationism, depriving itself of any external funding, the sixth (1976-1980), the seventh (1981-1985), and the eighth five-year plan (1986-1990) strengthened the process of industrialization. Nevertheless, from 1990, the fall of the communist regime caused the collapse of the economic and social equilibrium of the country. The most significant part of the industrial sites, nowadays still obsolete, was decommissioned and abandoned. According to the studies developed by the Albanian Heritage Foundation and an elaborated cataloguing operation that took place between 2010 and 2012, at the moment, Albania has 179 industrial sites devoid of any active function. In most cases, as demonstrated by the 2007 and 2013 reforms on the Albanian Law no. 9048, rigorously related to the Cultural Heritage, their architectural value is far to be recognized and, consequently, protected. This leads to gradual and slow deterioration, with disastrous consequences on the quality of the urban and rural landscape.

## Beyond disposal: places dismantled as urban resources

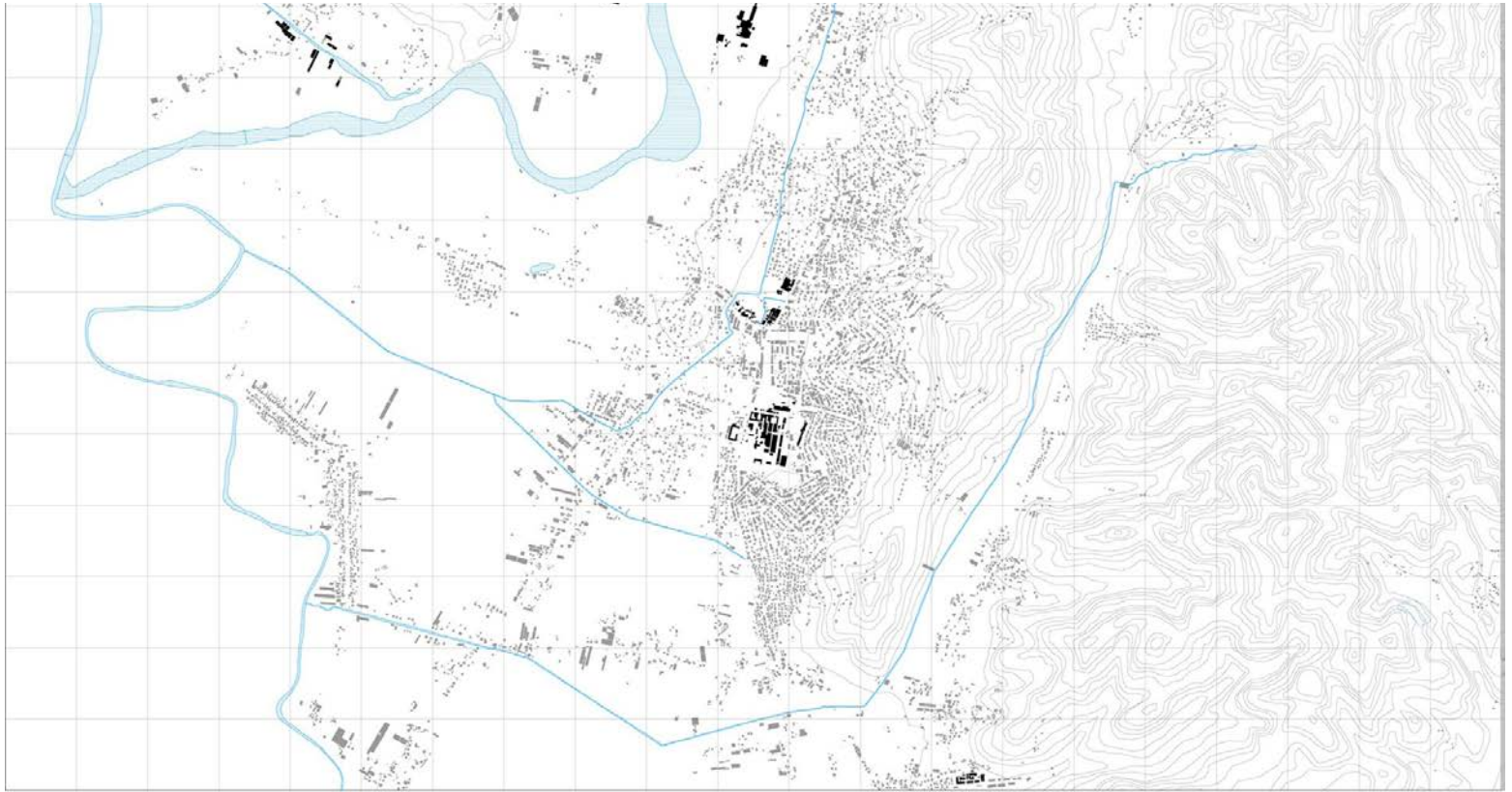
The reality of *urban regeneration*, in a post-post-modern condition such as the contemporary one<sup>4</sup>, is not merely the reflection of a contemporary economic, social and productive condition - such as the one previously summarized - but derives from a deeper vision of progress that stands in contradiction to the durability of a *generalist and liberal culture*, which has subordinated the urban project to the idea of physical extension and land consumption. The one just mentioned is a model of growth, which could be defined as *linear*, based on the elementary principle of use, *consumption and waste*<sup>5</sup>. This occurs for a specific reason. Facing the absence of a theory of architectural recovery and regeneration of the existing - probably the most miserable weaknesses of the discipline in its current state - architecture reacts by producing even more architecture<sup>6</sup>. In this condition, architects and planners assume the role of creators of a heterogeneous proliferation of only partially successful experiments.

If it is really possible to aspire to a *theory of intervention* for the recovery of industrial workplaces - as of any place discarded by the history of the city - capable of imposing a change of paradigm in favour of a circular development model - which interprets opportunities and the challenges of the contemporary city in a regenerative way - it must subordinate the recovery itself to an operation of re-interpretation of the form and its founding characters.

This might be allowed through architectural choices that, keeping alive the memory of the place, are able to identify renewed meanings and new possible senses for that form. Therefore the prefigured objective is accessible only if the new architectural project establishes itself, its reasons and its perspectives starting from a constitutive comparison with the context, assuming the role of proposing its modification based on its most fruitful strengths and not envisaging a functional alternative or its sterile transformation.



Figure 2.A photograph of the actual condition of the Kombinati Metalugjik in Elbasan. Source: Photo of Marjola Rukaj.



**Figure 3.** The urban context of Kuçovë. In black are identified the different industrial sites. Source: Drawing of the author.

As Vittorio Gregotti argued on the pages of Casabella n. 498/499, the genesis of the modification project coincides with the identification of the conditions posed by the context in which the modification is collocated. The architectures capable of prefiguring the *resilience* of what the history of the city has allowed existing - but the history of man has decided to exclude - are, in fact, those that have been able to establish a critical and structured dialogue with the context, starting from an attempt to re-evaluate the potential of the existing heritage.

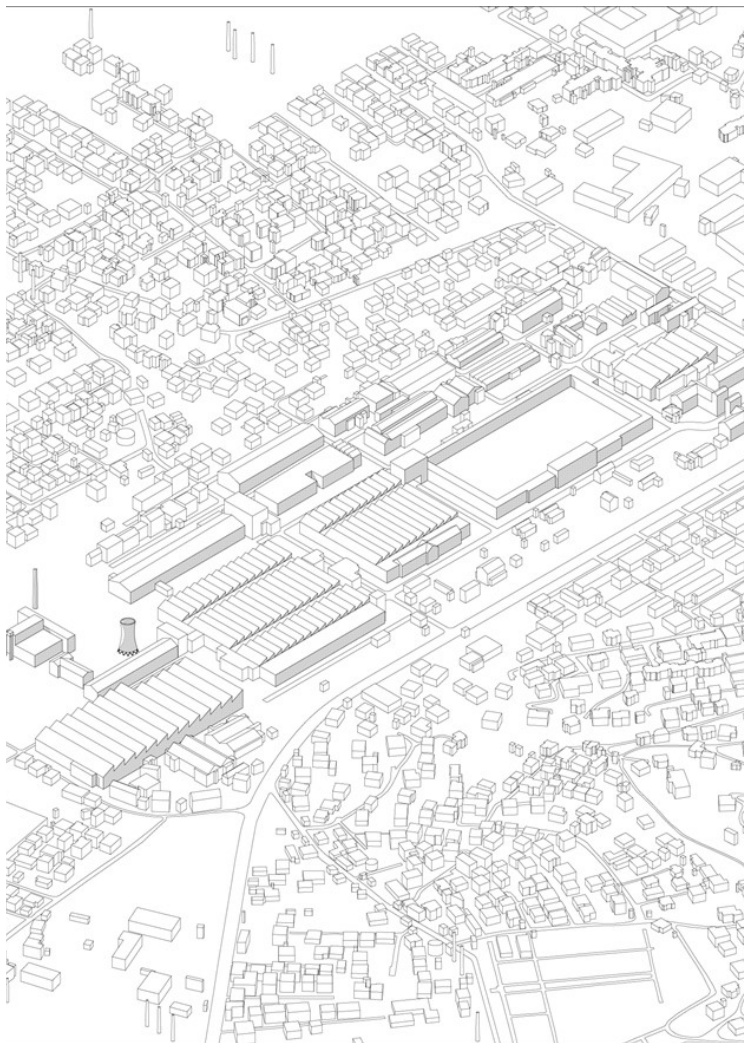
### **Identification of problems: a taxonomy of de-industrialization**

The project on the dismantled begins with its thematisation, and such an operation requires a wide expansion of the field of observation. It will allow the construction of a taxonomy, judged the instrument capable of revealing the most important criticalities and, simultaneously, the silent potentialities clouded by the processes of decommissioning - strictly connected to the urban and territorial condition the dismantled settlement belongs to, as well

as to its relationship with the urban or natural surroundings - which will be able to lead to the selection of adequate architectural choices. Furthermore, this taxonomy type will be exploited as the privileged path to introduce an important selection process. Not all the waste products of Western civilization will ever be part of a process of regeneration and recovery. However, those components involved will become the reference points of a post-architectural landscape.

### **The industrial city**

The first category identified for the construction of the taxonomy described above is the industrial city. This is the case of large urban agglomerations that arose due to the foundation - not centralized but variously dispersed in a continuous portion of the territory - of different contiguous productive settlements and the consequent proliferation in their closer surroundings, in successive phases, of residential workers' neighbourhoods. What has generated cases such as that of the centre of Kuçovë, localized in the central part of Albania, has been a process



**Figure 4 -5.** Representation of the Textile Kombinat of Tirana. Source: Drawing of the author.

of gradual industrial colonization, which has led poorly populated areas to develop into vast poly-nuclear agglomerations, through the influx of the workforce and diversified collateral activities. During the course of their expansion, it has been verified that certain industrial settlements abandoned their central location, intending to settle in more peripheral areas - adjacent to the waterways or the railway network - while the urban and civic agglomeration in extension continued to occupy the contiguous interstitial spaces. In these cases, the destiny of a specific industrial site clearly determines the destiny of the surrounding area.

When its activity ceases, in fact, even the progress of the urban surroundings is definitively disrupted. Any intervention or attempt of regeneration that aspires to the reconversion and reuse of abandoned artefacts must involve the entire urban portion that has been generated by, in a more complex and organic renovation program.

### The industrial settlement within the urban fabric

The second recognized category is the product of an attempt of large-mesh zoning within the consolidated cities. Differently from what a superficial judgment might suggest, this type of settlements is not a sort of side effect of the urbanization processes but are completely involved in their logic. The prospect of an infrastructural improvement promoted by public activities allowed, in fact, the identification of variously large - but always contained and delimited - areas and the consequent concentration of industrial activities within them.

The complexes attributable to this category are in most cases mono-functional, ascribable to a single production process. Despite the direct relationship with the urban context, their intrinsic functionality does not allow any conditioning with a morphological nature.

The vast lot that includes the complex is densely occupied by factories, warehouses, massive workshops, high cooling towers infrastructures, places that testify to a completely independent life of that developing around it. In fact, the gradual decommissioning of these industrial plants - far from even being a visual and structural reference point for the city - has a silent effect on its physical, social, and economic condition.

This might be the case of the Textile Kombinat of Tirana, where the emptiness that has been occurred appears like a cigarette burn: it does not prevent from understanding the story that has been reading<sup>7</sup>.



Especially in the dense agglomerations, with poor prospects of a large-scale redevelopment within the administrative boundaries, these relics are proposed as ideal places for the concentration of new activities, attracted by the collapse of real estate value and proximity to the city centre.

### The industrial settlement within the rural context

Between the end of the Sixties and the beginning of the Seventies, the progress of infrastructures has given industrial planning a further different character. The project of the production settlements, especially the metallurgical complexes, extractive industries, and refineries, was beginning to be conceived in terms of infrastructural accessibility. Therefore, the following identified category refers to settlements with a clear suburban character, whose location no longer determine a structuring connection with the context of the city but is determined by economic and commercial circumstances. That kind of settlement might be related to the availability of infinitely large and easily purchasable areas of the unbuilt rural land and the useful proximity to waterways, important national roads, or railway lines.

Furthermore, due to the growing density and congestion of the urban context, decentralized locations proved to be easier to access, encouraging commercial mobility of the higher level. The possibility of being grouped and expanded according to any specific rule has been producing – for the same complex - the image of the collage, an expanse of functionally autonomous lots, differently characterized both in morphological and typological terms. The settlements, as a result of this dis-organic expansion, are exposed to the risk of being progressively swallowed up by the uncontrolled urbanization processes, which is why many of these - including the “Kombinati Metalugjik” in Elbasan or the “Gogo Nushi” factory in Fier - are invested with an even more significant role in the regeneration process, lead to determine the fate of the suburban areas. In some cases, as the ones just described, the encouragement towards a possible reconversion project can only occur with the presence of a diversification process, where, over time, other companies have filled the void left by previous activities. The intrinsic relationships that are used to connect the scattered fragments ceased to be present when the impulse to define a single organic system is broken.

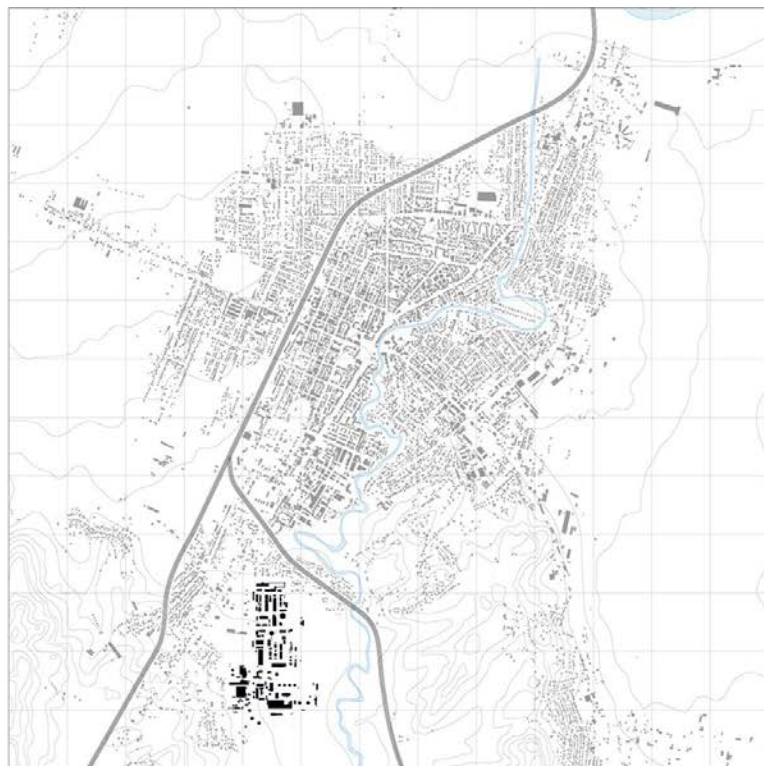
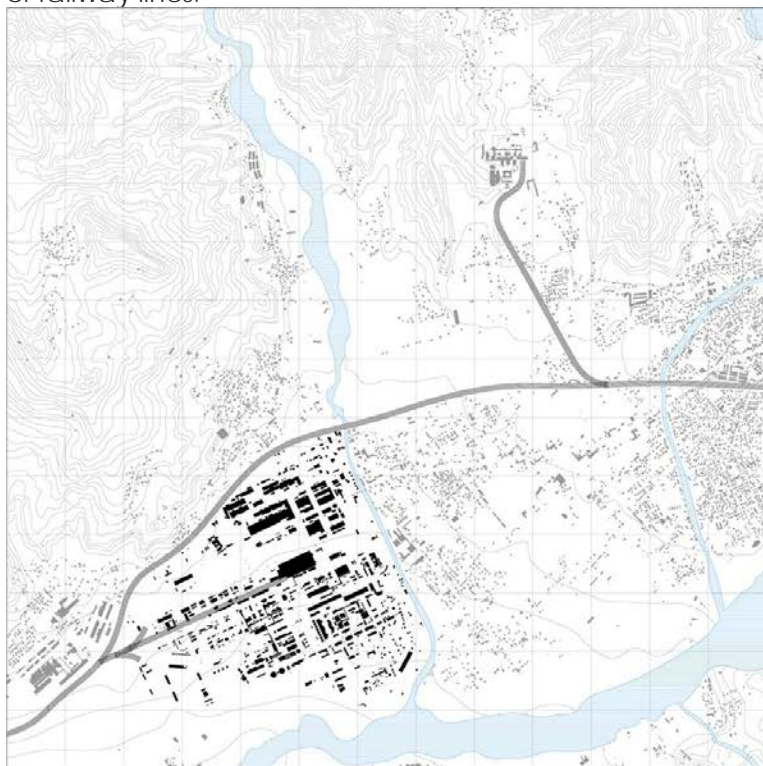


Figure 6 -7. The urban context of Elbasan (on the left) and Fier (on the right). Source: Drawing of the author.

## Conclusions

Over the last few decades, diversified attempts have been promoted to address the questions of industrial decommissioning in terms of architectural recovery. Therefore, it will certainly be helpful to describe a critical study to understand its effectiveness and relevance fully. However, it may be even more useful to construct a taxonomic classification, as the one proposed, connected to the ever-changing relationship that industrial settlements form defines with the landscape. Only by understanding the type of problems that the decommissioning has generated on the city's development process can it be possible to envisage a possible intervention that is part of a more comprehensive project of renovation of the *forma urbis*, at the same time, re-activation of a circular metabolism. It is, in fact, extremely complicated to counterbalance the weight represented by the historical importance of these factories, which continue to possess the ability to evoke the need for a perpetual renewal, although reduced to a degrading condition. Therefore, when the need to recover or put back into circulation their element arises, they cannot be considered merely as containers waiting to host something new, neutral spaces devoid of any power in their morphological characteristics, but architectural organisms whose specificities must be studied in-depth, to aim at new perspectives that might be able to reaffirm the related value, in search of what Rogers calls "the dynamic balance between memory and invention"<sup>8</sup>.

## Note

<sup>1</sup> Smets, Marcel (1990). "Una tassonomia della deindustrializzazione". *Rassegna*, no. 42 (June): 8–13.

<sup>2</sup> Secchi, Bernardo (1984). "Un problema urbano: l'occasione dei vuoti". *Casabella*, no. 503 (June): 18–32.

<sup>3</sup> Gregotti, Vittorio (1984). "Modificazione". *Casabella*, no. 498/499 (January/February).

<sup>4</sup> Dal Fabbro, Armando (a cura di Martinelli Patrizio M.) (2012). *Porto Marghera. Da prima zona industriale a quartiere urbano della città metropolitana*. Venezia: Marsilio.

<sup>5</sup> Amenta, Libera (2019). *Beyond Wastescapes. Opportunities for sustainable urban and territorial regenerations*. Delft: TU Delft Open.

<sup>6</sup> Koolhaas, Rem (2001). "Bigness, ovvero il problema della Grande Dimensione" in *Junkspace*, scritto da Rem Koolhaas, 11–24. Macerata: Quodlibet.

<sup>7</sup> Smets, Marcel, *op. cit.*

<sup>8</sup> Rogers, Ernesto Nathan (1961). *Gli elementi del fenomeno architettonico*. Milano: Marinotti Editore.

## References

- Anastasi, Maurizio (1983). *I luoghi della produzione industriale: assetti insediativi e architetture della fabbrica*. Bologna: Luigi Parma Editore.
- Amenta, Libera (2019). *Beyond Wastescapes. Opportunities for sustainable urban and territorial regenerations*. Delft: TU Delft Open.
- Bucci, Federico (1992). *L'architetto di Ford. Albert Kahn e il progetto della fabbrica moderna*. CittàStudi: Torino.
- Ciorra, Pippo (2011). *Re-cycle. Strategie per l'architettura, la città, il pianeta*. Milano: Electa Editore.
- Dal Fabbro, Armando (a cura di Martinelli Patrizio M.) (2012). *Porto Marghera. Da prima zona industriale a quartiere urbano della città metropolitana*. Venezia: Marsilio.
- Rogers, Ernesto Nathan. 1961. *Gli elementi del fenomeno architettonico*. Milano: Marinotti Editore.
- Secchi, Bernardo (2005). *La città del ventesimo secolo*. Roma-Bari: Editori Laterza.
- Koolhaas, Rem (2001). "Bigness, ovvero il problema della Grande Dimensione" in *Junkspace*, scritto da Rem Koolhaas, 11–24. Macerata: Quodlibet.
- Bodurow, Constance (2003). "A vehicle for conserving and interpreting our recent industrial heritage". *The George Wright Forum*, no. 2 (June): 68–88.
- Bianchetti, Cristina (1985). "Aree industriali dismesse. Primi percorsi di ricerca". *Urbanistica* no. 81.
- Boeri, Stefano. 1990. "Il ritrarsi dei modi d'uso del territorio". *Rassegna*, no. 42/2.
- Gregotti, Vittorio (1984). "Modificazione". *Casabella*, no. 498/499 (January/February).
- Gregotti, Vittorio (1990). "Aree dismesse: un primo bilancio critico". *Casabella*, no. 564.
- Secchi, Bernardo (1984). "Un problema urbano: l'occasione dei vuoti". *Casabella*, no. 503 (June): 18–32.
- Smets, Marcel. 1990. "Una tassonomia della deindustrializzazione". *Rassegna*, no. 42 (June): 8–13.
- Vrusho, Boriana; Pashako, Frida (2018). "Adaptive Reuse of Underused Industrial Sites, Case Study: The Superphosphate of Laç". *INTBAU International Annual Event*.

*Vincenzo Giofrè, Caterina Gironda, Massimo Lauria, Cristian Murace*

## Introduction

The Stilaro Valley, and the homonymous river that flows through it, is an Italian territory of Ionian Calabria, partly included in the Serre Regional Park, containing three historical centres, Pazzano, Bivongi and Stilo. In addition to the narration and description of this Mediterranean area, the results of a series of studies and initiatives are set out in the paper aimed at starting a revitalisation process.

Reference is made explicitly to the "Stilaro River Contract", promoted by the Metropolitan City of Reggio Calabria, of which it is a part, as a voluntary and innovative tool.

This tool offers the opportunity to activate enhancement processes and a shared systemic vision of a river area characterised by the extraordinary concentration and stratification of a rich historical, naturalistic, landscape, anthropological and cultural heritage. Within it are present: the settlements of a Byzantine cult, including the famous Cattolica of Stilo; the Bourbon ironworks (among the oldest industrial settlements in Europe), whose presence is still alive today in the "Ecomuseum of the ironworks and foundries of Calabria" and the monumental Marmarico waterfalls, with its systems of dams, mills and power stations and the vineyards from which a fine DOC wine is produced. All features give it a distinctive identity. With this contribution, we intend to propose and describe a multi-scale approach which, starting from the overall strategic territorial vision defined by the River Contract (aimed at making the most of the potential of the territory), goes as far as detailed investigations of design applied to resilient travel systems and sustainable use of the landscape.

The territory of the Stilaro Valley thus becomes an exemplary case study that allows verification of initiatives already in progress and, at the same time, proposes approaches, operating methods and innovative attitudes to identify methodological assumptions that can be replicated and transferred under similar conditions to other Mediterranean territories.

## Background

According to the report presented during the United Nations Climate Change summit in Bonn (AA.VV, 2018), a city, due to the now recognised inability to process its growth, has become the place of maximum contemporary concentration of widespread vulnerabilities and significant exposure to risks of natural origin or derived from human activities. The report also learns that more than 50% of the world population lives in urbanised areas. Although this condition has already assumed the dimension of emergency, it is expected that by 2050 that number will grow further, reaching 70%.

Today these issues, together with other global emergencies (fight against poverty and hunger; education and gender equality; the widespread availability of water, food and energy), are universally perceived as absolute priorities and expressed through the 17 SDGs, Sustainable Development Goals defined by the United Nations Organisation in Agenda 2030 (UN, 2015). At a global level, in recent decades, scholars' main interest has been directed to the critical issues that afflict megalopolises, metropolitan areas, and large suburbs. There are areas where, even in Italy, there is a very high concentration of the population. However, referring specifically to our territory, only 18% of its surface is occupied by cities with more than 20,000 inhabitants.

The structure of the Belpaese is mainly made up of little urbanised areas with a low population density. Coastlines, banks of rivers and streams, slopes, internal mountain systems and anthropogenic historical landscapes, small towns and villages. This significant landscape and cultural heritage have for some time been going through a phase of decline due to their decentralised and isolated position. They suffer from the lack of infrastructures and government policies that are not very attentive to the contingencies and needs of areas identified as being among the most fragile and are subject to phenomena of abandonment and consequent depopulation, economic and cultural impoverishment, decay, instability and collapse.

New risks and urgent weaknesses arise and impose a different sense of responsibility regarding the planning and implementation of transforming actions that, limited to highly urbanised areas, appear vice versa, to be highly restrictive. (Bankoff et al., 2004)

One of the main causes of the lack of quality and the frequent fragility of many territories in the Mediterranean, Southern Italy and even Calabria can be attributed to short-sighted, distracted visions, lacking strategic capacity, which focuses on a single "attracting" places, ignoring the overall and systemic reading of the minor but no less important elements and components of the territory.

In the past, the authors have already worked in this direction, participating in the production of studies, research and guidance to operate specifically on the territory of the Calabria Region (Nesi, 2002; Scaglione, 2003; Lauria, Azzalin, 2013; Giofrè, 2014; Girona, 2015).

More recently, these studies have been integrated with reflections and insights relating to an emerging and highly topical issue, namely the recovery of memory, even before the "material" heritage, of places so fragile on a "physical" level (affected by hydrogeological instability, characterised by dilapidated buildings, interrupted paths, etc.) as well as endowed with a powerful resilience linked to their "immaterial" strength (Brandolino et al., 2018).

All experiences introduced aim to address the safeguard and development of fragile territories at different scales - as does the one presented here - by promoting the use of in-depth knowledge. Tools and operational strategies that are not generic but compatible and appropriate; not preventing transformations, but trying to limit their arbitrariness and harm to the environment and social structures.

### **Case study: the Stilaro Valley**

Geomorphological complexity, vulnerability, fragility and mainly, significant historical-landscape potential characterise this part of the constitutes Calabrian territory the analysed case study: the Stilaro Valley, an area located in the Ionian part, at the north-eastern end, in the province of Reggio Calabria, crossed in all its length by the Stilaro stream (Fig. 1).

Between the provinces of Reggio Calabria and Catanzaro, its morphology is much diversified. In the space of a few kilometres, you pass from the sea to the few alluvial plains of the lower course of the river to reach the hilly area, and finally, to the mountain area consisting of the peaks of the Pecoraro mountains (1414 meters above sea level), Pietra del Caricatore, Cucolia.

These peaks are contrasted physically and geographically by Mount Mammicomito and Mount Stella, bare and rocky, unique from a landscape point of view. As a whole, in this area, they are characterised by discontinuous profiles overlooking the deep canyons carved by the water, plateaus, and reliefs take turns (Bova, 2008).

Within this territory lie four municipalities: Monasterace, Stilo, Pazzano and Bivongi, which have a prestigious artistic heritage. It is a weakly urbanised area where the archaeological sites of the Magna Graecia in the Marina of Monasterace are combined with the remains of Byzantine art and architectural culture (Stilo), the historical centres of monumental relevance (Stilo, Bivongi, Pazzano, Serra San Bruno, Monasterace), the monastic citadels of European importance (San Giovanni Theresti in Bivongi; the Certosa in Serra San Bruno), the workers' villages (Mongiana, Pazzano) and the rocky sanctuaries (Santa Maria della Stella in Pazzano). The severe medieval urban structure testifies to a civilisation that deeply permeates the whole territory. The castles, Byzantine monasteries, and churches tell of a past full of lively social transformations and intensely religious and artistic life. For over 2000 years, this territory has hosted various strains of populations who, in addition to providing it with numbers of testimonies of their own life (art, religion, etc.), have scattered the entire area with a conspicuous presence of remains linked to the productive activities, mainly focused on steel and metallurgy.

These activities were favoured by the mineral richness of the subsoil of the valley and by the favourable morphological and water conditions that allowed their transformation and processing on-site.

All this makes the Stilaro Valley a territory, among one of the very few in Italy, in which, within the well-defined area, it is possible to rediscover centuries-long historical-economical events that, since the time of the Phoenicians, reach up to the fifties of the twentieth century; a period in which this path finds more than one reason for interruption. Without distinction, all the diverse populations or dynasties that have followed one another - Greeks, Bruzi, Romans, Byzantines, Normans - found the exploitation of mineral resources advantageous. Consequently, they left the signs of their "industrial" activities on the territory.

These anthropic memories mark today the natural environment defining a landscape of incomparable variety: the Royal Bourbon ironworks, the Marmarico hydroelectric plant, and the Guida barrage. It is a production system, certainly not comparable with those of the more industrialised European countries, but which, within the national economy, certainly did not play a secondary role.



*Figure 1.*– The Stilaro Valley landscape. Source: Photo by Cristian Murace.

Small industries allowed the entire region to enjoy particular economic well-being: from tanneries to spinning mills; from pulp factories to hydroelectric plants; up to the main one, the mining and steel industry operating with a millenarian continuity in the valleys of the rivers Allaro, Assi and Stilaro, between the Ionian belt of Calabria and the Serre Calabre (Danilo, 2003).

The importance of the Stilaro Valley also emerges from its inclusion in the Serre Regional Natural Park, the establishment of two Natura 2000 protected sites (SIC Bosco di Stilo - Bosco Archiforo and SIC Vallata dello Stilaro) and the Eco-museum of the Forges. However, despite the extraordinary concentration and stratification of the naturalistic, the landscape, the historical-cultural and anthropological resources, recent initiatives and funding translated into concrete interventions that have followed one another over time and continue to fail to express its resources and its potential.

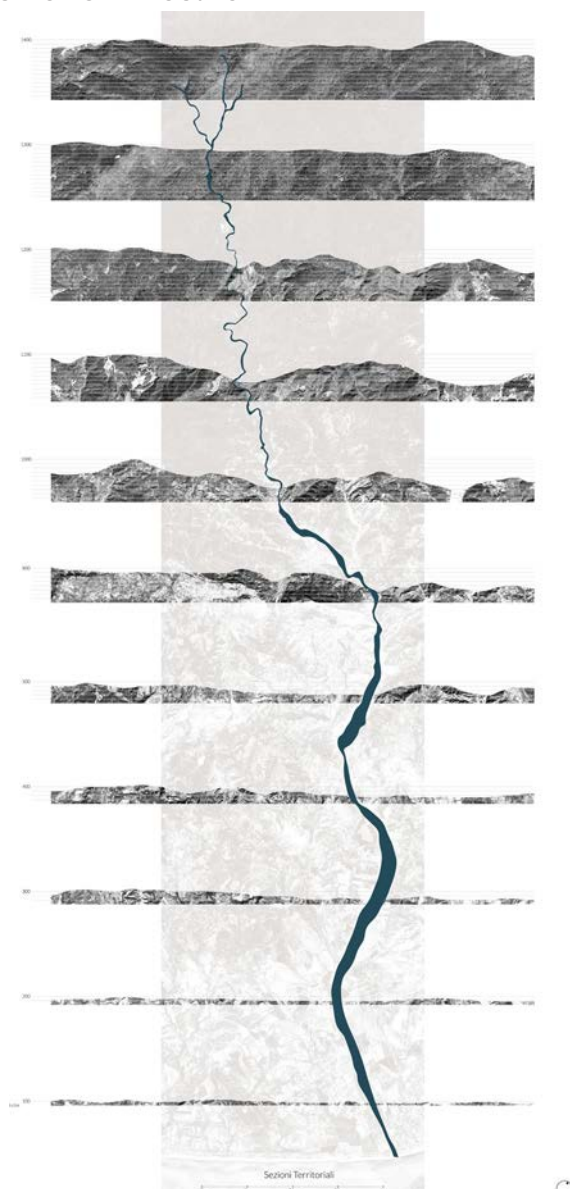
Up till now, in fact, there has been no strategic vision of a "holistic" nature capable of outlining the contours of sustainable development focused on the systemic enhancement of all the components of the landscape of the Valley - both natural and anthropic - and of the reciprocal relationships that can be established between them.

### **The river contract of the Stilaro Valley**

The approach that this contribution hands back is centred on the multiscale principle to overcome these critical issues. Today, a principle that is widely shared in addressing projects for the protection, management, and regeneration of the habitat. In the River Contract, a principle can find adequate methodological support to activate enhancement processes and shared visions of the Stilaro Valley area. According to the definition coined by the RC National Table (Tavolo Nazionale CdF) (Bastiani, 2015), the River Contract is a decision-making process that composes and puts into a system, through a participatory approach and an operational program (Action Plan), the environmental and social-economic interests of a river system. It does not represent a new planning act or decision-making level in line with the superordinate provisions (territorial and sectoral) and the integration of knowledge and local instances.

It can be assimilated to a voluntary programmatic tool by means of which all interested parties undertake to implement synergistic actions to improve the ecological status of the river, mitigate the hydraulic risk and, at the same time, enhance the river asset and encourage local development.

The principles of the River Contracts are inspired by the Framework Directive 2000/60/EC. It anticipates systemic policies for the redevelopment of surface and groundwater and creates common objectives with other European regulations that promote governance tools for environmental policies, such as: the Habitat Directive 92/42 / EEC, which provides for the creation of a European ecological network; Directive 2007/60/EC, relating to the management of flood risk; the Proposed Framework Directive for the protection of the soil from erosion and pollution, SFD - Soil Framework Directive.



**Figure 2.** Territorial sections of the Stilaro Valley.  
Source: Drawn by Cristian Murace.

At the national level, legislative references are LD 152/2006, which is configured as framework legislation on the Environment; the Code of Cultural and Landscape Heritage (Legislative Decree 42/2004 and subsequent amendments) and, at a regional level, the Law n.19 / 2015 (art.40 bis) amending the Regional Urban Planning Law of 2002. In the Stilaro river area, the activation of the River Contract, initiated, together with the Contract of the Fiumare Petrace, Sant'Agata and La Verde, by the Metropolitan City of Reggio Calabria (in implementation of the DGR n. 301/2016), represents an opportunity to move from a range of sectoral visions to an integrated vision capable of interpreting the river system as one system in which the hydrological and ecosystem components interact with the economic and socio-cultural settlements.

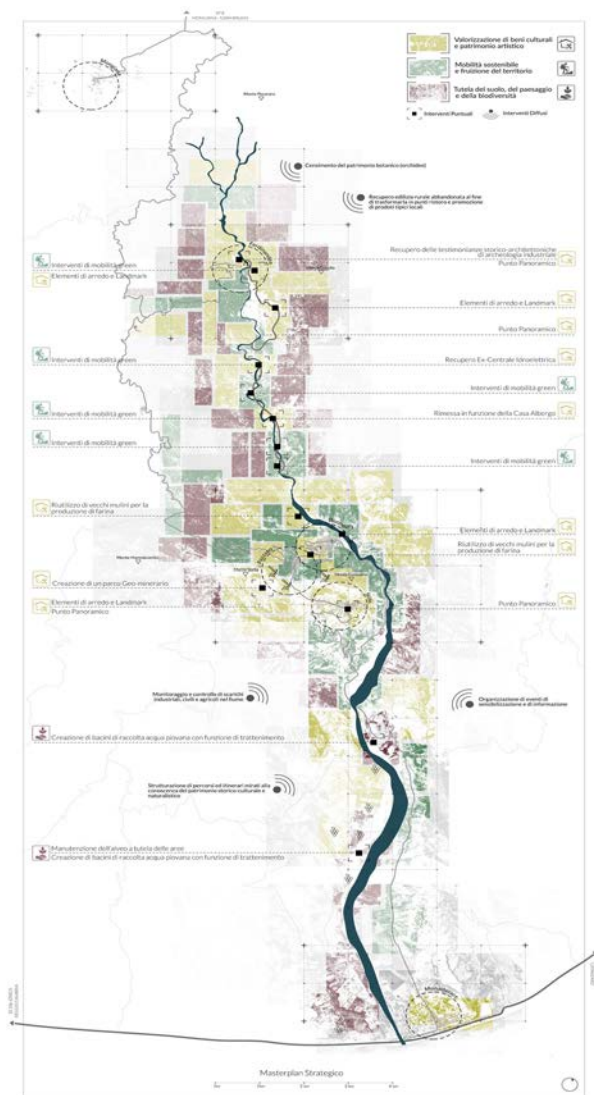
The declared objective of achieving an enhancement (from a social, didactic, cultural, fruition, touristic and landscape point of view) is also significant since the Valley as a whole has historically represented a positive example of coexistence and secular symbiosis between natural conditions of the territory and the productive and permanent needs of man, putting in place a kind of circular economy of use of resources (water, forest, mining).

Therefore, through the River Contract, it is possible to build strategic actions for the environmental protection and redevelopment of the Stilaro, guiding territorial choices towards greater synergy and recognising the river as a backbone role in sustainable territorial development processes.

The process "towards the Fiumara Stilaro River Contract" is currently underway and has already expressed the first results thanks also to the implementation of participatory initiatives conducted, both in the analytical and interpretative phase, the beginning of any design process, and in the identification and definition of the key points on which to focus the interventions and project actions.

To date, it has involved the competent territorial bodies of the entire basin, the population and many associations. It was developed a Fact-finding Dossier, in which were outlined the physical-natural characteristics, the events and historical dynamics of transformation, natural and anthropic, the social perception of the river and its landscape by the local populations. The attribution of meanings to places/objects by the various categories of subjects involved were also highlighted. From this emerges the considerable endowment of environmental and cultural resources of tourist value and the lack of awareness of the actual value of these resources and the opportunities for economic and social growth that would result from their networking.

It is a well-structured picture of values and implementation criticalities, in which complexity is broadly recognised but not yet fully addressed. A selection process was subsequently carried out with regard to some “themes” and some “sensitive places” (the places of meditation and prayer; industrial archaeology and the architectures of work; the water and iron culture path) on which more in-depth reflections and projects have been initiated that go in the direction of strengthening identity and recognisability, competitiveness and sustainability for a recovery of the cultural and identity roots of the inhabitants of the Valley themselves.



**Figure 3.** Graphic representation of the strategic interventions for the Stilaro Valley. Source: Drawn by Cristian Murace.

These themes, which are being explored thanks also to the participation of local communities, are built around the main attractions (monastic settlements, Byzantine and Norman architecture, water mills, dams and power plants, Royal ironworks and mines, ancient paths) and bring together the different resources and opportunities that the territory must necessarily consider in order to achieve the environmental and socio-economic development objectives aimed at fostering long-term growth. Specifically, the objectives identified, consistent with the general ones relating to safety, mitigation and prevention of hydrogeological risks, environmental rebalancing and water remediation, concern:

- Promotion of river awareness and culture (community awareness; information, training and teaching plan);
- Promotion of activities for scientific and didactic use;
- Improvement of the river's usability and recreational values (consolidation and enhancement of the path network and green mobility: cycle paths, trekking paths and equipped areas along the watercourse);
- Improvement of the accommodation system (Ecotourism and scattered hospitality);
- Enhancement of viticulture and traditional agricultural production;
- Enhancement of craft activities.
- Regulation of present uses (usability, sports areas, fishing, urban gardens and mining activities);
- Creation of a territorial brand (marketing activities and identification of new ways of “telling the territory”).

### The proposal: multi-scale/programmatic/strategic

In the route described, the river is recognised as the backbone of the territory, a strategic element for enhancing the living and connective, ecological and functional environment between small urban centres and the broader landscape context.

A place where multi-scale forms of experimentation and enhancement are launched contributes to the construction of the contemporary river landscape. This multi-scale approach is based on continuous cross-references between the large territorial scale and that of the detail of individual places considered significant. This is an operative modality that allows understanding better of the constitutive and qualifying characteristics of the landscape, the interrelationships between them, the potentialities and the unexpressed vocations of the places. In the specific case of the Stilaro Valley, the quantity and density of natural and historical-cultural heritage are such that an overall vision is indispensable.



**Figure 4.** Removable and resilient bridge.  
Source: Drawn by Cristian Murace.



**Figure 5.** Temporary viewpoints.  
Source: Drawn by Cristian Murace.



**Figure 6.** Temporary viewpoints.  
Source: Drawn by Cristian Murace.

Any intervention that will be defined over time must respond to specific needs and be consistent with the general strategy.

Figure 3 shows a strong programmatic and strategic value synthesis, which aims to relate, network and “system” the huge wealth of resources present in the Stilaro Valley. It highlights the ironworks, waterfalls, woods, architectures and prestigious villages, and the interventions carried out until now or near completion, including those incomplete, degraded or even abandoned.

These are all potentially useful elements - in a general view - for starting a profitable regenerative process that cannot ignore what is already there.

It is a dynamic and flexible vision as it is susceptible to continuous updates and additions, synthetic as a selection of characters and peculiarities to be highlighted in the overall vision. With equal depth, the proposed approach addresses the detailed scale of individual punctual conditions. These places are considered particularly significant for implementing the regenerative strategy but require spatial, functional, and aesthetic qualification interventions. They are punctual and areal interventions to improve the overall usability of the Vallata heritage according to a minimal design, which applies the principles of resilience, a low cost /low-tech language that does not give up figurative research.



This also, in some ways, alludes to a vernacular and peasant architecture, for the materials used (locally extracted wood, iron, recycled materials) and simple technologies that can be easily assembled and disassembled thanks to dry connections and the application of principles of reversibility. In detail:

- Design devices for slow mobility improvement systems with cycle paths and trekking paths in stabilised earth;
- Removable bridges (Figure 4);
- Small accommodation facilities with inserts in existing architectures;
- Environmental engineering interventions for the resolution of hydrological criticalities;
- Furnishing elements such as convivial seats, fences, rest platforms;
- Temporary viewpoints (Figures 5, 6);
- Systems for disseminating natural resources and cultural heritage present in the valley with innovative information and communication technologies.

## Conclusions

The presented approach proposes actions with a strategic breath but is attentive to the quality of the design at the detail scale. The River Contract represents a programmatic tool within which the actions are envisaged.

The overall purpose of the project is to recompose economic, social, functional, morphological and environmental aspects of the landscape of the Stilaro Valley and to portray a unitary system of places recognisable for the ability to develop territorial strategies in line with widely shared principles of environmental and social sustainability, resilience and circular economy. Thus, the detailed projects of the walking systems, enjoyment and observation of the landscape suggest solutions that interact with the environmental and ecological qualities of the sites, starting from "what already exists".

These are tangible actions, both structural (physical interventions on the territory) and non-structural (actions of government, management, information, training and awareness of the local communities) and as a whole aimed at enhancing and managing the river resource understood as a "common good".

These actions can be collocated within a strategic tool suitable for the active protection of landscapes (villages, quarries, agricultural, natural and degraded areas, river appurtenances, etc.) and the networking of concerted actions.

However, beyond the opportunity offered by the regulatory instrument used, the experiences described highlight increasingly widespread principles which, on the level of their ideological legitimacy, consider the actions of anthropic transfor-

mations of the built environment internal to wider disciplinary contexts.

They flank to technology, the fundamental intersections with the human sciences, even in the case, like the one presented, of small transformative actions but not for this reason to be considered minor.

A revolution that, in proposing new ways of approaching the protection, enhancement and development project, proposes a revision of the cultural statutes that oversee the management of the anthropic and landscape heritage, focusing on holistic, multiscale, multidisciplinary, programmatic, strategic approaches.

## References

- AA.VV. (2018). *Nairobi work programme on impacts, vulnerability and adaptation to climate change. Adaptation in human settlements: key findings and way forward*, Bonn, 30 April to 10 May.
- Bankoff G., Frerks D., Hilhorst D. (2004). *Mapping vulnerability: Disasters, development and people*, Earthscan, UK and USA
- Bastiani M. (2015). *Definizione dei requisiti di base dei Contratti di Fiume*, Ministero dell'ambiente
- Bova D. (2008) *Bivongi nella Vallata dello Stilaro*, Ecumenica editrice, Bari.
- Brandolino G., Ginex G., Gioffrè V., Lauria M., Mediatì D. (2018). *Rògodes. Strategie di valorizzazione e sviluppo per l'abitato di Roghudi vecchio*, in: AA.VV. *Territori Fragili*, Gangemi, Roma
- Daniilo F. (2003) *Il ferro in Calabria. Vicende Storico - economiche del trascorso industriale calabrese*, Kaleidon editrice, Reggio Calabria.
- Gioffrè V. (2014). *Abitare il paesaggio. Un nuovo ciclo di vita per la Costa Viola*, Iriti editore, Reggio Cal.
- Gironda C. (2015). "Tra identità e immagini. Il futuro possibile di una Città Metropolitana in formazione" in: Fallanca C. (a cura di) *100 ide per la Citta Metropolitana (2015)*, Aracne editrice, Roma.
- Lauria M., Azzalin M. (2013). *Sperimentazioni progettuali e regole condivise per la sostenibilità e l'innovazione dei processi di trasformazione dei centri storici calabresi. Il caso Bivongi*, in Castagneto F., Fiore V. *Recupero, valorizzazione, manutenzione nei centri storici*, Lettera Ventidue, Siracusa.
- Nesi A. (a cura di) (2002). *Normativa Tecnica Locale per il progetto dell'esistente premoderno. Strategie per il controllo tecnico nelle azioni di recupero nei centri storici minori della Calabria*, Gangemi, Roma.
- ONU (2015). *Transforming Our World: 2030 Agenda for Sustainable Development*.
- Scaglione G. (2003). *Calabria. Paesaggio, città, tra memoria e nuovi scenari*, Rubbettino, Soveria Mannelli.

*Francesca Calace, Carlo Angelastro, Olga Giovanna Papparusso*

## Introduction

The complex implementation of metropolitan cities seems to be the emerging sign of a structural difficulty in the Italian context not only to govern the metropolitan dimension but also to recognize it clearly (Martinotti, 2001). Given their birth in the normative context of the “Delrio law” of its instruments and times, today, the Italian metropolitan territories pose significant interpretation, management and not least institutional problems. Today, they are committed to constructing their own government instruments starting from very different territorial, administrative and planning conditions without making full use of the breadth of the organizational possibilities allowed by law (Calafati, 2014; De Luca, Moccia, 2017).

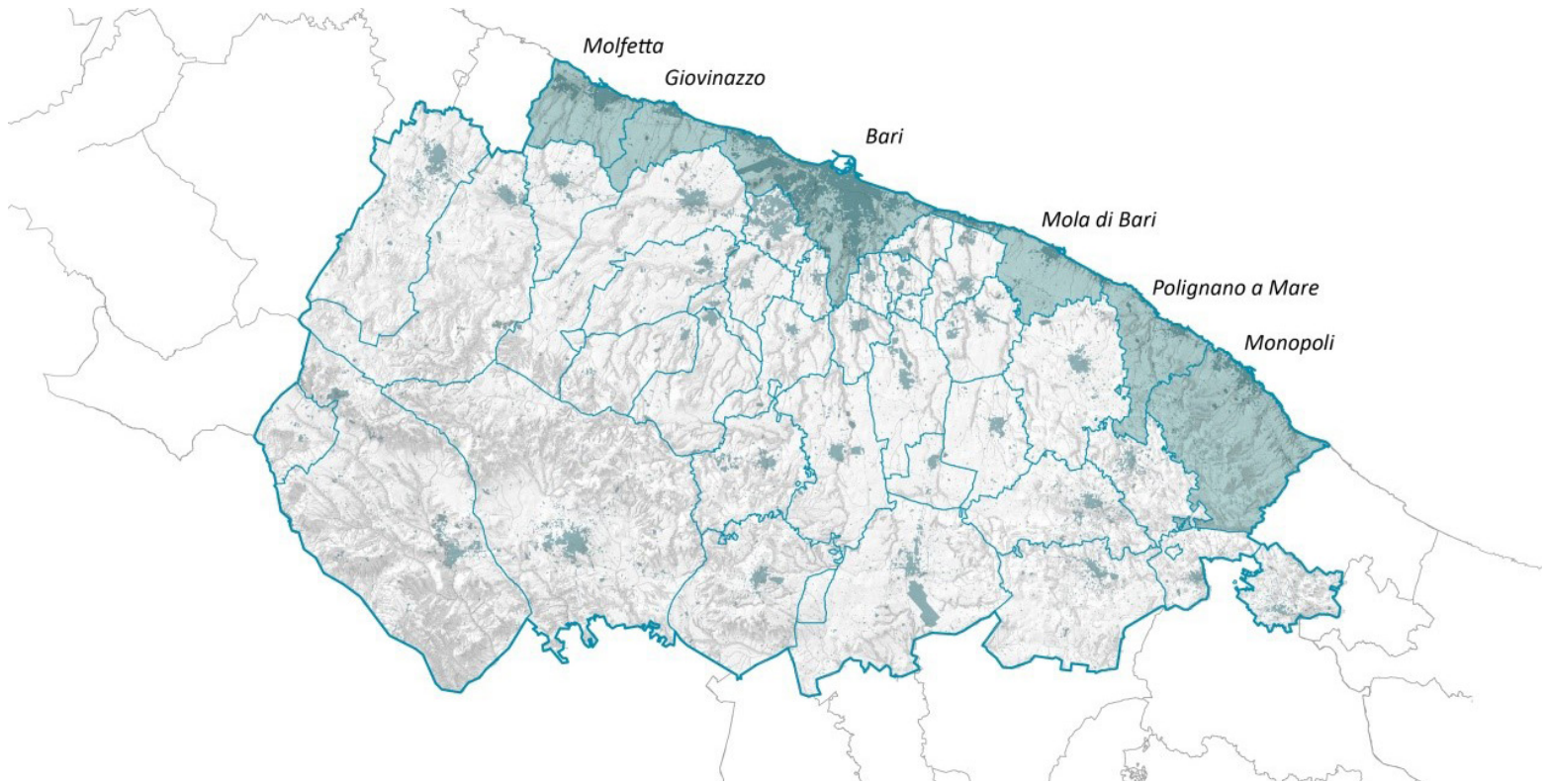
Moreover, coastal territories also pose significant cognitive questions (due to the peculiarity of environmental dynamics and the interweaving of natural and anthropic dimensions), interpretative (due to the difficult and univocal consideration of the extent and characteristics of these dynamics), managerial (due to the plurality of actions and actors present) and claim a systemic approach capable of considering together environmental, settlement, infrastructural and economic development issues (De Bernardinis, 2015). The Integrated coastal management of European origin recognizes coastal areas as the most vulnerable spaces to climate change and, at the same time, the most subject to human pressure. Since the well-being of the populations and the economic profitability of many enterprises in coastal areas depend on the environmental status of these areas, it is necessary to integrated management of this area to improve the protection of the coasts by increasing the efficiency of their uses (EU, 2002). In our opinion, the combination of these two dimensions, “metropolitan” and “coastal”, produces a peculiar space to its complexity and problematic nature, which we intend to investigate here. We propose to look at metropolitan territories as to rich and diversified spaces and not as clusters of indistinct peripheries gravitating on an urban core, with residual attention to open spaces, whether natural or agricultural. Starting from this assumption, the coastal

space exemplarily summarizes the diversity characterizing these territories, with an intensity that has no equal, given the small space strongly characterized by components, pressures and flows from the environmental point of view. Therefore, the metropolitan coastal area is assumed as an exemplary space for disciplinary reflection.

So how do the different instruments (cognitive, predictive and managerial) interpret the metropolitan coastal territory? How is the coastal dimension themed both as a characterizing factor for the territory and connotative for territorial policies? It is sufficient to list the plethora of regulatory and development tools that act on coastal areas in our regulatory framework to understand how these territories are the most planned. However, there seems to be an enormous gap between the forces in the field and the results, in terms of environmental quality and space quality in general, of its uses and sustainable development. Therefore, a normative/institutional criterion does not seem to unravel the skein of complexity. It seems necessary to observe this patchwork from the inside and go into detail on each device, each interpretation and vision of the territory, without, however, claiming to trace an orderly and hierarchical design.

## **The metropolitan coast of Bari: knowledge, visions and tools**

On the Bari metropolitan coast, the alternation of open spaces and coastal urban settlements (Salvemini, 2008) characterized by important landscape and heritage emergencies, none of which is guarded as a protected area, gives the six municipalities (including the regional capital) with their eleven ports, a unique and peculiar feature. The result is a polycentric and articulated system in which – as in the entire metropolitan city – the relationship between centre and periphery assume blurred edges (Borri, Calace, 2017). The metropolitan coast of Bari does not escape the perception of a theoretically ‘super-planned’, because even if local authorities dispose of a variety of tools, only some are operational, and the others struggle to take shape or to finish their institutional path.



**Figure 1.** Coastal cities of the Metropolitan City of Bari. Source: Authors' elaboration.

On the other hand, the territory is characterized by a certain lack of explicit and systemic public policies, by the presence of plans and projects, each of which has a partial vision and adheres to certain keywords.

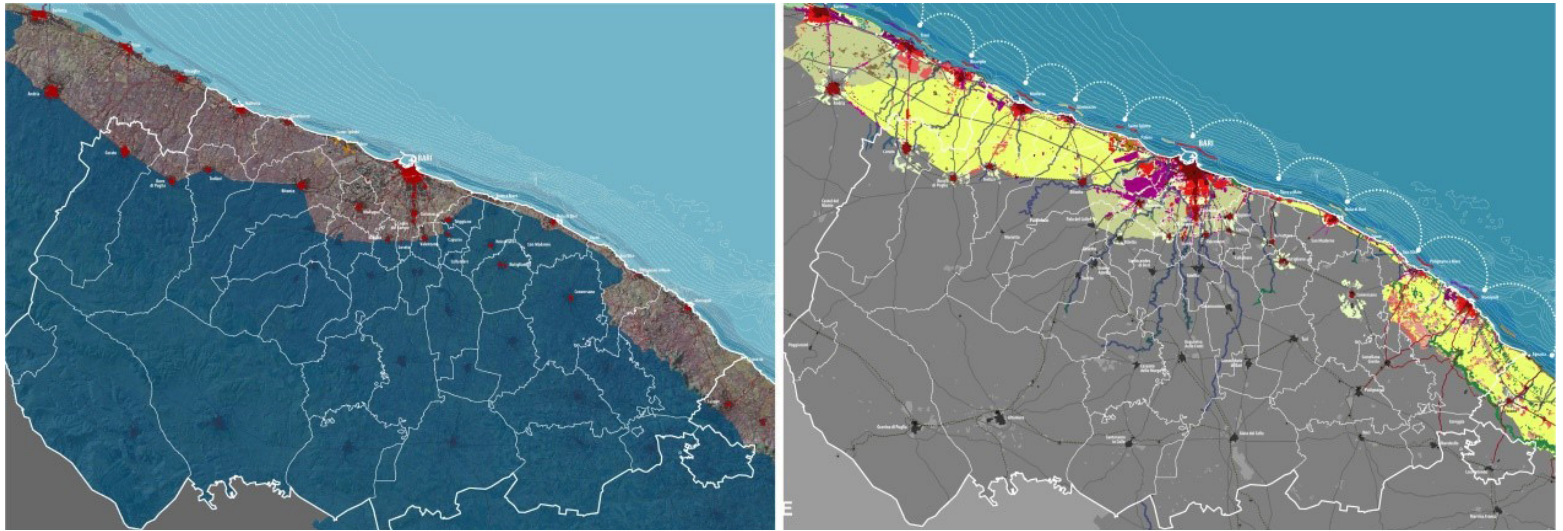
It is possible to distinguish 'families' of tools and planning devices also within the same tools: besides the more evidently regulatory and sectorial ones – coastal plans and port regulatory plans, characterized by very long approval procedures – the territories are governed by old regulatory plans – with new plans in progress – and crossed by initiatives and transformation projects that in general consider the coastal area as a place for the enhancement and tourism promotion. The Regional Territorial Landscape Plan (PPTR) and the Regional Coastal Plan (PRC) are the only instruments that, within their own competencies, distinguish themselves from this crowd by scale, organic knowledge and systemic vision.

### **Landscape planning and its implementation experiments**

Based on a patrimonial vision of the territory (Magnaghi, 2010), the Landscape Plan integrates protection with the strategic vision of the future territorial organization outlining it in five projects for the regional landscape.

It is the primary reference for coordination on a territorial scale of visions and actions referred to both the landscape and the complex of the transformations. For the coastal strip, considered a crucial issue for the future regional development (Migliaccio, 2011), the plan elaborates the Charter of Coastal Landscapes and a strategic project called "Valorization and integrated redevelopment of coastal landscapes". It assumes the "coastal zone" concept as a transition zone through the sea, coast, and hinterland, a relational area that includes variable width and depth areas. It pursues the objectives of enhancing and upgrading the coastal system in its components, mainly by enhancing the resilience of the coastal ecotone and safeguarding and enhancing the undeveloped areas.

Since the drafting of the PPTR, several experimental Integrated Landscape Projects have been drawn up to test and implement the plan's contents at the local level (Falco, Barbanente, forthcoming). Among these, the Feasibility Study (SdF) of Parco Agricolo Multifunzionale di valorizzazione (PAMv) delle Torri e Casali del Nord Barese, drawn up in the implementation of the strategic project "Patto Città-Campagna", has deepened the knowledge framework and the strategies declination of the PPTR, integrated with the projects expressed at the local level by mu-



**Figure 2.** The coastal landscapes of the metropolitan city of Bari - Extract from elaborate 3.2.13 of PPTR. The Integrated enhancement and requalification of coastal landscapes of the metropolitan city of Bari. Source: Extract from elaborate 4.2.4 of PPTR



**Figure 3.** Extracts from the PAMv project scenario: the ecological network, the heritage network, the spaces of the settlements. Source: SdF graphic elaborations

municipalities and local actors. It defines a project scenario that sees PAMv as a great environmental endowment for the metropolitan city and a common agricultural space between the cities and a connection space between the Murgian and coastal systems and an opportunity for sustainable and innovative development of rurality. The coastal strip falling within the PAMv is characterized by the presence of historic urban centres and the coastal vegetable garden system, which are overlaid by the pressures of contemporary settlements, thus creating a rural landscape intensely anthropized and contradictory (extensive contemporary and historical production facilities, in use and abandoned, vs proximity agriculture and 'cut out' in interstitial spaces). In line with the project "Integrated enhancement and requalification of coastal landscapes", the vision of the SdF for the coastal area is composed of four thematic areas (natural, rural, urban and infrastructural). This contributes at different scales to consider these parts as expansions of land-sea nodes, for which are pro-

moted multifunctional agricultural practices with low environmental impact, water reuse, quality products included in the local consumption circuits, specific requalification projects that allow the reorganization of the urban fabric, the enclosed open spaces, the relationship with the coast, up to the realization of zero impact bathing equipment.

### Coastal planning: holistic visions vs. sectoriality

The coastal planning refers to the Regional Coastal Plan (PRC), which came into force in 2011, which has deepened the specific knowledge about the dynamics of physical transformation of the regional coastline and has outlined sensitivities and criticality of the coastline. In addition to the complex system of constraints, it has defined the main choices of coastal management, consistent with the objectives of ensuring a balance between the protection of environmental and landscape aspects, the free enjoyment of the coast and the development of the sea economies.



**Figure 4.** *The new waterfronts of Mola di Bari, Giovinazzo, San Girolamo in Bari*

According to the PRC, rules and criteria for the use and fruition of the maritime state property, exclusive field of application of coastal planning, take shape at the municipal scale according to the places specificity and settlement dynamics. The flexibility of the zoning parameters of the state property allows coastal development policies to adhere to the problems and peculiarities of each territory. From the knowledge and the critical-interpretative parts of the Municipal Coast Plans of the Metropolitan City emerge broad themes and common objectives, linked to the environmental dynamics and the enhancement of the urban identity linked to fishing and trade, and specific themes, such as industrial pollution (Molfetta and Giovinazzo), tourist pressure (Polignano and Monopoli), residual rurality (Polignano and Bari). However, in the face of this broad vision of coast problems adopted in the critical-interpretative phase, the application of criteria and guidelines of the PRC in the draft Plan translates itself into a sectoral prescriptive apparatus, limited in the application field – zoning of the state property, determination of the transitional regime and coastal recovery measures– which is inadequate compared to the complexity, intensity and extent of the environmental, landscape and settlement dynamics related to the coast captured in the same analysis (Calace et al., 2017).

### **A coast by projects**

Given the slowness of the renewal process of local urban plans – whose reasons lie outside of this discussion – and the persistence of urban norms dated both from the prescriptions nature point of view and from the idea of city underlying them, the process of enhancement, re-signification and transformation of the coastal area take place through a series of actions, projects and specific interventions that have a growing role within municipal policies.

To understand the role that projects of coast transformation assume within the urban landscape, need only consider how much the requalification interventions of public spaces or the realization of new urban spaces for bathing happened in Bari since the end of the '90s, or the more recent requalification interventions of the urban waterfronts of Giovinazzo, Mola di Bari and Polignano have renewed the spatial order of the coast of Bari introducing new uses that allow the valorization of the historical centres or the fruition of the more marginal areas.

The renewal process of urban waterfronts and the creation of new public spaces is still a priority in the policies for coastal enhancement. Numerous interventions are planned on the stretches of consolidated urban coast, aimed at the redevelopment of public spaces, slow fruition, improvement of accessibility conditions, creation of new areas for bathing and leisure (in Bari, Monopoli and Mola di Bari) and the connection and redevelopment of the rear port areas (in Molfetta).

Moreover, there seems to be growing attention to the qualification of open spaces and the slow fruition of urban and periurban areas (in Molfetta, the stretch of coast to the north, in Monopoli the stretch of coast to the south, in Bari, the enhancement of the archaeological sites of the south coast) as well as to the mitigation of the hydrogeological risk of important stretches of coast and of the mouths of the Lama (Giovinazzo, Bari, Polignano and Monopoli).

Although many proposals on open spaces result from the PPTR's design guidelines, which aim at a deep vision of the coastal territory and actions encouraging the synergies between coast and hinterland, the projects proposed by the metropolitan municipalities, even when they concern substantial coastal stretches, are still linked to the idea of a narrow coastline and made up of specific episodes, with little interest in the relations with the spaces – urban or rural – that face these coasts.

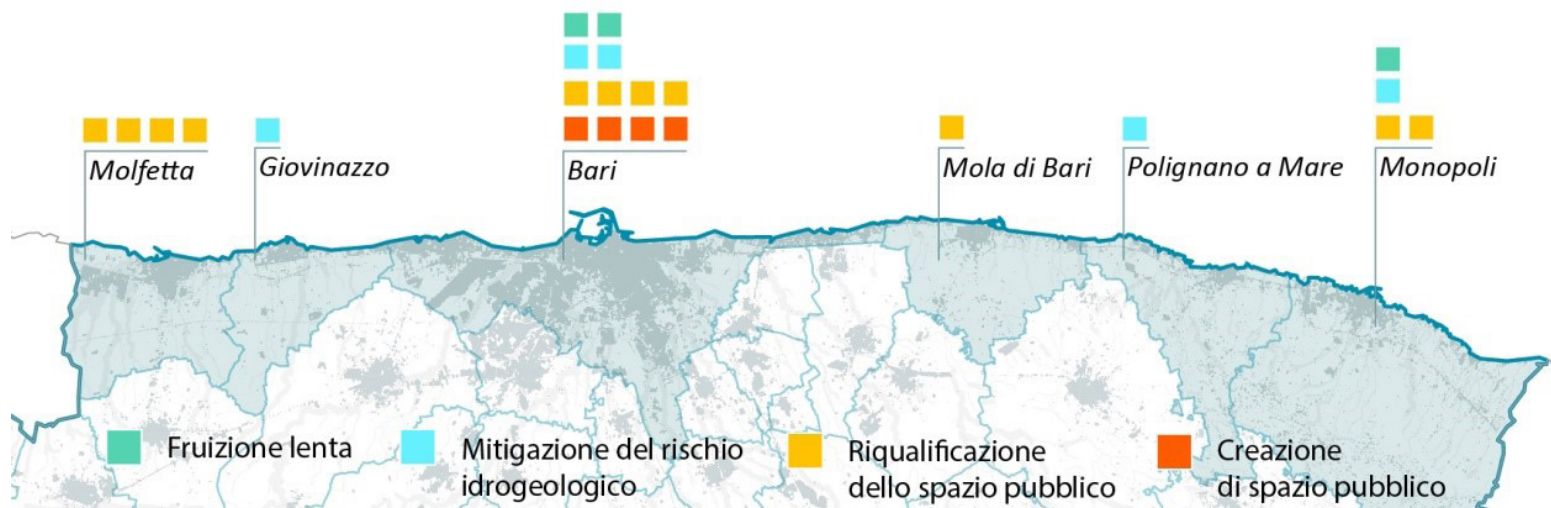


Figure 5. Planned interventions on the coastal space. Source: Authors' elaboration

### How to compose an overall picture: the convergences, the problems

From the framework presented here, it is possible to outline an overall picture of the metropolitan coast as a dynamic result of the multiplicity of approaches, rules, visions and actions, but also to draw some reflections on the nature of the transformation processes and the role of the instruments in such a complex schedule.

The first reflection from all that has been analysed is a strong discontinuity of the signification of the coast compared to one of a few decades ago, widely considered the place of preservation and enhancement, not of touristic exploitation of the territory. However, the 'compensation' season of the previous one does not seem to have started yet: the large disused plants, the widespread deterioration, as well as the uncertainty in the management of the old urban forecasts, remain to testify the difficulty of facing complex problems with environmental implications (land reclamation, de-pollution of water) and urban ones (change of urban destinations, reuse of volumes, etc.).

This new vision and the resulting planning – the second reflection – focuses on easily identifiable and practicable places in the coastal space: the historical or 'urban' waterfronts, public spaces, protected areas, or areas already subject to landscape protection. Through the planning of municipalities, the metropolitan coast takes shape, characterized by promenades increasing the good living room of cities, where collective rites and night-life have replaced historical uses; these interventions have all indiscriminately renewed the collective imagination of cities,

even in the tourist offer, and have changed the space usage by the citizens themselves. It remains to be shown whether they have produced 'profound' effects of cities' re-qualification beyond the spaces actually invested by the transformations.

As we have seen, the PPTR is currently the only strategic reference point of territorial scope, presided over by knowledge and vision that is organic and consistent with the landscape protection system. Although it is a 'territorial' plan, the landscape approach conforms to the philosophy and content of the plan, leaving its implementation to deal with issues of land use and development proper to territorial and urban planning. The lack of large scale planning tools on the one hand, and the other hand the scarcity of 'intermediate' scale landscape tools, i.e. those capable of deepening, interpreting and integrating the territory project more and finally, the absence of urban planning tools suitable for the PPTR, determine an important gap – third reflection – between the regional vision and the specific declinations of local projects. From this gap originate some coastal design features, as found lacking in systemic vision and ability to trigger regenerative processes of the most internal areas.

But what is the specificity, and what is the added value of being in a metropolitan city, understood not only as a territorial and socio-economic condition but also as a form of government? Given the patchwork of approaches, rules, visions and actions, given the problems found in a densely used territory, and since the construction of the tools of metropolitan government is still in its infancy, the answer can only be in becoming. In the case of the metropolitan city of Bari, among the 11 strategic actions that consti-

tute the outline of the future Strategic Plan, one seems to be oriented in this direction: the metropolitan waterfront action and sea economies, which could be understood precisely in the direction of overcoming the system problems previously identified: environment to be rehabilitated, natural and infrastructural networks, connections and inter-municipalities to give depth and value to the specificity of coastal projects, the complex of activities constituting the "blue economy". Also, to accompany municipalities in the complex action of restoring their planning and intervention tools to the system, and to increase the effectiveness of individual interventions on the coast and to spread the benefits.

## Notes

<sup>1</sup>Among the coastal municipalities of the Metropolitan City of Bari, four are still adopting the CCP (Molfetta, Giovinazzo, Polignano and Monopoli), while in Mola di Bari and the capital, the plan is being prepared.

<sup>2</sup> The action has the general objectives of "coastal consolidation and enhancement of the coastline of the entire metropolitan area of Bari" and "enhancement of the natural characteristics of the landscape, in order to make it more attractive", to obtain "the identification of the waterfront as an element of community identity and economic and social engine for the growth of territories".

## References

- AA.VV., (2014). *Il mare e la città metropolitana di Napoli*, TRIA n. 13 special issue
- Borri D., Calace F., (2017). "Città metropolitana di Bari", in *Pianificare le città metropolitane in Italia. Interpretazioni, approcci, prospettive*, INUEdizioni, Roma
- Calace F., De Troia V., Milella S., Pascetta M., (2017). "La città e la costa: letture e interpretazioni per la pianificazione costiera di Bari", *Ri-vista. Ricerche per la progettazione del paesaggio*, n. 2
- Calafati, A.G., (a cura di) (2015). *Città tra sviluppo e declino. Un'agenda urbana per l'Italia*, Donzelli Editore, Roma
- De Bernardinis B., (2015). "La gestione integrata della fascia costiera in Italia: una sfida al consumo di suolo ed alla frammentazione pianificatoria", in *Pianificazione integrata della fascia marino-costiera*, Reticula, n. 10
- De Luca G., Moccia F.D., (a cura di), (2017). *Pianificare le città metropolitane in Italia. Interpretazioni, approcci, prospettive*, INUEdizioni, Roma 2017.
- Falco E., Barbanente A., (forthcoming), "Focus on the

*Puglia Region: A region with major coastal challenges yet determined to change course" in Alterman R. (ed.) Bridging the legal-institutional gap in Mediterranean coastline management*, Routledge, London

Magnaghi A., (2010). *Il progetto locale. Verso la coscienza di luogo*, Torino, Bollati-Boringhieri

Martinotti G., (2001). "Aree metropolitane", *Enciclopedia delle Scienze Sociali, Supplemento*, Treccani

Migliaccio A., (2011). "La costa pugliese tra istanze di tutela e di valorizzazione", *XIV Conferenza della Società degli Urbanisti Italiani*, Torino, 24-26 marzo

Salvemini B., (2008). *La Puglia, le Puglie. Note di inquadramento sui paesaggi storici*, Piano Paesaggistico Territoriale Regionale, Allegato 6a - La "Storia" per il piano

Savino M., (2010). *Waterfront d'Italia. Piani Politiche Progetti*, Franco Angeli, Milano

<http://pianostrategico.cittametropolitana.ba.it/>

Recommendation of the European Parliament and of the Council of 30 May 2002 concerning the implementation of Integrated Coastal Zone Management in Europe, *Official Journal of the European Communities* 6.6.2002

*Gjergj Thomai, Iva Mezezi*

## Introduction

The development of the Albanian cities in 1945-1990 was related to the political, social and economic regime of the time. The construction and planning of cities were closely linked to these factors:

- (i) Development of productive forces;
- (ii) The social system;
- (iii) Degree of development of culture and construction techniques;
- (iv) Geographical factors.

According to this opinion, the regulatory plans were drafted on which all the developments of cities and residential areas were based.

Regulatory plans were drawn up for: (i) Reconstruction of existing cities, with the main purpose of adapting them to the new demands imposed by socialist society; (ii) Construction of new cities, which came as a necessity for the development of light and heavy industries of that time, such as food, mining, processing, chemical, etc; (iii) Regulation and construction of villages as a result of new concepts on agriculture and its forms of production.

The form and requirements of regulatory plans depended on the size of cities, classified according to the number of inhabitants. According to this classification, the cities were from 2000 inhabitants, up to 5000 inhabitants, 5000 -10 000 inhabitants, 20 000 inhabitants, up to 50 000 inhabitants, up to 100 000 inhabitants and only one city, Tirana, with over 100 000 inhabitants.

The Albanian cities of this period were developed based on regulatory plans that were designed for a period of 15-20 and specific urban studies developed by the relevant institutions. Regulatory plans were intended to solve the city's overall construction, architectural, hygienic and engineering problems. They determined the extent and the peripheral boundaries of the city, the streets and squares, and the stages of construction.

Many cities today still maintain the urban and development forms of regulatory plans of the time, which in most cases came directly from their industrial development. Seen from this point of view, Gramsh is a typical case of

new cities being built and developed as a result of the development of industry and productive forces, where the main element was not the proximity to raw materials or agricultural products, but geographical factors and the strategic location, which created the possibility of establishing specific types of industries of a strategic nature for time and regime.

## General description of Gramsh

The geographical position of Gramsh on the intersection of some of the roads coming from Elbasan, Berat, Tomorrica and Korca through the valleys influenced the importance of this centre, especially in the administrative plan. The period 1945-1950 served as the beginning for the construction of the city, and even of its perspective, with the emergence and development of the functions of commerce, industry, construction, as well as population growth.

Gramsh was declared a city on February 18, 1960. From 1960 to 1970, the city assumes its physiognomy from the economic, cultural, social and urban point of view. The population of the city reached 4,000 inhabitants.

During the 1970s-1980s, enterprises such as Collection - Processing, Mechanical Plant were opened, which consisted of the largest number of employees and the further expansion of the education and health sectors.

After drafting the 1965 regulatory plan, the residential area was organised into residential blocks. The city of Gramsh best reflects the example of a residential block designed from scratch without the presence of any previous building.

The industry began to acquire its physiognomy after the 1960s. It was located far from the city as it was primarily a gun manufacturing industry and was considered "secret". In 1987 a new city regulatory plan was drafted, which provided the removal of industrial facilities from the city, its relocation and expansion to the south of the city, thereby creating new potentials for the development of industry and avoiding the negative impact of industrial activities residential areas near them.



## Planned development of Gramsh city in 1945 - 1990

One of the first documents of the development of Gramsh territory is the relief of the residential centre, designed in February 1961. The city in this period turns out to have about 70 buildings and seven buildings under construction. The material used for construction is mainly stone brick and, in some cases, adobe. The buildings, whose height varies from 1 to 2 floors, have mainly residential functions. In the central area of the city, there are administrative, educational and health facilities. Roads connecting different parts of the city have been adapted to the steep terrain on which the city lies.

### 1. Yellow City line

In January 1962, in order to protect the territories surrounding the residential centres, a plan was drawn up with the restrictive line of construction (yellow line) (Fig. 1).

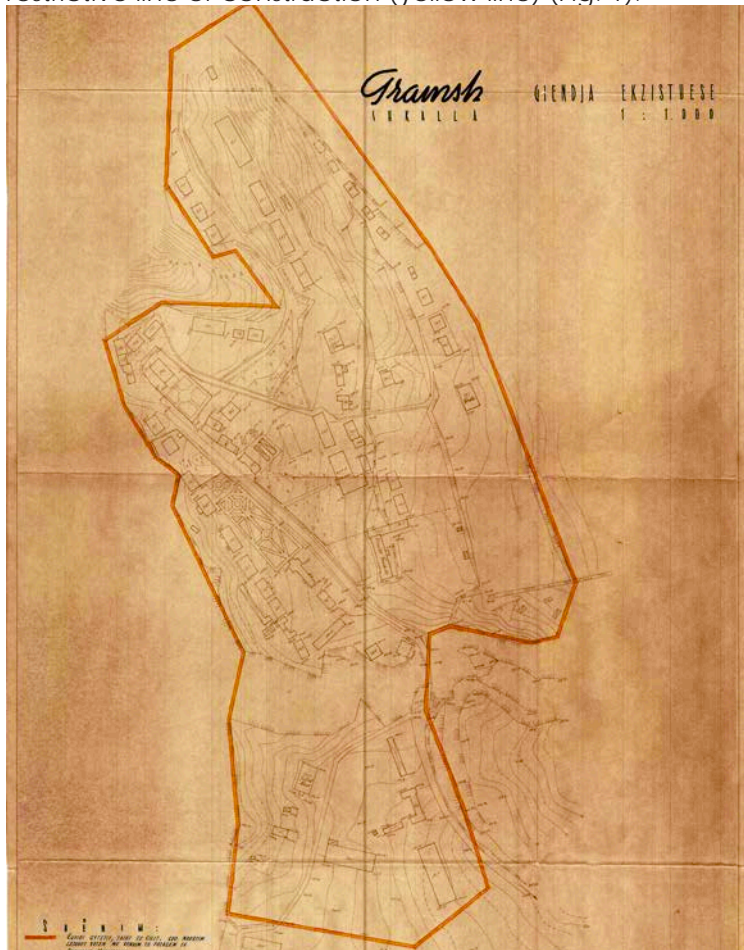


Figure 1. City yellow line, year 1962. Source: AQTN Archive.

This line defined the areas permitted for construction (within the line) and those not permitted for construction (of the line).

This line restricted all residential buildings and constructions in residential service, health centres, kindergarten, nurseries, schools, etc. Territories with economic functions were left outside the city boundary line.

In 1962 some of the urban planning studies were prepared by the Department of Urban Planning at the Ministry of Construction to determine the location of some new housing in Gramsh. According to this study, preserving existing buildings and building new dwellings in unfinished territories was foreseen. The apartments were proposed to be collective, with one, two or three sections and 3 stories high.

### 2. Regulatory plan of years 1961 - 1965

The drafting of the Regulatory Plan for the city of Gramsh has been working for a period of about five years, respectively 1961 - 1965 (Fig. 2).

This is the first Regulatory Plan for this city. The District Executive Committee commissioned the drafting of this plan. The process for its design has gone through two stages. The first phase, 1961 -1962, consists of analysing the existing situation and formulating proposals in two variants. Project idea worked by Arch. Anastas Hadzivanov and Arch. Rustem Myteveli did not receive final approval. For this reason, the drafting of the Regulatory Plan continued in 1964.

In the period 1964 - 1965, the existing state of the city was updated with the changes that occurred after 1961 and new project ideas were developed. The Regulatory Plan of the city was adopted in 1965. The regulatory plan is designed to precede the city's development for a period of 15 years. During this period, the city's population was projected to grow from 1468 to 3,000 inhabitants. Population density is projected to increase from 82.5 inhabitants/ha to 160 inhabitants/ha. Part of the Regulatory Plan is the regional scheme, designed at a scale of 1: 50000, which determines the city's positioning in relation to the regional territorial elements. This map shows the topographical, quoted relief of the area surrounding the city of Gramsh, the positioning of the city, the Devoll River, which borders the city to its West, the national road connecting the city with other cities and regions of the country and the centres of the city and rural residential centres near the city.

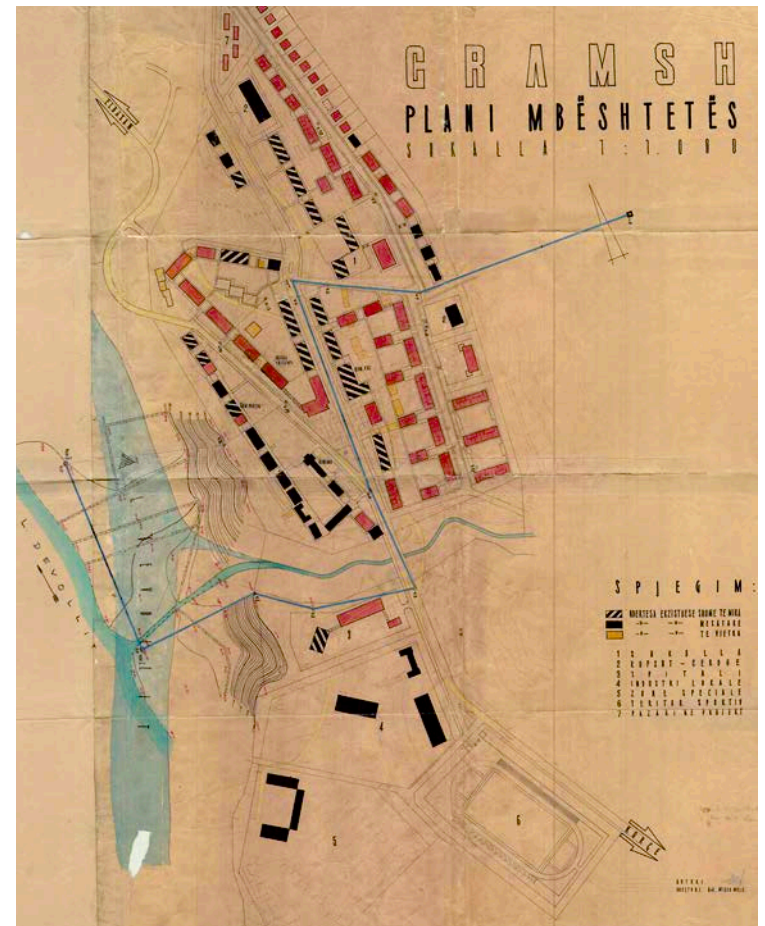


**Figure 2.** Regulatory Plan, years 1961-1965. Source: AQTN Archive.

A backup (supporting) plan was developed to reflect and analyse the existing state of city construction, and this would serve as a basis for proposing intervention in existing territories (Fig. 3).

The plan report explains in detail the existing state of the city and the proposals put forward for the city's development prospects. The plan report contains general information about the city such as climate, geology, hydrogeology, physical-geological processes, population, economic basis, as well as relevant explanations regarding prospective development proposals such as project-idea in two variants, network scheme road, distribution and type of services, green and engineering infrastructure, territory balance etc. The balance of the city's territory was defined as Residential Buildings (5.31 ha), Public Utility Facilities (3.61 ha), Green area for Public use (3 ha), Roads and Squares (2.41 ha), Industrial Territory (4.44 ha), with a total of 18.77 ha.

City development phases are another element of the Regulatory Plan projections. The first phase of construction is foreseen to the east of the Executive Committee building, where the terrain is accessible, suitable for construction and equipped with water, sewage and lighting networks. In connection with the road network scheme, the motorway from Elbasan to Gramsh is expected to divert, enabling a shorter route to enter the city centre, etc. The Regulatory Plan foresees a better connection of residential blocks with the city centre, which is foreseen where the Executive Committee is and other areas such as the hospital, warehouses, sports fields, etc. Based on current and prospective needs, building new social and administrative facilities was foreseen. Existing green in the Regulatory Plan is fully preserved. New green areas are foreseen in the west area of the new road coming from Elbasan towards the centre and east of it. According to the statistics of the 5-year plan for the city of Gramsh, no industry is foreseen.



**Figure 3.** Supporting Plan. Source: AQTN Archive.

The criteria for determining the city's outlook in perspective are the preservation of the farming land and the maximum utilisation of the existing free spaces in the city. As the prospective population of 3,000 was considered unrealistic, the plan was suggested to be revised with reference to the prospective population of 6,000.

### 3. City yellow line (August 1976)

In August 1976, a map with the yellow line of the city was prepared. In addition, are also presented roadmap proposals, buildings in the near and far perspective, economic zones, socio-cultural facilities, etc. Unlike the 1961 yellow line, economic zones have already been introduced within the city's yellow line. This plan also shows the phases of occupation of territories from buildings that are foreseen to be built in the city in perspective.

### 4. Regulatory plan of the year 1987

The plan was drawn up by the Arch. Rajmonda Daja and Arch. Engjellushe Demi. The responsible institution was the Institute of Studies and Designs no. 1.

In cooperation with other local and central institutions, the District Executive Committee compiled a report with data about the city to draft the task of designing the regulatory plan. It was developed based on the Regulatory Plan adopted in 1965. As a result of city development beyond projections, the Regulatory Plan did not respond to construction requirements. Many social and economic facilities were located outside the restrictive line and boundaries of the Regulatory Plan. Four factories were foreseen for the next five years in relation to the industrial zone only for the Light Industry and Food industry.

Remarks were made about the number of inhabitants, but given the fact that Gramsh was a new city, in the above formation, it was anticipated additional population, it was accepted that the prediction of the number of inhabitants would remain around 12 thousand.

The residential area consists of 1,000 apartments, with the dominant part being 3-4 storey residential buildings. In recent years mainly high-rise buildings have been built. The percentage of one-story dwellings in relation to the total number was negligible. With all its constituent elements, the residential zone had an area of about 25 ha (Fig. 4).

In 1981 it was planned to build a new Stadium, Executive Committee buildings, Pioneer House, library, Ethnographic Museum, shooting range, 400-seat cinema, Hygiene Directorate, four 120-bed nurseries, two 180-bed gardens,

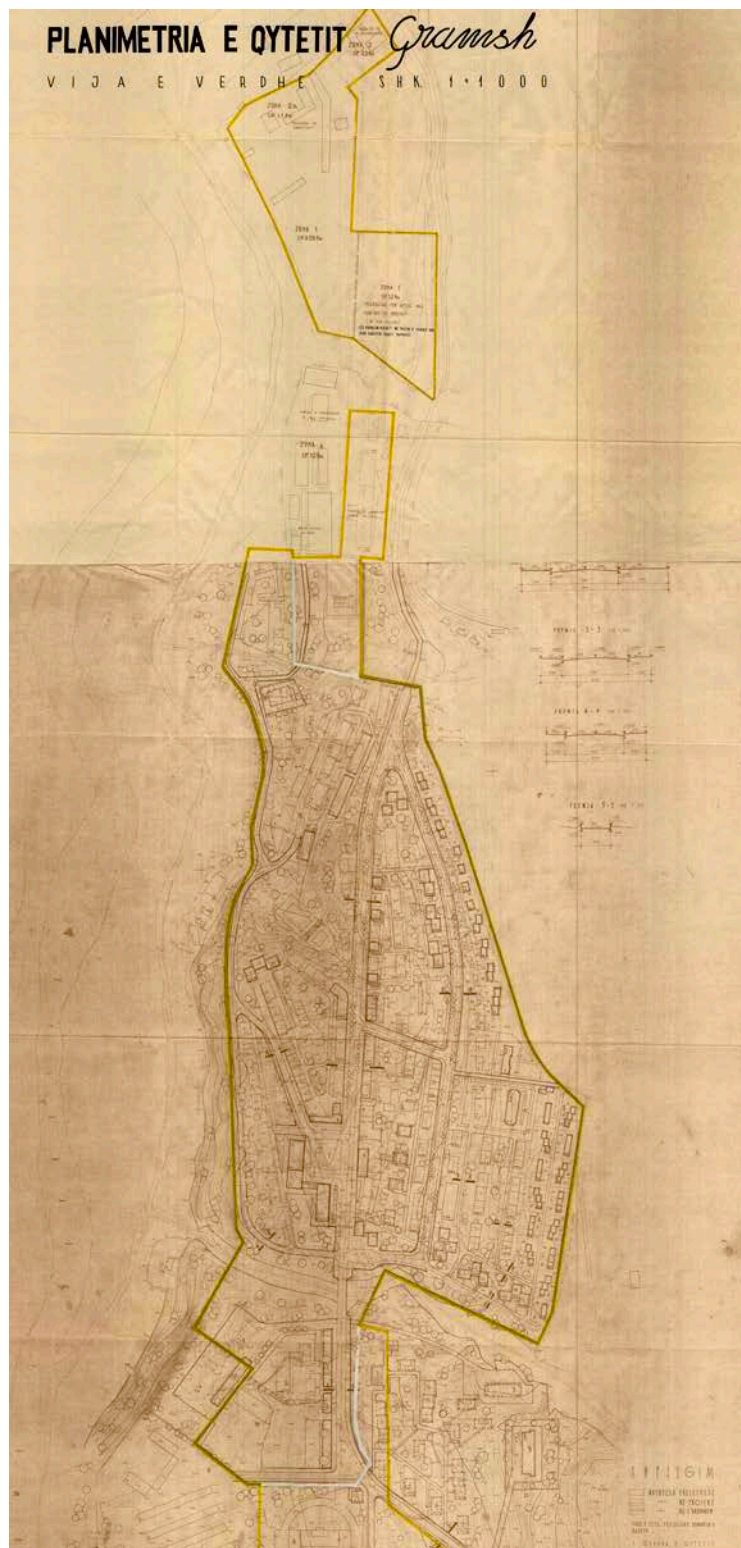


Figure 4. City yellow line, the year 1976. Source: AQTN Archive.



Figure 5. Photo of Gramsh city. Source: AQTN Archive.

30-beds Infectious Hospital, a swimming pool, courts, banks, etc. The municipal and commercial network will occupy a 0.30 ha construction area and on the ground floor of the flats, a total of about 35 premises.

The economic zone was developed on both sides of the residential area. For the prospective development of the economic zone, it was foreseen that agricultural enterprises would expand to the existing area 1 km south of the city. For the protection of the inhabitants of the city, were provided 60 shelters with 100 places, a flour factory, a bakery, three commercial premises, two utilities, a pharmacy, etc.

The city was heavily deficient in green and rest areas, roads and promenades. Children's playgrounds, a West Park holiday park and the Devoll River beach, were foreseen.

The city's main street from the central square to the exit was facing heavy traffic, so it was foreseen that in future, the movement of heavy vehicles would take another route, and the passenger station would change.

The Regulatory Plan of the City of Gramsh is drafted in two versions. Their main change was concerning the territorial extension of the city in perspective. In one of these versions, the city would extend to the existing city.

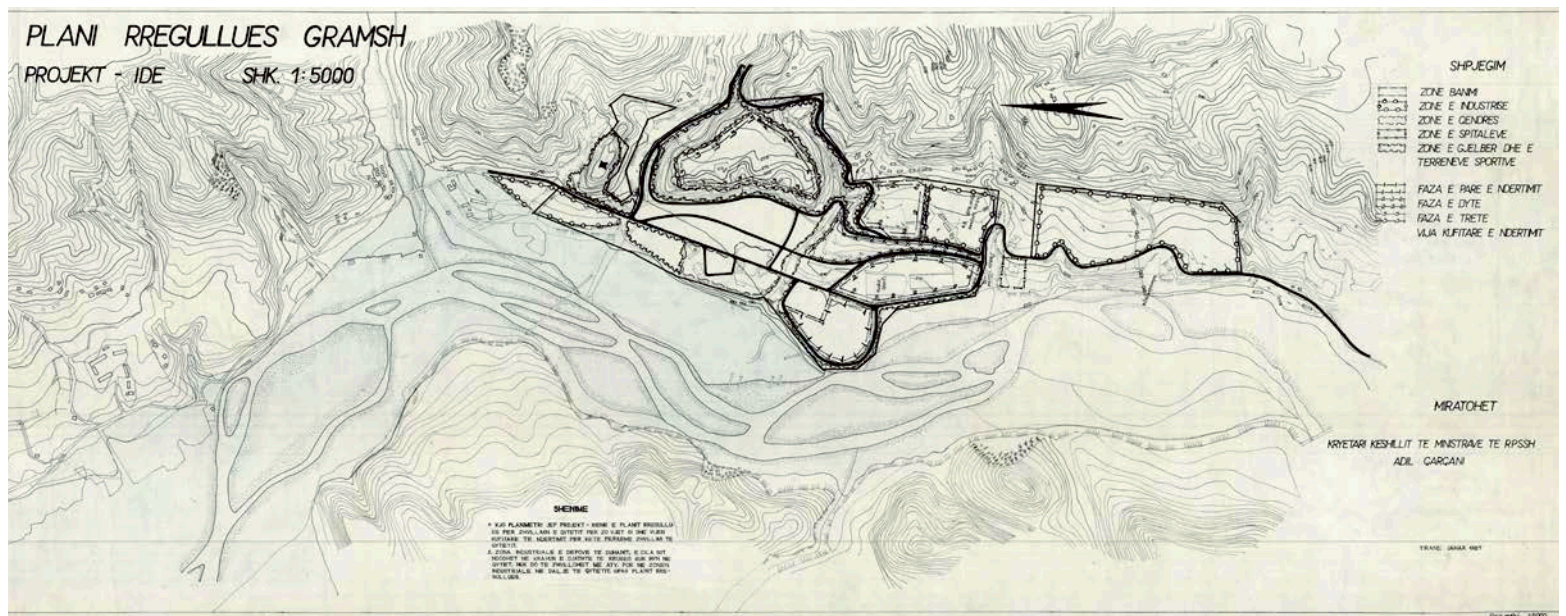


Figure 6. Regulatory plan, year 1987-Functional Scheme. Source: AQTN Archive.

The second version envisaged extending the city to the prospect to the West of the existing city and separating it from the reservoir that would be created to serve the water to Banja Hydro Power Plant (HPP). To connect two parts of the city would serve a bridge that would be built above the reservoir.

### **5. Regional and rural plans**

The smooth development of cities in Albania after 1960 marked an increase due to the development of the industrial economy, along with the agricultural and livestock farming that existed before. The growth of cities consisted of the growth of population, their territorial extension, and the increase in functional residential, industrial, and other functional areas. This development of cities, which turned them into important economic poles in the region, also influenced the increase of communication and interaction with the rural centres near them. The villages near the city provided a part of the new industry workforce in the cities, and the inhabitants continued to live in the village and work in the city. At the same time, the number of services provided by the townspeople increased. Population growth in cities increased demand for agricultural and livestock products, which turned the city into a larger consumer of products provided by the countryside. Under these conditions, the city and its surrounding villages were not generally independent structures but mutually influenced their economic and social functioning and development.

At this stage of urban and rural development centres, it was considered necessary to develop regional studies, which consisted of drafting the city's regulatory plan, together with the regulatory plans of the villages in its vicinity. Such a regional plan was applied for the first time to the study of the town of Gramsh and its villages.

The format and structure of the regulatory plans were the same for both the city and the village. In addition to drafting regulatory plans for each urban and rural structure within the framework of regional studies, improvement of physical connection and communication between them was foreseen. We find this new methodology and practice reflected in the drafting of the Regulatory Plan of the city of Gramsh, as well as of the villages near it.

### **Conclusions**

The preservation of historic urban landscapes is a very important topic in the reflections of urban developers. The

dialogue between the past, the present and what will come, will be a new dimension for future development of the cities. This helps us understand at what stage of development is Gramsh Municipality.

Gramsh is a typical case of new cities rising and developing as a result of the development of industry and productive forces, where the main element was not the proximity to raw materials or agricultural products, but the geographical factors and strategic location, which created the possibility of establishing certain types of industries of a strategic nature for time and regime.

History shows that the structure of many cities has started in a monocentric way and gradually the activities that generate travel towards them are spread and create groups outside the traditional centre. This is a way how we can understand and recycle the urban form that is already spread.

The design of regional studies, which consisted of the drafting of the town regulatory plan, together with the town planning regulations in its vicinity, was applied for the first time to the study of the town of Gramsh and nearby villages.

### **References**

- A.Q.T.N. - Urban Planning Archive Fund (technical reports and documents) and photos from Photo - Archive;
- Thomai Gj, Struga F, Manehasa K, Tallushi N. (2019) - Gramsh-Urban Development 1945-1990;
- Dhamo S, Thomai Gj, Aliaj B. (2016) – Tirana-The Missing City;
- Nepravishta F. - The Impact of Socialist Realism in the Albanian Architecture in 1945 – 1990;
- Faja E, Alimehmeti F. (1983) - City Planning 1, University of Tirana, Faculty of Engineering, Printing of Dispensaries;
- Faja E. - Urban Planning Techniques and Composition, UFO Press;
- Parangoni I. - Industrial Archeology, Albanian Heritage Foundation

**Introduction**

Can we apply the principles of urban regeneration in connection with public space in order to improve urban areas quality of life? It is important to clarify the definition of urban regeneration regarding the urban and public spaces highlighting the major elements of which urban regeneration is strongly connected with the definition of public space. The first part of this paper analyses the urban regeneration process, its elements and qualities of urban (public) space. Later, it focuses on a selected literature review of positive and negative elements of public space, conceptualising the usage of public space as a tool to regenerate urban areas. Finally, the paper presents a case study undertaken in a well-known residential area in Tirana. The study uses a methodology based on analyses of the urban spaces of this area as public spaces and the major principles of the urban regeneration process, pointing out some interesting conclusions.

**Defining urban regeneration process**

The regeneration process is mostly considered as an aspect of the management and planning of existing urban areas rather than the planning and development of completely new urbanisation. Referring to Couch, Fraser and Percy, (2003), it is concerned with 'the regrowth of economic activity where it has been lost; the restoration of social functions where there has been dysfunction or social inclusion where there has been exclusion; and the restoration of environmental quality or ecological balance where it has been lost.

To this extent, Merriam-Webster (online, 2003) refer to urban regeneration, also called urban revitalisation, as the field of public policy that addresses such urban issues as economic decline, environmental decay, community dereliction, growing unemployment and some social problems caused by these urban issues. By considering the urban areas as vivid organisms and urban spaces as their crucial integrated parts, the regeneration process can be seen as 'the regrowth of lost or injured tissue,

or the restoration of a system to its initial state (Merriam-Webster online, 2003).

In other words, urban regeneration is a comprehensive and integrated vision and action which leads to the resolution of urban problems and which seeks to bring about a lasting improvement in the economic, physical, social and environmental of an area that has been subject to change" (Roberts & Sykes, 2000: 17).

Thus, in its essence, it must be considered as a process that examines the big picture, understanding the interconnections between pieces, with the main aim to make the pieces of the puzzle fit better together in order to improve the environment

**Urban regeneration and urban space**

The key to successful regeneration is to analyse, understand the potential of existing urban areas, and consider all aspects, which can be buildings, land and sites, urban spaces, open spaces and water, square, streets, parks, and transportation and environmental quality. All those elements are part of urban spaces, which on the other hand, is part of public spaces in a city (Carmona, et al.)

There are five major aspects of urban regeneration referring to the literature: economic regeneration and founding; physical and environmental renewal; social and community issues; employment, education; and housing. Each of these has a certain role in the regeneration of urban spaces, especially regarding Physical renewal. This is usually a necessary if not sufficient condition for successful regeneration, and in some circumstances, it may be the main engine of regeneration.

The process of urban regeneration comes from strong economic, environmental and social analyses of existing urban areas, which leads to new neighbourhood strategies, training and education, economic development, environmental and physical improvements of urban spaces. In almost all cases, the urban space is an important visible sign of commitment to changes and improvements.

## Conceptualising urban space as public space

As Urban spaces refer to an exact location in a city, whereas it is functional or not, Public space relates to all those parts of the built and natural environment, public and private, internal and external, urban and rural, where the public has free, although not necessarily unrestricted, access. It encompasses all the streets, squares and other rights of way, whether predominantly in residential, commercial or community/civic uses; the open spaces and parks; the open countryside; the 'public/private spaces both internal and external where public access is welcomed (Carmona et al., 2003, 141).

Public spaces are an important asset to our cities. They provide people with many opportunities to come together and engage with the community. If public spaces are successful, they are inclusive of the diversity of groups present in our cities and create a social space for everyone in the society to participate in.

Empirical evidence now strongly suggests that public spaces have a huge effect in many aspects: economically (because it can have a positive impact on property prices); human health; socially (provides a venue for social events and supporting social life); environmentally (which can encourage sustainable development).

## The usage of public space as a to regenerate urban spaces

There are some question to be answered regarding urban spaces regeneration:

- How can we use public spaces to regenerate urban spaces?
- Which are the elements that effect on turning negative public spaces or urban spaces to positive public spaces?
- What makes a good place?

Numerous physical prescriptions have also been established for what makes a good space.

William Whyte (1980), for example, concluded his observations of public squares in New York with the following requirements, that: public spaces should be in a good location (preferably on a busy route and both physically and visually accessible); streets should be part of the 'social' space (cutting off a space from the street with railings or walls will isolate it and reduce its use); the space should be level or almost level with the pavement (spaces raised significantly above or below the pavement were less used); there should be places to sit – both integral (e.g., steps, low walls, etc.) and explicit (e.g., benches, seats, etc.); moveable seats facilitated choice and the opportunity to communicate character and personality.

Whereas, Carmona, et. al., (2003, 2008) through conceptualising of public space and its management, provides a concept of twelve qualities of the public space, which affect its performance. This chart of qualities is be used as a guiding framework of analyses, attempting to create a theoretical evaluation structure based on empirical observation by using them to evaluate the performance of urban spaces as public spaces.

Every urban space considering as public space, in order to be a positive public space should have those qualities. Each one of those qualities has his own effect in the quality of public space, in which by combing them all together gives us a clear view of the quality of public space.

Despite this, focusing on the qualities singled out in the focus groups as either more or less important, with other qualities sitting somewhere in between, a hierarchy of qualities can be constructed in which the most important factor for a positive public space seems to be safe and secure, and last important to be functional.

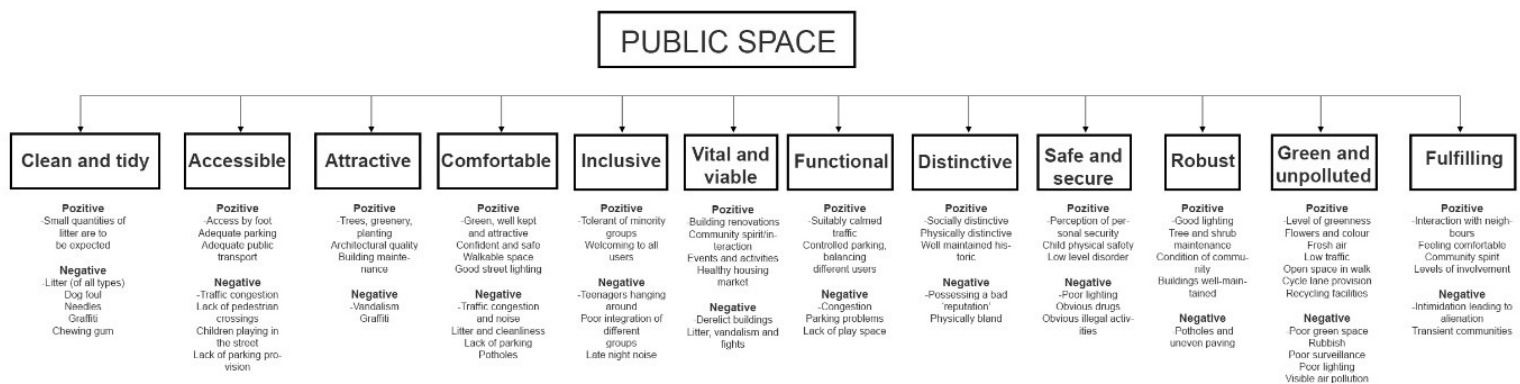


Figure 1. Categorisation of public space qualities. Source: Authors.

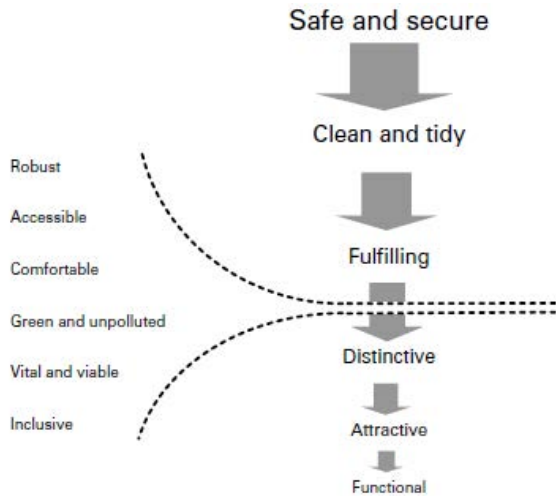


Figure 2. A hierarchy of universal positive qualities for public space. Source: Carmona.

### Case Study

The study is conducted in one of the remaining residential blocks "1 Maj" constructed in the early 50s with an area 15 ha. Over the years, this urban area has changed his morphological and functional use but has not lost its original shape. Furthermore, all these changes in urban space have affected the quality of public space which in many cases, both positive and negative, is directly related to the changes that have occurred over the years. Today we have a variety of public spaces that do not depend on one another but on the constituent elements of a public space.

### The Methodology And Findings

Based on the theoretical approach above, this paper considers the urban space in small public spaces, in which every space has its positive and negative qualities related to twelve qualities. It is important also to find a connection between the qualities of public space with the management of public space, function, who use those spaces, and the physical condition of public space and to realise the problem and why it is caused. The methodology follows these steps: The first part of the study consists of identifying the type of public spaces based on a specific analysis.

The second part of the study consists in dividing the urban space into small areas of public spaces that have a similar physical configuration based on the following criteria: 1. Paths (channels along which the observer customarily, occasionally, or potentially moves).



Figure 3. Location plan of the study area. Source: Google map.

2. Visual Focus (when the observer changes direction).
  3. Morphological shape of the urban space.
  4. Perceptual distance (surveying, hearing of the space).
  5. Function of the space. As a result of this study methodology, the street is divided into 63 study areas (Fig. 4)
- The third part consists of collecting data through a direct visual survey. Observations are made for a period of three months for all 63 spaces.

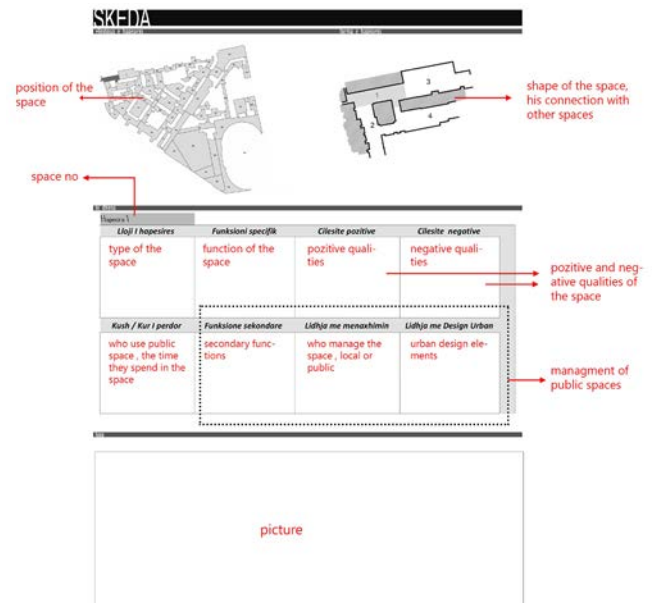


Figure 4. Example of informative schedule for each space. Source: Authors.



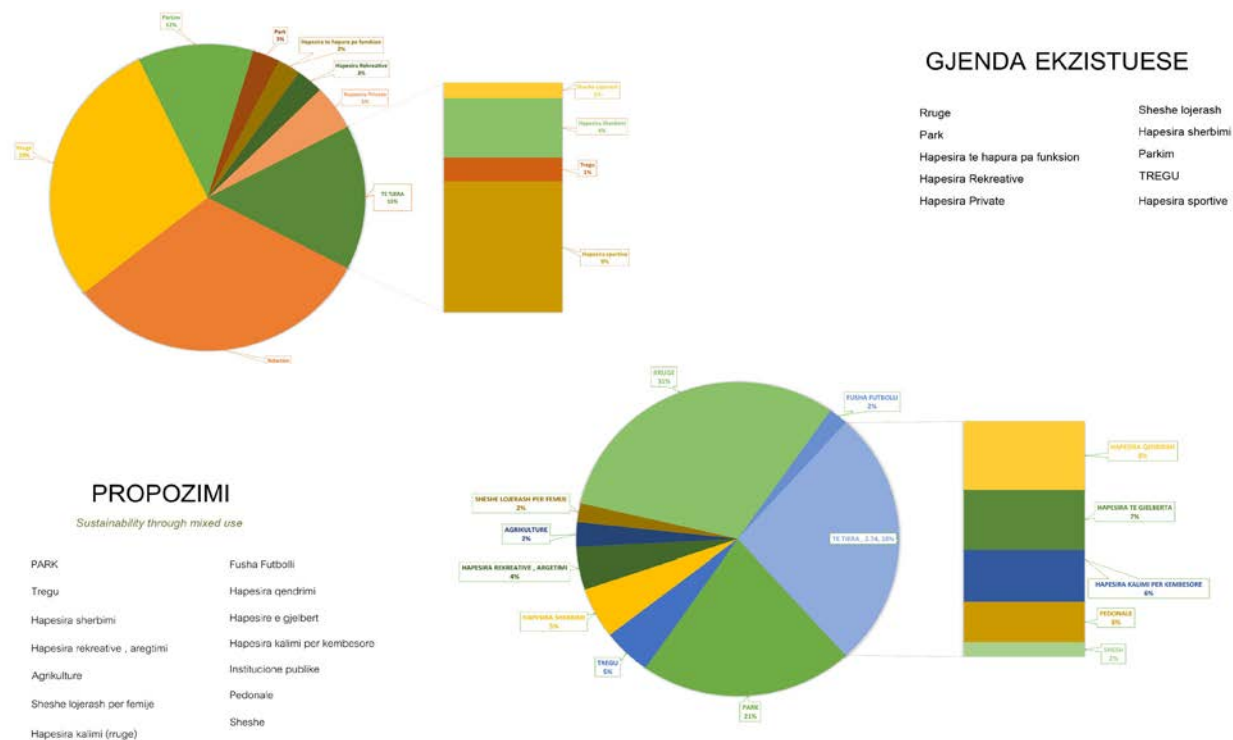


Figure 5. The final result of the study. Source: Authors.

## Conclusions

According to the study, after we analysed all the information, we categorised them into three different types: Positive spaces, neutral spaces and negative spaces. As we can see in the map, more than 37 spaces are considered to be negative, 9 neutral, and the other 17 spaces positive. We come up with the conclusion that which are the main reason for the negative spaces in the residential area:

- The performance of the public space, positive or negative, depending on the number of respective qualities and but their qualities do not affect other spaces.
- Best spaces with a strong connection of the local users are very sociable and have a variety of functions in the space, and the most interesting part is that they have a very clear urban morphology.
- Almost all good spaces have a very clear connection between parking and green areas, whereas parking is a problem, green spaces do not exist.
- Urban infrastructure is also very important, but in 98% of the cases, it was in a very bad condition, which affects the function of the space, for example, at night because of the lights, which makes the space unsafe to stay.

## Recommendations

Although the model is based only on empirical surveys taken by a limited number of data and in a relatively short time, it can be used as a method to analyse public space, to understand better the causes of the problem and to evaluate a general idea of how to transform those public spaces in order to be positive. Our concept for the regeneration of those urban spaces is sustainability through mixed-use, creating pedestrian paths inside the block, connecting with each other, and creating more variation of function by including the community and spaces for all ages to participate in.

## References

- Carmona, M., T. Heath, T. Oc, and S. Tiesdell, (2003). *Public Places, Urban Spaces: The Dimensions of Urban Design*, Oxford, Architectural Press.
- Carmona, M. de Magalhaes, C. Hammond, L. (2008). *Public space The management dimension*, London, Routledge
- Roberts, P and Sykes, H., (2000). *Urban Regeneration a Handbook*.
- Gehl, J., (2011). *Life between buildings*.

*Santiago Orbea*

## Introduction

As UNESCO continued to integrate historical centres to the official property list since the first declaration in 1978, the concepts behind the protection and development of these sites have been in a continuous process of change. In general, the idea that the property is an object that needs to be preserved solely by its physical characteristics has been challenged gradually on each charter published by UNESCO. The latest introduction of the recommendations for the Historic Urban Landscape demonstrates a clear intention to consider additional concepts related to an equal consideration to natural and intangible heritage (UNESCO, 2011). Most recently, the UN Sustainable Development Goals established a priority for Goal 11: “Make cities inclusive, safe, resilient and sustainable”, with a specific objective (11.4) to “Strengthen efforts to protect and safeguard the world’s cultural and natural heritage” (UN HABITAT, 2018).

The accumulation of these evolving concepts has been tackled in different ways by each historic centre, but with a general difficulty to rapidly adjust the management tools at a national and local level. In addition to this, the increase of the world’s population living in urban areas and the lack of effective policies to facilitate sustainable use of heritage assets will continue to generate pressures to the detriment of adequate conservation of these areas (Oers, 2007). It seems necessary at this point to look back and propose a revision of the over 130 historical centres that are currently inscribed as properties within the World Heritage List (UNESCO, 2019). Even though the parameters for the inclusion of new properties remains the same for all cities, the results have been extremely diverse and merit a methodological approach to discover common limitations and emerging development tools.

This research began as a series of exercises part of this author’s urban design studios to construct an Atlas for Historic Centres around the world at the Pontifical Catholic University of Ecuador. The cumulative evidence demonstrated the need to integrate the findings and evaluate the relationships between them.

Thus, this paper compares a sample of 21 of these Historic Centres to extrapolate relevant conclusions for their conservation through sustainable urban development.

The first part synthesises the evolution from the concept of the preservation of the object (property) towards the need to incorporate a much broader understanding of conservation with the Historic Urban Landscape Approach and the Sustainable Development Goal (11.4). In contrast, a revision of the most recent “Operational Guidelines” from UNESCO is presented to explain the general requirements for the “protection and management” of the inscribed properties (historical centres).

The second part evaluates the results from comparative research of 21 Historic Centres around the world. General indicators have been chosen to explore the similarities and differences, including population (general and density), extension (city, property, and buffer zone), and the city gross domestic product. This is followed by a morphological comparison based on each property boundary with its corresponding buffer zone to establish if there is a general logic to applying these boundaries as a conservation tool. Then, a size comparison is employed by depicting each city on the same scale in one graphic, demonstrating the diverse array of extents to be managed and protected.

The third part correlates the findings with each city’s state of conservation, as evaluated in the most recent reports from ICOMOS. For the purpose of this research, the results from these reports have been quantified to determine a “state of conservation ranking” for the 21 chosen historical centres, which was then compared to each city’s GDP per capita.

Institutional efforts to create gatherings, committees, conferences, and other instances have been widely celebrated due to the difficulty of managing these properties. As historic centres continue to be inscribed in the World Heritage List, this research intends to begin a broader debate on a more holistic view towards conservation that should stem from a systemic comparison, beginning with the first 21 examples and onwards.

## The concept of the object versus the historic urban landscape

The conservation practise has been characterised by a continuous evolutionary process that was arguably popularised in the late 18th century by the contrasting arguments from Viollet le Duc –restoration as a means to finish and renew the building as it should have been in all its glory –and John Ruskin –the impossibility to restore anything that has ever been great or beautiful in architecture. Camillo Boito would then reconcile these opposing views by introducing a code to approach restoration as a practice, considering the minimum intervention on the building as the guiding principle; his ideas would influence the conservation school in Italy, deriving eventually in the Athens Charter in 1931. Up to this point, the debate was focused on the role of the architectural intervention on a pre-existing monument (i.e., object), which was accompanied by a set of technical mechanisms to approach this intervention. From then on, the notion of the surrounding environment was introduced and further explored through diverse studies, like the analysis of public squares by Camillo Sitte. Later, the Venice Charter in 1964 takes these principles and establishes the necessity of the conservation of the general environment in its intangible characteristics (i.e., the historic centre) as opposed to the singular building or monument. The first properties inscribed in UNESCO's World Heritage List in 1978, which included two historical centres (Quito and Krakow), followed these principles and were required to assign a geographical perimeter for the property and a surrounding buffer zone additional protection mechanism (UNESCO, 1978). The school of thought continued to evolve, but it was radically changed when UNESCO introduced the concept of the Historic Urban Landscape. A document was later published in 2012, explaining the results from the recommendation on the Historic Urban Landscape adopted on November 10th 2011: "The historic urban landscape approach moves beyond the preservation of the physical environment, and focuses on the entire human environment with all of its tangible and intangible qualities. It seeks to increase the sustainability of planning and design interventions by taking into account the existing built environment, intangible heritage, cultural diversity, socio-economic and environmental factors, along with local community values. (UNESCO, 2012)" Finally, the current urbanisation rates away from rural areas towards cities have forced the global community to generate agreements towards the dream of global sustainable development. The Sustainable Development

Goals for 2030 focus the attention on cities to make them more sustainable and resilient, and they also present the importance of safeguarding the cultural and natural heritage as part of that objective. Consequently, the New Urban Agenda, subscribed in Quito –the city part of the first World Heritage Declaration –presents the principles for the future of our cities and proposes possible mechanisms to reach the development goals.

Conventions, committees, and global agendas continue to attempt to adjust the rapid pace of urbanisation, yet the actual tools and mechanisms proven to secure sustainable development are currently in high demand. In particular, cities with historic centres struggle to balance their own process of urbanisation with sustainable development while at the same time managing the conservation of their historic centres. Furthermore, even though the school of thought towards conservation has changed dramatically, the most widely applied tool to preserve all historic centres continues to be the property and buffer zone boundaries. The most recent Operational Guidelines by UNESCO presents in the "Protection and management" requirements: (1) legislative, regulatory and contractual measures for protection, (2) boundaries for effective protection, (3) buffer zones, (4) management systems, and (5) sustainable use. Of these, components 2 and 3 present the most basic tool for conservation, with broad determinations: "The delineation of boundaries is an essential requirement in the establishment of effective protection of nominated properties. Boundaries should be drawn to incorporate all the attributes that convey the Outstanding Universal Value and to ensure the integrity and/or authenticity of the property" (UNESCO, 2017: p.29), and for the buffer zones: "For the purposes of effective protection of the nominated property, a buffer zone is an area surrounding the nominated property which has complementary legal and/or customary restrictions placed on its use and development to give an added layer of protection to the property" (UNESCO, 2017: p.30). Additional information is presented on the Operational Guidelines, yet this tool's origin continues to assert the concept of the object in contraposition with the forward-thinking that the Historic Urban Landscape approach presents. The following sections analyse a sample of these cities and their application of property boundaries and buffer zones to understand the differences and similarities between them to evaluate the tool's effectiveness. This aims to correlate the findings with the state of conservation of each historical centre and to elucidate additional potential mechanisms for the sustainable development of the historical centres.

## Comparison between 21 historic centres within The UNESCO World Heritage list

Over 50 historic centres have been mapped as a series of exercises part of this author's urban design studios to construct an Atlas for Historic Centres around the world at the Pontifical Catholic University of Ecuador. A simple comparison between the maps demonstrated disparities that merited a deeper and methodical analysis; therefore, 21 historic centres were selected based on the availability of information and their geographic location –in an attempt to have representation from most regions in the world. The cities are presented here, considering the gradual inclusion, in order of selection by UNESCO into the World Heritage List: Quito (Ecuador), Cairo (Egypt), Havana (Cuba), St. James of Compostella (Spain), Toledo (Spain), Mexico City (Mexico), Prague (Czech Republic), Vilnius (Lithuania), Luxembourg City (Luxembourg), Mompox (Colombia), Salzburg (Austria), Porto (Portugal), Riga

(Latvia), Cuenca (Ecuador), Verona (Italy), Baku (Azerbaijan), Bruges (Belgium), Paramaribo (Suriname), Valparaiso (Chile), Macau (China), Jeddah (Saudi Arabia). These cities are showcased on UNESCO's website with information regarding their conservation status and maps depicting the property and buffer zone limits (UNESCO, 2019).

The first component of the analysis compares basic data for each city: year of inscription in the World Heritage List, population density, city area, property area (historic centre), buffer zone area, and property to buffer proportion. The following figure shows a series of graphs comparing these components, where all cities have been organised based on the year of their inscription as World Heritage Sites. All cities display a wide array of diversity in terms of population and area, even though the same conditions established by UNESCO rules them. Table 1 summarises the contents of the initial data comparison by displaying the top and bottom five cities in each category.

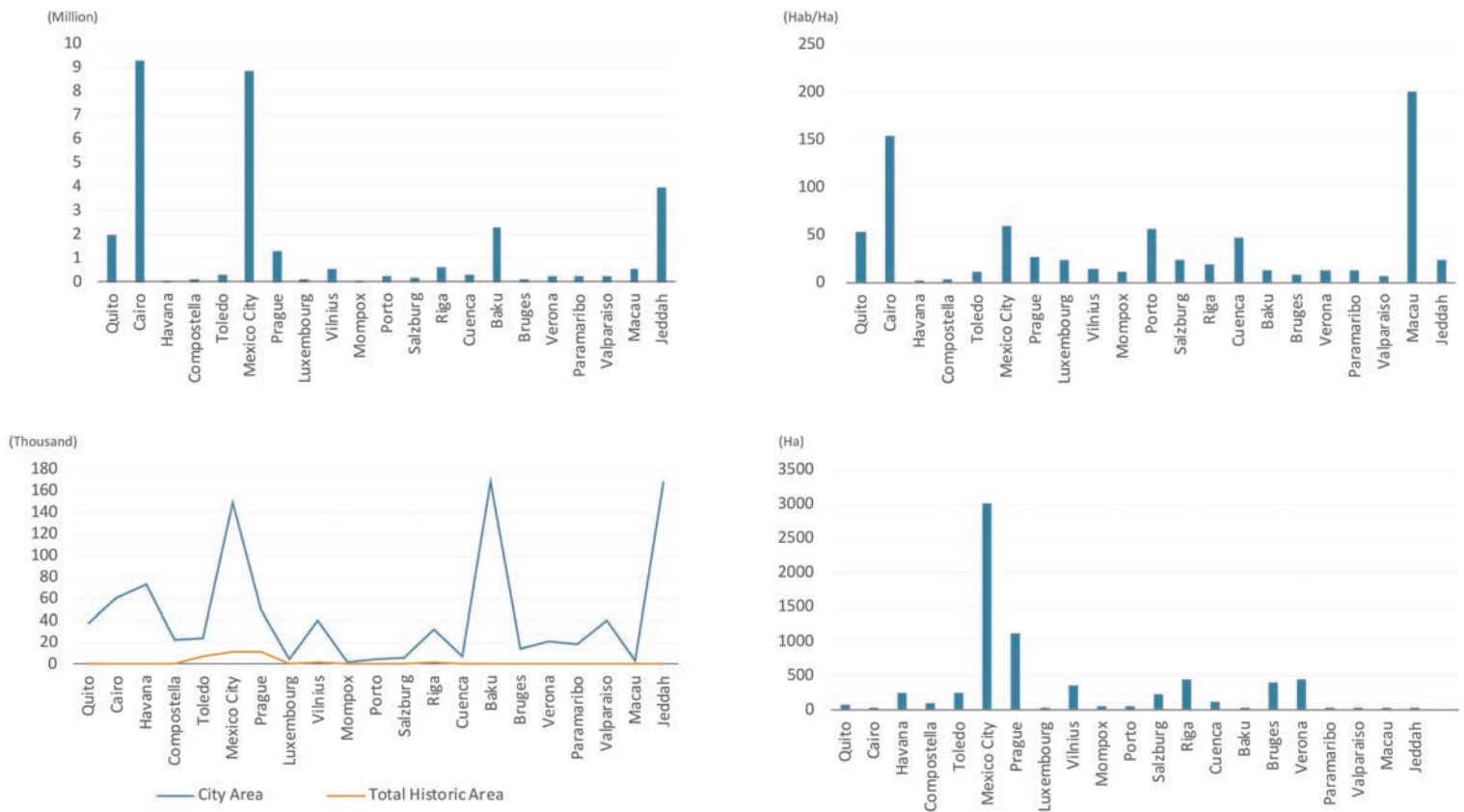


Figure 1. Basic indicators comparison. City Population (top left); City density (top right); Total historic area (bottom left); City area versus total historic area (bottom right). Source: Santiago Orbea, Dominik Prado, Carolina Vázquez.

Table 1. Table title

Comparison	City population	Population density	City area	Historic centre area	Buffer zones	Total historic area
Top 5 Cities	Cairo	Macau	Jeddah	Mexico City	Prague	Mexico City
	Mexico City	Cairo	Mexico City	Prague	Mexico City	Prague
	Jeddah	Mexico City	Havana	Verona	Toledo	Toledo
	Baku	Porto	Cairo	Riga	Vilnius	Vilnius
	Quito	Quito	Prague	Bruges	Riga	Riga
Bottom 5 Cities	Mompox	Havana	Baku	Macau	Baku	Baku
	Havana	Compostella	Mompox	Jeddah	Valparaiso	Valparaiso
	Compostella	Valparaiso	Macau	Baku	Paramaribo	Paramaribo
	Bruges	Bruges	Porto	Valparaiso	Macau	Macau
	Luxembourg	Mompox	Luxembourg	Cairo	Luxembourg	Jeddah

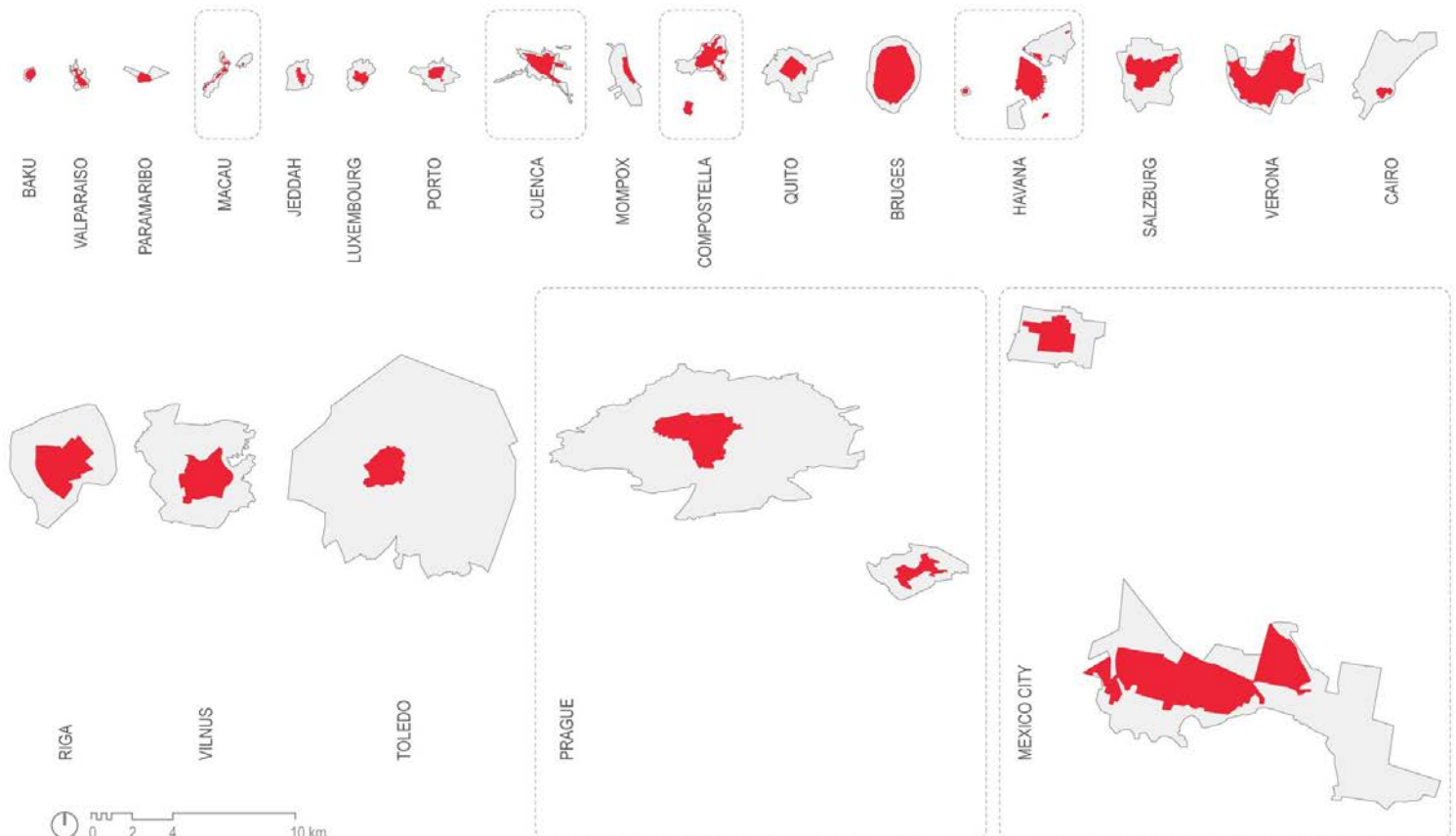
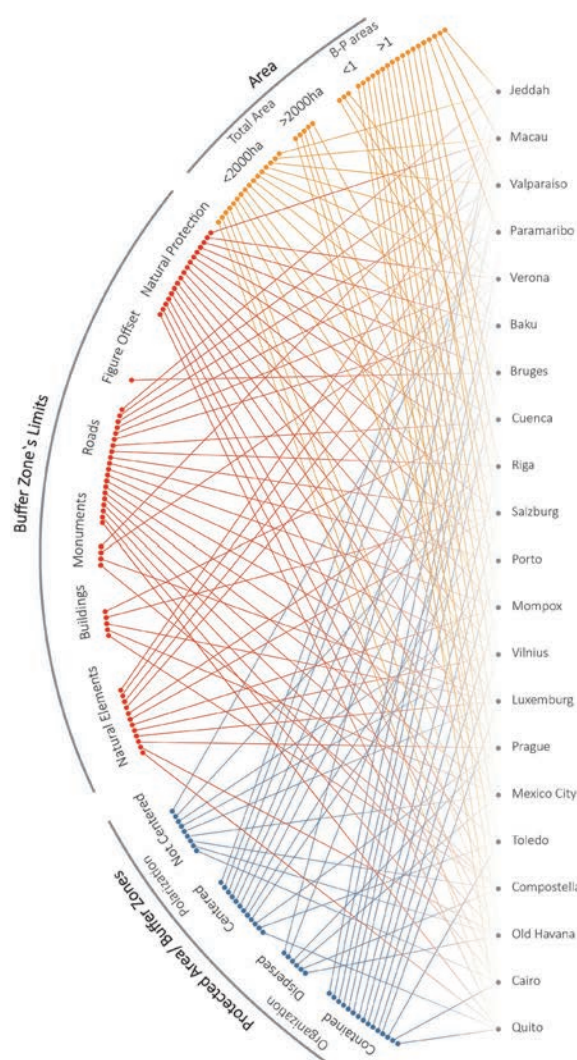


Figure 2. Historic Centres scale comparison.  
Source: Santiago Orbea, Dominik Prado, Carolina Vázquez.

**Table 2.** Historic cities morphological pairings

Quito - Salzburg				
	Luxembourg - Mompox	Luxembourg - Salzburg	Riga - Vilnius	Verona- Baku
Contained	Contained	Contained	Contained	Contained
Centred	Not Centred	Natural Elements	Not Centred	Centred
Natural Elements	Natural Elements	Buildings	Natural Elements	Natural Elements
Roads	Roads	Roads	Roads	Roads
Natural Protection	Natural Protection	Natural Protection	Natural Protection	Natural Protection
<2000ha	<2000ha	<2000ha	<2000ha	<2000ha
x>1	x>1	x>1	x>1	x<1

Mexico City is the city with the highest indicators in all regards, demonstrating a high complexity in its capacity to manage the largest historic centre of this study. In contrast, the city of Cairo appears as one of the largest and most densely populated, but with one of the smallest historic centre areas. In contrast, Baku appears to have a high general population but a small historical centre area. As a result, the city's interest in the historic centre could be diminished by the necessities of the general population. Similarly, Macau also has a small historical centre area, and even if the city extension is one of the smallest, it is the most densely populated of the study –and the world –thus, the attention to the historic centre could also be diminished. The opposite would be the case of Valparaiso, displaying a low population density and one of the smallest historic areas of the study. As mentioned before, the guiding principles for UNESCO's historic cities are the same for all nominations, yet a scale comparison between them demonstrates a wide array of dimensions among them. The methodology employed for this comparison consisted in analysing the official Designated Property maps sent to UNESCO –and published on their website. These maps contain the boundary for the property and the surrounding buffer zone, with different morphological results –analysed in the next section. Figure 2 shows the historic centres in order from the smallest (Baku) to the largest (Mexico City), considering the extension of both the property and the buffer zone. The rectangles surrounding six cities (Macau, Cuenca, Compostella, Havana, Prague and Mexico City) serve to highlight how sometimes the boundaries are dispersed due to geographical limitations or the relevance of additional heritage sites to be preserved. What is evident is that there is no definite spatial pattern to assign a perimeter to the site; each property is unique and has been interpreted to be preserved in different ways. Beyond a scale comparison, a morphological one is also



**Figure 3.** Historic Centres morphological comparison.  
Source: Santiago Orbea, Dominik Prado, Carolina Vázquez.

pertinent to determine relationships between cities in terms of addressing the definition of the property boundary and the buffer zones. This study determined the following categories for a morphological comparison: organisation (contained or dispersed), polarisation (centred or not centred), origin (land or water), buffer conditioning (natural elements, buildings, monuments, roads, geometrical offset), environment (existence of natural areas), total area (over or under the average of 2000 hectares) and the buffer to property areas (over and under a one to one relationship). The results of the comparison are shown in figure 3. The categories are listed to the left, and the historical centres are displayed on the right in order of their official inscription in the World Heritage List –Jeddah being the most recent one. As a result, the perimeter organisation is mostly contained and centred, but with a lot of exceptions; the limits are defined mostly by either roads or natural elements; most areas contain natural elements; over 75% are larger than the average size, showing that some cities are many times larger, thus deviating the results; and, over 85% of the historic centres have buffer zones larger than the designated property area.

These results demonstrate that there are six pairings of cities that share over 7 similar qualities (Table 2). Since the rules to delineate the property and buffer zone boundaries are vague, the objective of pairing cities with similar characteristics is to determine if there could be a direct relationship between the results of the morphological analysis with the state of conservation of each city.

### State of conservation versus economic capacity

The last component to complement the spatial comparison between the cities is related to the city's economic capacity to manage the site. There is limited data of actual expenditure on each historic centre, but it is possible to compare each city's Gross Domestic Product per capita (GDP per capita). Also, in order to establish a relationship between this indicator and the historic area, this study proposed to extract the percentage of the historic city's area in relation to the area of the city as a whole and use that as a factor of the city's GDP per capita. The result is not a definite indicator of expenditure towards the historic centre, but it does allow to demonstrate how the wealth of each city and the proportions of their historic site correlate to the current state of conservation. Furthermore, there is no measuring guide to determine the state of conservation; ICOMOS presents a report of each city periodically and structures it considers the following (2) categories:

authenticity and integrity. What this study did is assign values the resulting diagnosis on each category, where "0" means it reports considerable problems, "1" means that the state is satisfactory, but additional actions are necessary, and "2" means that the state of conservation is optimum. Figure 4 shows the relationship between the GDP per capita (adjusted to the historic centre) above and the current state of conservation below. Baku appears as the city with the lowest economic capacity and the lowest state of conservation, followed by Riga with slightly better conditions on both aspects. Mexico City and Prague are on the medium spectrum of conservation, although Prague does have the second-highest economic capacity. Interestingly, the better preserved historical centres are the ones with relatively low economic capacity. This could have several explanations that require further analysis, such as a higher economic capacity pushes for modern development close by or at the historic centres; the conservation of historic centres requires strong policies and political influence, despite the economic capacity; access to proper maintenance is related to particular know-hows that could have been lost on certain cities.

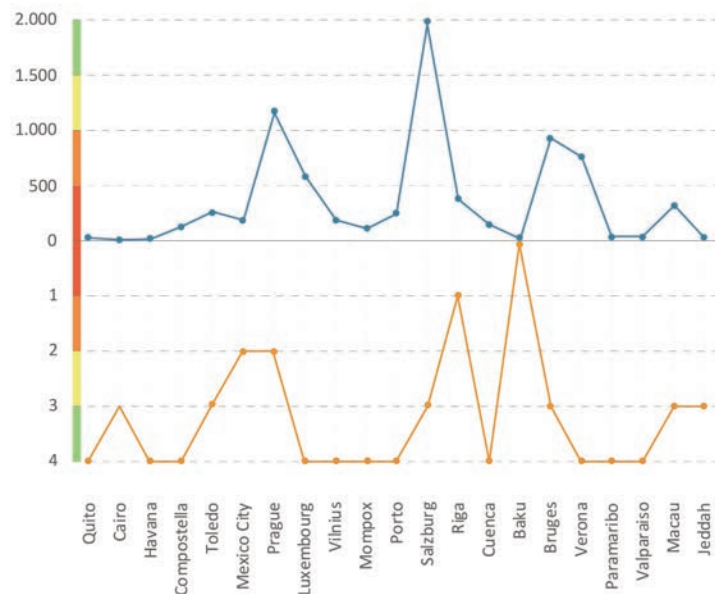


Figure 4. The historical centre area as a factor of the City GDP per capita versus the State of Conservation. Source: Santiago Orbea, Dominik Prado, Carolina Vázquez.

## Conclusions

UNESCO has taken important steps to expand the reach of historic centres as objects towards complex sites where human interaction, intangible values and the environment are considered. This intention needs to be accompanied by adjusted mechanisms to maintain these historical centres adequately. This research shows that there is currently a vast array of ways in which each city has interpreted its property and buffer zone limits. While some have been successful, others have encountered complications for adequate conservation.

In general, cities with high populations and high densities tend to succumb to the general pressures and neglect the state of the historic centre, like the cases of Mexico City and Baku. Meanwhile, cities with low population density have successfully maintained their historical centres, like Havana, Compostella, Valparaiso, and others. The total size of the historic centre (property and buffer zone) also appears as a limitation for conservation, where Mexico, Prague and Riga demonstrate low levels of conservation due to having the most significant historic centres in the study. Contrarily, the smallest the historical centre, the better it appears to be preserved, with the exception of Baku, which, as mentioned above, has other problems due to city density. In terms of morphology, similar cities like Riga-Vilnius and Verona-Baku show contrasting results in terms of conservation, demonstrating that the actual form that the boundaries take has no direct consequences towards better maintenance.

Interestingly, there are no general correlations between high economic capacity and better historic centre conservation in terms of adjusted GDP per capita. Baku would appear as an example of low adjusted GDP per capita and a low state of conservation. However, cities like Prague contradict that assumption –having a high economic capacity and struggling with conservation – and cities with low adjusted GDP per capita also appear as examples of conservation status.

These conclusions point out the need for some revisions in terms of better restricting the extension of the boundaries of the historical centre, or if not possible, incorporating additional aid mechanisms when cities have a complex site to manage. It is also evident that the current “Conservation Guidelines” do not include other tools to incorporate natural and intangible heritage as part of the mapping process. As technology continues to offer new possibilities, this research’s intention to create an Atlas of Historic Centres could become a real-time online mapping platform

to compare tools and strategies for conservation actively. This platform would contain information on property and buffer zone limits and points of relevant human interaction, natural elements, social housing interventions, zones of de-population, endangered areas, among others. Pursuing a Historic Urban Landscape requires this kind of revisions and innovations to help city officials and stakeholders be interested in these sites.

Finally, as we get closer to the 2030 deadline for the Sustainable Development Goals, with the 11.4 objectives in mind to “Strengthen efforts to protect and safeguard the world’s cultural and natural heritage,” a tool such as an Atlas of Historic Centres would be able to look beyond indicators of expenditure in historical centres. The balance between development and conservation is a daily struggle for historic cities, and thus the need to come together, share and test potential strategies is paramount if UNESCO wants these sites to be preserved beyond the era of technological advances.

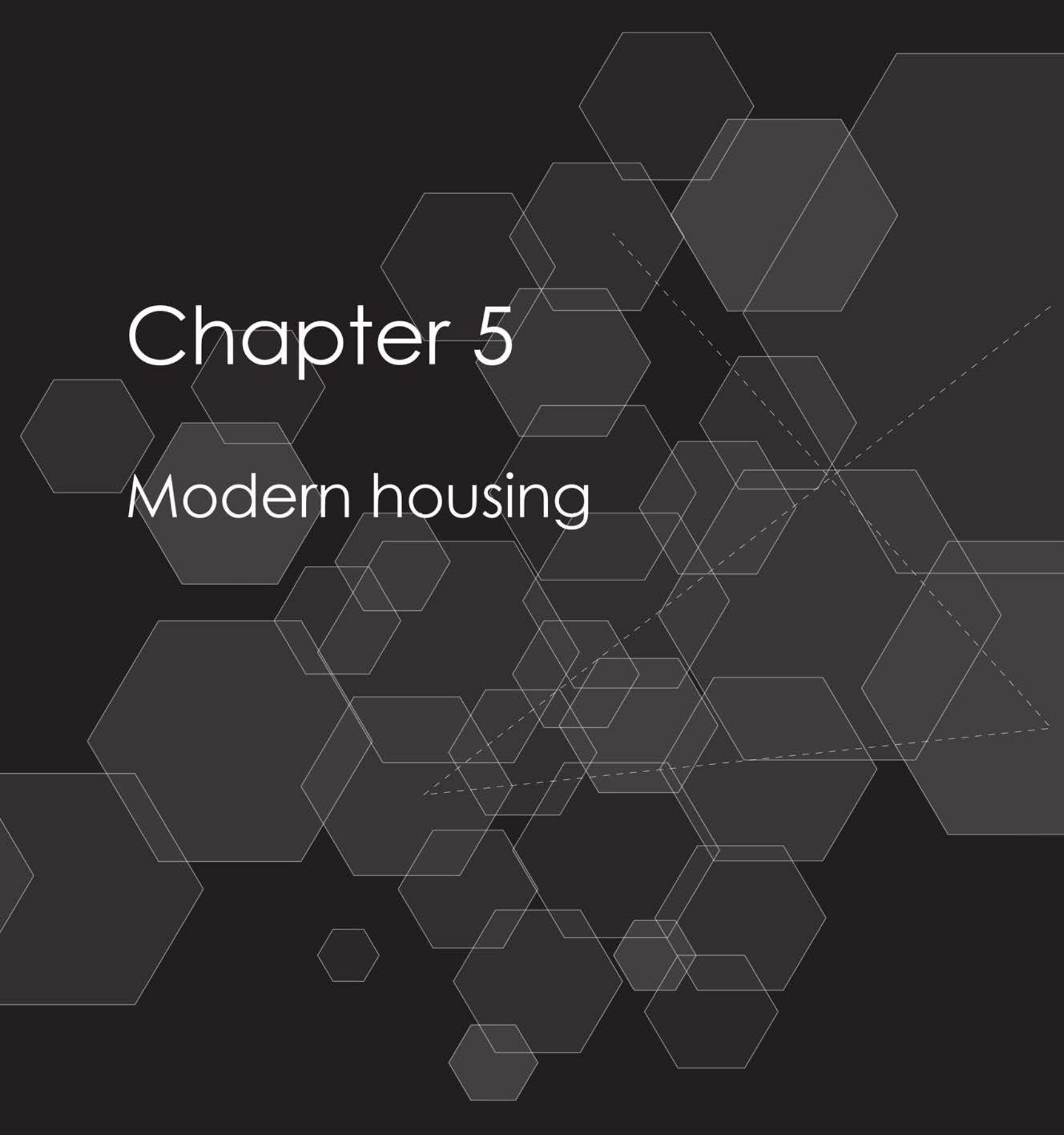
## References

- Oers, R. V. (2007). *Towards New International Guidelines for the Conservation of Historic Urban Landscapes (HUL)*. Paris: CECL. Retrieved from <http://www.ceci-br.org/novo/revista/docs2008/CT-2008-113.pdf>
- UN HABITAT (2018). *Tracking Progress Towards Inclusive*. Nairobi: UN-HABITAT.
- UNESCO (1978). *Intergovernmental Committee for the Protection of the World Cultural and Natural Heritage*. Washington D.C.: UNESCO.
- UNESCO (2011). *Recommendation on the Historic Urban Landscape*, (p. 8). Paris.
- UNESCO (2012, September 1st). *New life for historic cities: The historic urban landscape approach explained*. Retrieved from UNESCO: <https://whc.unesco.org/uploads/news/documents/news-1026-1.pdf>
- UNESCO (2017). *Operational Guidelines for the Implementation of the World Heritage Convention*. Paris: WORLD HERITAGE CENTRE.
- UNESCO (2017). *Operational Guidelines for the Implementation of the World Heritage Convention*. Paris: UNESCO.
- UNESCO (2019, September 1st). *World Heritage List*. Retrieved from UNESCO: <https://whc.unesco.org/en/list/>



# Chapter 5

## Modern housing





Anna Bruna Menghini, Marson Korbi

### The dwelling question of today

Today we are observing a worldwide normalisation of the dwelling offered by the market, which is oriented towards a standardisation devoid of that ideal incentive that moved the architects of the Modern Movement to seek the necessarily cheapest, but also the best and most “exact” forms of “homes for all”. On the one hand, economic and cultural globalisation processes have led to the loss of the complexity and richness of the ways of life linked to local places and heritages. On the other hand, observing the suburbs and the informal urban and contemporary peri-urban settlements, it is clear that the widespread and spontaneous urbanisation and the spread of houses, from the point of view of constructive and aesthetic characters, has lost that evolutionary thread and that relationship with the place that characterised the premodern developments.

However, many characters of the inherited culture can be found under trace in contemporary dwellings, both in the conformation of the house self-built by the inhabitant for his family and in use he makes of the domestic space imposed by the real estate market and in the adaptations he makes to it.

We are questioning how certain characteristics of the different aspects of the history of the house and its construction can be reinterpreted by enhancing some unsurpassed characters, such as sustainability and integration with the environment, the sense of community, the sharing of uses and the flexibility of domestic spaces, and how they can be innovated by introducing improving factors adapted to the lifestyles, the needs and the spirit of contemporary society, which is constantly changing.

In order to understand the characteristics of the most widespread housing models in a country at a given historical moment and to imagine its future trajectories, it is necessary to consider its social, economic and cultural structure, starting from domestic space.

In the dominant Western countries, during the last century, the traditional family house started to be replaced by the working-class family minimum dwelling, which became

the basic unit of social organisation, till the emerging of real-estate and middle-class apartment of today, where, yet, the typical *oikonomia* of the family is still dominant. The large premodern family presented itself as a small enterprise strongly linked to the rural or artisan economy, where all its components (father, mother, children, grandparents, aunts, uncles, nieces and nephews) lived together with precise social roles and unquestionable hierarchies. This dwelling organisation, both in spatial and social terms, was based on strong inherited rules, customs and habits, within a structure of mutual cooperation economic mutualism. In the past and even today, as in times of wars or during the economic crisis, the family constituted a community of solidarity, a refugee or a micro-welfare, especially in rural contexts where it was configured as a small “company” where children and fathers worked together.

The large rural-type family started to change radically on a larger scale with the proletarianisation of large masses of people on the entire European territory during the ‘20s ‘30s. To certain extents, the Modern Movement played a decisive role in spreading middle-class family homes. The many diagrams and plans on dwellings (apartments, villas, row-houses, etc.) that were proposed by the architects participating at the 2<sup>nd</sup> Frankfurt CIAM of 1929 on the *Existenzminimum* were mere dimensional reductions of the bourgeois apartment and its ways of living. With its theoretical models of houses for working-class nuclear families, composed by the (bread-winning) father, (housewife) mother and children, the house was understood as a small autonomous nucleus, supported by the Welfare State, but, still, its *oikonomia*, conformed and depended on the productive efficiency and the salary of the head of the family. However, in the lower-middle class and in small rural local realities, the large family or the family as a social bound has remained, and still remains, a fundamental apparatus, structured on a domestic economy based on the relationships between mother, grandparents, uncles, etc. As Mark Fisher has pointed out in his book *Capitalist Realism*, with the dismantling of the Welfare State started by neoliberal politics in the 70s, the family (especially the

large family model) remains a fundamental support structure for the State. For example, a couple supports itself when one of the partners cannot afford rent; a student in order to live and rent a room or apartment finds support only in his or her own family; elderly parents, not infrequently, take on the tasks of caring and raising their grandchildren.

But in some gentrified metropolitan areas where there is a high concentration of the upper-middle class, in North American and north European metropolis marked by strong economic development and a large flow of immaterial production, of the post-modern era, in those areas where the major economic and financial centres are concentrated, the concept of the typical family, and even more so of the large family, seems to be less dominant. The hierarchical family structure has left the floor to a fragmentation of the social strata into (self-entrepreneurs) individuals, isolated or linked just by a system of precarious relationships. Socially and culturally free but often without social guarantees.

But even the “liquid society” is beginning to enter into crisis today. The atomisation of society into individuals with little tension for sharing and solidarity is showing its limits. Among whose effects we can see: the social marginalisation of fragile and different people, the sharp generational separations with difficulties in guaranteeing assistance, care and tutelage to the elderly, children, disabled (and not least, the sense of isolation during the pandemic). These problems are found first of all in urban realities, where the closed condominiums-type, creating ghettoised structures for the elderly, students, the indigent and immigrants. The apartment conceived on the basis of the *existenzminimum* that we have inherited (whose concentration and specialisation for the theorists of the Modern Movement had to be compensated by widespread networks of collective services) no longer seems to meet contemporary needs. The problem seems the opposite: a need for more generous spaces, where one can live but also study, work and socialise.

Following the crisis of the forms of housing that corresponded to the models of tradition and modernity, we are arguing on a possibility of recovering and interpreting hybrid forms of living, both concerning users, no longer univocally determined, and concerning uses, abandoning the functional specialisation that attributed to each space a precise use to optimise the size and consequently the cost. So, can that condition of cohabitation and sharing inherent in the extended family be a model to be reinterpreted?

Obviously, in light of the crises highlighted above, the family model cannot be indicated as a model of reference; instead, it is necessary to implement a new social and intergenerational social pact that regulates the relationships of living and consequently the ways of living, introducing renewed forms of sharing.

### Albania’s case as a paradigm

In light of the genealogy presented in the previous paragraph on the development of living in relation to the family, it is possible to argue that, in the context of the Balkans in general, there is an emblematic condition, where all these passages are condensed in the space of a century and a half. Albania, in particular, has a very intense culture of experimentations on living, developed over the centuries, but which has undergone transformations, caesuras and abrupt interruptions, especially in modern times, because of the socio-economic upheavals and heavy cultural colonisation to which it has been subjected. In this country, over the years, the living models of rural society, communism and wild capitalism have succeeded one another, but at the same time, there has been, and still is, resistance to change, with the permanence of the extended family.

Not to be underestimated is also an aspect typical of developing countries (which in the Albanian case also has a specific relevance in the general economy of the State): the phenomenon of emigration, which strongly influences the value and meaning of the house, the “*informal*” house in a more specifically. Exemplary is the condition of the emigrant who seeks economic welfare far from the place he “*lives*” and commits his earnings to the construction of an ideal model of home for himself and his family (loaded with future expectations but also nostalgia) in the place of his origins.

### From Oda to Dom-Ino

Before being a space charged with aesthetics, a home is, first of all, a place where the social organisation of a community is manifested and where social roles are represented. The way in which the house is composed, its dimensions, its spatial articulations express the forms of living and relationships within the family, and at the same time, condition them. For example, it is in the great *Oda*, the heart of the *Ottoman çardak* type house of XV-XIX century, where the patriarchal structure based on the hegemonic status of the “*master of the house*” (*burri i shtëpisë*) was manifested, a characteristic which is still deeply rooted in the Balkans.

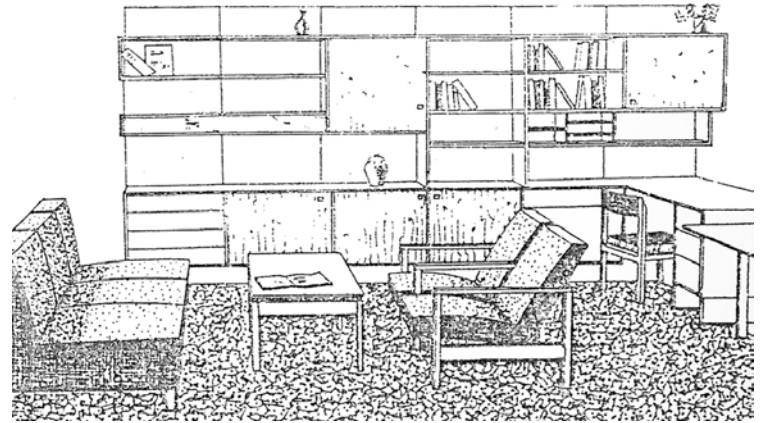


**Figure 1.** A morning call in Albania, Walker Mary Adelaide, 1864. Source: Wikimedia Commons.

Domestic and care work, such as cleaning, cooking, raising children and education, assisting parents and grandparents, are tasks that the patriarchal culture of these regions relates them constantly to the female body and women.

The Oda was a multifunctional and multi-focal space with angles dedicated to specific activities depending on the number of people inhabiting the room and their activity. During the day, when it was full of guests, men gathered around the fireplace or sat on the lower sofa, close to the window, or along the other walls. Its functioning as an *agora* for men depended on the subjugation of the women in the house. Women entered the room only with permission to serve food and regale her husband's friends and were left totally outside important choices and discussions.

During the era of Enver Hoxha (1945-1985), the socialist home shifted in the form of the standardised and typified generic apartment. For the first time to Albanians, was introduced collective housing. Not surprisingly, within a typical Albanian Socialist family apartment of the 70s-80s, the role of the housewife (*amvisa*), was still related to the kitchen and domestic mansions such as child education, housekeeping, cleaning, ironing, activities that in many cases were added after salaried working hours. At least, they were done by retired grandmothers who helped their employed sons and daughters raise their children and cook for them. However, as a common praxis, this form of dwelling generated spontaneous forms of cooperation between neighbours.



**Figure 2.** Living room of a typical-apartment, during the Socialist Era. Source: Besim Daja Bazat e Projektimit të Shtëpive të Banim-it, 1986.

The "informal house" of the 2000s— a concrete realisation of the Dom-Iño— is an example of the permanence of the large family. When first "informal" houses appeared, Albanians had for the first time the possibility to build their own house as they wanted and where they wanted. Wright after the fall of Hoxha's regime, in times of lack of any form of governmental control, the "artisanal" discovery of the *béton armé* technique, and the spread of the Dom-Iño effect starting from the middle 1990s and the beginning of the 2000s was more than ever the tangible effect of a social question. Both internal and external migrations coincided with the move, "the descent", of peasants from higher regions to the lower ones, close to the seaside, on flat agricultural lands and around metropolitan areas.

Here Le Corbusier operative principles seem to find their most tangible application: a free plan, adaptable to any use and needs with an external staircase and open-air columns (with the reinforced steel let visible) for possible future floor additions. No architect figure was needed, and it was enough for a family member with some building experience, perhaps a bricklayer or carpenter, to build his own house.

As figuratively emerged from the exhibition *Evoked* curated by Pastore (2016), precisely this typology was "standardised" by local builders anywhere through different arrangements depending on different situations: elevated on pilotis, one or many floors above the ground (also depending on flood circumstances), with the ground floor for commercial/productive activities and a low podium, with columns popping out for future additions and a non-finished roof used for domestic facilities (laundry, storage, etc.).

The use of circumstantial elements such as flower pots instead of industrialised railings also reveals the strong relation of this type of (unfinished) domesticity with its use or need: another floor, or more sophisticated elements, are added as soon as more space is needed, or more money is provided – coming from the rest of the family migrated abroad.

Seen in urban terms, using the subdivision grid of agricultural lots made during Communism, each family occupied

its single parcel, as in the emblematic case of the town of Kamza – the most densified area, where the former agricultural grid was almost totally occupied – or as it happened with sporadic settlements along the Tirana-Durrës axis (the main productive segment in Albania) or, instead, in areas where the flat land appears as an endless ground with single “informal houses”, generating a scenario both bucolic and distressing – like the one in the farms between Fier and Lushnje.



Figure 3. “Informal house” showing the principle of the Dom-Ino. Source: Domenico Pastore, *Evoked*, 2016

## Non-ideological visions of the future

However, with a vision of the home radically purified from the ideologies of the various historical periods, from the patriarchal scheme of the Ottoman tradition to the minimalist living of the socialist era to the “*informal house*”, to the dwelling-type of today’s real estate, it is possible to introduce a breakpoint, extracting from past just only compositional and spatial themes suitable for contemporary living. Without falling into the rhetoric of tradition and conservatism, we believe that only through a radical and critical interpretation of the different historical and contemporary forms of dwelling it would be possible to delineate a series of inputs for the project of a new type of habitat. Usually, many architects and scholars tend to analyse historical forms of dwelling only through a descriptive lens where personal opinions ignore actual historical facts, avoiding any contact with the productive and political context of a specific experience, where certain ideologies were raised, that were determinant for that habitat to take form. This is why a genealogy of the different forms of dwelling, contextualised in their historical ethos, analysed about the material life conditions of their inhabitants and their social structure, offers a fundamental base for the understating of the operative conditions of the project today. The question is: how to project a dwelling today?

This is why we propose revisiting the Albanian house by demounting its elements and extracting its compositional and mechanical suggestions from the rural and Ottoman house to its modern form in the socialist apartment, to the contemporary “*informal house*”. We propose an interpretation and use of the type as a combination of fragments, symbols and spatial situations, regardless of principles such as symmetry, distribution, spatial hierarchies: a place that is just space.

Among the various experiences, the Ottoman house can be a starting model, considering its spatial, constructive and figurative complexity, for rethinking the new house type. The rural house and the imported Ottoman house have many current and innovative aspects compared to the contemporary standardised house, the child of simplified and stiffened modern thinking. Many compositional and spatial themes of the Ottoman house, taking from them the most fundamental and primordial acts of living, can be resumed in an innovative form: the conception of the “*house as a small city*”, with articulation and gradation between individual, shared, collective and public spaces, with a co-presence of the spheres of domestic life and work; the conception of the house as a “*society of*

*rooms*”, an open structure generated through relative aggregative freedom of the single living cells, with the possibility of growth by budding, but at the same time characterised by a conforming measure and a hierarchical order among the spaces; the conception of the house rooted to the ground and adapted to its singular confirmation and the coexistence of superior rooms regulated by spatial and constructive modularity.

Going into detail about the room concept (Oda): the relationship of continuity and promiscuity between interior and exterior space (çardak/veranda-hajat/portico) and at the same time the importance of the “*threshold*” between inside and outside and between interior spaces (mafil), the extroversions of interior space towards the exterior (qoshkë), the multifunctionality, flexibility and multifocality of the room, with minimal spaces and corners dedicated to specific functions and actions, the idea of spaces within spaces (overlooking of interiors within other interiors, autonomous niches), the articulation of service spaces as “*inhabited walls*”, the articulation of walls with fixed furniture, cavities, wall cabinets, the role of the covering that combines architecture and design as an expression of material culture, are all aspects that can address and enrich the contemporary conception of the domestic space.

All these possibilities offered by an inventive and imaginative composition of the historical house could also be the pretext for going beyond the “*heritage*” of the historical house itself and opening up new possible terrains of interpretation. A place where the free plan becomes dominant in the city, exactly as the surrealist image of the city imagined by Edi Hila through his paintings of “*informal houses*”.

Potentially, the new house’s type can be managed and used by agencies or social collectives, such as the example of the publishing house Berk (a space of co-working, public exhibitions and bookstore) or one of the Marxist activists of *Organizata Politike* (a place where is still possible to talk on political economy, capitalism and philosophy) already operating in Tirana in some of the old houses of the historical tissue of the city.

These new houses could be built not only outside the city but especially inside the metropolis, where often the “*informal house*” can also be found within the historical fabric composed of traditional houses, in those districts of Tirana still far from the attention of speculators and builders. This could be possible only through a critical focus on the question of property and by making a *tabula rasa* of all the political ideologies and all the speculative strategies made till today

## Conclusive thoughts

The understanding of the settlement and architecture logic, of the grammar of composition and construction, of the formal, spatial and distributive characters of the traditional Albanian single-family house, and of the material culture that substantiated it can allow us to operate on the regeneration of informal building not through an epidermal restyling, but by revisiting the meaning of these experiences going to the root of the culture of living that permeates a geographical and socio-cultural context. A culture that, moreover, can be found in the watermark of these spontaneous buildings. Even the rediscovery of the socialist era multi-family housing and how it was determinant for the Albanian social and urban culture, as an emancipatory project of collective dwelling. However, the ideological and economic attempts of standardisations of habits and space could become useful against the real-estate-housing model of today. It is not a question of invention and innovation only, but especially a call we would like to address on revisiting historical space models. All these possibilities offered by an inventive and imaginative composition of the historical house could also be the pretext for going beyond the "heritage" of the historical house itself and opening up new possible terrains of interpretation. A place where the free plan becomes dominant in the city, precisely as the surrealistic image of the city imagined by Edi Hila through his paintings of "informal houses".

Potentially, the type of the new house can be managed and used by agencies or social centres and collectives, such as the example of the publishing house Berk (a former patriarchal house transformed into a space of co-working, for public exhibitions and bookstore) or another similar example occupied by the Marxist group of the young activists of *Organizata Politike* (a place where is still possible to talk on political economy, capitalism and philosophy), in Tirana.

These new houses could be built not only outside the city but especially inside the metropolis, where often the "informal house" can also be found within the historical fabric composed of traditional houses, in those districts of Tirana still far from the attention of speculators and builders. This could be possible only through a critical focus on the question of property and by making a *tabula rasa* of all the political ideologies and all the speculative strategies injected today by the Albanian capitalists.

## References

- Bauman, Zygmunt (2012). *Liquid modernity*. Cambridge, UK: Polity Press.
- Cerasi, Maurice (1988). *La città del Levante. Civiltà urbana e architettura sotto gli Ottomani nei secoli XVIII – XIX*. Milano: Jaca Book.
- Daja, Besim (1986). *Bazat e Projektimit të Shtëpive të Banimit*. Tirana: Universiteti Tiranës.
- Fisher, Mark (2009). *Capitalist realism: is there no alternative?* Winchester, UK: Zero Books.
- Korbi, Marson (2018). "Teatrin e Lëshuam? Forma e Rezistencës dhe e Arkitekturës së Përbashkët." In *Për Teatrin, Publikën dhe Traditën e Shejntë*. Tirana: Politiko.
- Pastore, Domenico (2016). *Evoked. Architectural Diptychs*. Bari: Giuseppe Laterza.
- Reid, Susan E. (2005). "The Khrushchev Kitchen: Domesticating the Scientific-Technological Revolution." *Journal of Contemporary History* 40, no. 2: 289–316.
- Stampini, M., Calogero C., & Benjamin, D. (2008) "International migration from Albania: The role of family networks and previous experience." *Eastern European Economics* 46, no. 2: 50-87.
- Teyssot, Georges (2013). *A topology of everyday constellations*. Cambridge, Mass: The MIT Press.
- Tsenkova, Sasha (2010). "Informal settlements in post-communist cities: Diversity factors and patterns." *Urbani Izziv* 21, no. 2: 73-84.
- Van Gerven Oei, Vincent W.J. (2017). "Masterplani i Tiranës: Privatizimi i qytetit." Accessed September 20, 2019. <https://exit.al/masterplani-tiranes-privatizimi-qytetit/>.



## Introduction

There is a shortage of housing in modern cities. As more and more people come to cities, there is a need to seek and find new areas that might be turned into housing. It is an urban challenge to create attractive residential environments within the existing cities as housing, and its quality is very important for people. Cities are very dense nowadays, which results in problems with finding new areas for housing development.

New residential buildings might be built from scratch on the vacant lands, e.g., post-industrial ones. It is necessary to search for unused areas with attractive locations within the cities to stop the uncontrolled urban sprawl. One of the characteristics of a suitable housing location is the vicinity of services and different attractions and the accessibility of public transportation. Those are the reasons that make the central locations the most wanted for new developments.

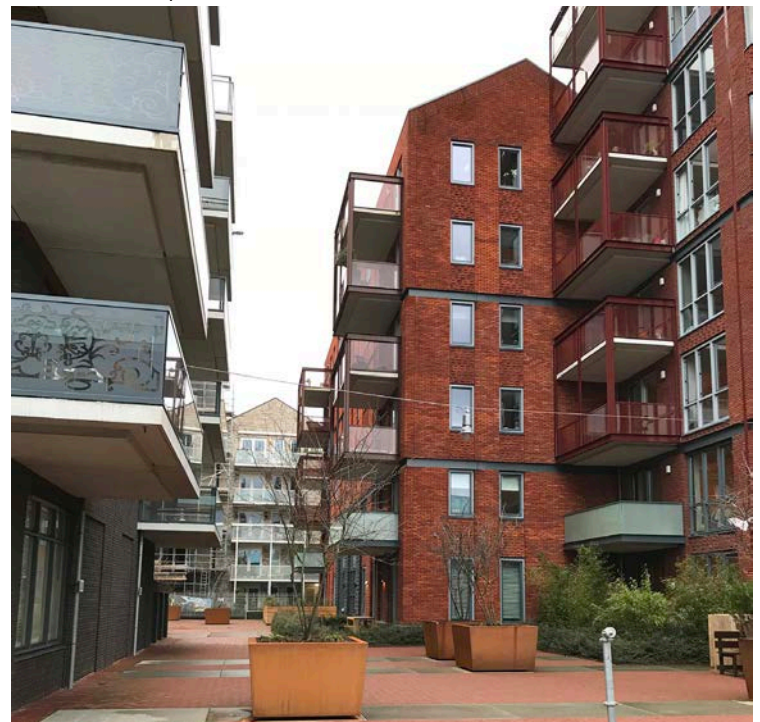
There are not many areas in the cities that have never been developed, but there are those that have already lost their original function. Examples of such sites are the post-industrial areas or those previously used for transportation services. The other is post-railway areas where locating residential buildings next to the stations and railroads has not been very common. There are also sites by the waterside, where during the industrial periods, harbours used to exist.

## New housing district at the site of an old tram depot

One way to introduce housing into the dense urban tissue is by developing sites that have lost their original function. The De Hallen in Amsterdam is an example of such a solution, where the former tram depot site, which was not in function since 1996, was transformed into a multi-purpose area. The whole site of the old depot has a surface of 16 hectares. One of the brick walls of the historical tram depot, built at the beginning of the XX century in Amsterdam School style, in 2014 was renovated according to the conservatory guidelines and became a multifunctional

building that combines different functions: library, retail, recording studios, cinema, hotel and food court. The land that remained after the demolition of the other buildings was planned to become a residential area.

The new housing buildings form an urban quarter with two inner courtyards for inhabitants and services on the ground floor at the Tollenstraat (Fig. 1). Also, the location by the water canal made the residential buildings more attractive and friendly for future users. At first, the whole development was planned to be realized simultaneously, but later it was decided to postpone the construction of the multi-family housing buildings. The implementation of the housing project was proceeded by the developer's Van Wijnen and Altera, that introduced the mix of residential function (around 400 apartments), private properties, subsidized apartments and flats for rent.



*Figure 1. View towards the inner courtyard of the residential neighbourhood from the Tollenstraat, next to the multifunctional building De Hallen in Amsterdam. Source: Author.*

Developing sites in the city centres formerly used for transportation is one solution for finding new attractive locations for housing as they already exist in the urban tissue. There is an existing infrastructure, services, and public transportation. Also, designing housing and other services ensures functional variety and makes the new development work better as an entire investment.

### Housing next to the railways

Other sites located in the city centres that have not been used for housing often are situated next to railroads. The main reason for not designing residential buildings next to the railway is the noise generated by trains. However, nowadays, we can observe more and more housing estates in such locations. Due to the soundproofing of the building materials and urbanistic solutions connected with the locating buildings in relation to each other, the most significant amount of them is protected from the noise.

Funenpark is a housing district in the eastern part of Amsterdam located on the triangular post-industrial site next to the railroad (Fig. 2). Frits van Dongen from Architekten Cie designed an urban vision for this area. According to this project, the buildings were placed in relation to each other in a way that the outer longitudinal one (which is also taller than the others) was located next to the railroads. This perimeter building works as a sound barrier that protects the inner courtyard from the noise generated by the rail.



**Figure 2.** View towards the inner courtyard in Funenpark in Amsterdam. On the left there is the perimeter building that protects the villas from the noise generated by the trains. Source: Author.

Also, its façade is designed as a double glazed one that ensures sound comfort inside the flats. In the car-free internal courtyard, there is an urban park with 16 free-standing city villas. The area between them is covered with grass and serves the inhabitants as a quiet public space for spending time. The villas inside that area have intimate character, and different architects design them.

Developing a residential function on the post-industrial site is possible due to the architectural solutions (sound insulation and double-glazed facade) and urban solutions in shaping the spatial layout of the whole district.

Residential buildings might be designed not only next to the railroad but also at the railway station as such a location is very attractive due to the vicinity of the city centre and availability of big variety of services. There are obviously disadvantages and threats connected with the presence of the noise but it might be solved by using building materials of high quality regarding the sound insulation. There are also railway station buildings that are part of the multi-purpose facilities in which one of the functions is housing. Such a building was designed in Breda, where flats are situated next to the train platforms, on the upper floors. That was possible thanks to the high-quality building materials and the design solutions regarding the functional and spatial aspects of the development and locating the housing apartment floors at Breda Centraal station in the corners of the building (Fig. 3).

There are 147 apartments in 5 different types (size: 66-173 m<sup>2</sup>). They are arranged around the inner courtyards with



**Figure 3.** View towards the residential part of the Breda Centraal station building. On the left there is a car park on the roof, under it there are train and bus platforms. Source: Author.

greenery that ensures privacy for the inhabitants, while the other side of the flats is oriented towards the station squares.

Building housing next to the railroads is becoming more and more popular as there are more post-railway areas in the cities due to finding new locations for the technical railway functions and railway sidings.

### **Housing by the water**

The main advantage of the new residential areas next to the stations is good location regarding their vicinity to the centre and other functions. Another characteristic important for the high-quality housing environment is contact with nature – even only visual one. These might be greenery but also water.

Designing new residential areas by the water might be a solution for the post-harbour sites that are no longer used. An example of a multi-family housing building by the water is Silodam in Amsterdam, designed by architects from the MVRDV office in Rotterdam.

It was built in 1995-2003 as a part of the revitalization and renovation of the western docks of the city. The building is located at the end of the pier, which ensures good urban exposition from the IJ canal and visual connection with the water from the interior of the apartments. Its structural design based on the concrete stilts in water might be a solution to the problem of densely populated cities where there is a lack of sites to be developed. Silodam has ten floors, and there are 157 apartments of different sizes and types inside it, which results from the needs of its users. The apartments also vary by ownership type. Also, their way of use might be different; some of them are used by their owners as suitable apartments, the other ones are used temporarily or rented for a short period. This variety was one of the goals during the design process – the beauty of living by the water was meant to be available for the biggest variety of social groups, not only the rich ones. In Silodam there are patio apartments, studios, studio apartments, maisonettes and penthouses. On the ground floor, there is also commercial space. The main entrance to the building is located on its western side; it is accessible from the pier. There is a big terrace on the eastern side of the building, while under the central part of Silodam, there is a mooring area for the boats, which makes the building accessible from the water.

The physical connection of the building with the water results from the tradition of building by the canals.

### **Housing on the water**

Supporting building on the pillars in the water is a solution for the lack of sites in the cities. Another way of finding new areas for development is floating architecture. This type of housing is popular in the Netherlands, and recently floating residential neighbourhood was created in Amsterdam. The governors of Amsterdam intended to develop the city according to the principles of sustainability and circular economy. In order to achieve that goal, a document with all the rules and guidelines was created.

The Buiksloterham district located in the northern part of Amsterdam is planned to become a vivid residential area. There are many realized (e.g. de Ceutel) and ongoing projects in that area. Among those already accomplished, there is the Schoonschip, which in Dutch stands for “beautiful, Clean Boat”. That floating residential neighbourhood was created on the water and placed in the Johan von Hasselt on the northern part of the IJ canal. First houses arrived in the area at the end of 2018.

The complex is unique not only because of its location but also because of the fact that its future inhabitants initiated the whole design process. The main initiator, Marjan de Blok, was inspired after the realization of the documentary tv programme about the Gewoonboot – an environmental friendly floating building in the NDSM in Amsterdam.

The main goal of the Schoonschip was to build an energy-independent neighbourhood (Fig. 4). Thirty buildings are forming five groups of 6 houses, which are connected by the piers. Inside the buildings, there are 46 households, each of them has its own recreational area.

The piers serve as common public areas for all inhabitants, and between them, there are bathing areas. There are also small mooring areas where it is possible to park a boat. All of the houses are energy-sufficient.

The guidelines regarding the use of building and façade materials were created. The other rules stipulated the minimum surface of the green roof for each house. In the buildings, there are also many technological energy-saving solutions used, example water pumps for heating, solar panels and photovoltaic panels.

The most essential features of the Schoonschip (Fig. 5) are the use of energy-saving solutions and initiating this process by the future residents (social aspect). However, it is also worth paying attention to other features of that neighbourhood. One is that designing the floating houses might solve some of the urban challenges connected with the lack of vacant areas to be developed. The other one is the possibility of giving the inhabitants the freedom to move their house elsewhere.



Figure 4. View towards the floating houses in the Schoonschip neighbourhood in Amsterdam. Source: Agnieszka Kurowska.



Figure 5. View towards the floating neighbourhoods Schoonschip in Buiksloterham district in Amsterdam. Source: Agnieszka Kurowska.

## Conclusion

Finding new areas for residential function within the cities is a natural urban challenge as more and more people are moving to the cities. It is important to find sites that can create a friendly housing environment that will fulfil the expectations and needs of its future inhabitants. The attractive features are always: good location, public transportation and contact with nature. Nowadays, it is possible to find those characteristics on the post-industrial sites that have a lot of potential. Some of them are located within the city centre next to the housing neighbourhoods, so the new residential function easily merges into urban tissue. Other sites might have different advantages – those located by the water may benefit from this location. Lack of vacant areas might be also solved by building by or on the water. The buildings might be constructed on the pillars or float on the water. The advantage of the floating architecture is also its flexibility and opportunity to be moved elsewhere.

## References

Baarveld, Marlijn and Marnix, Smit and Dewulf, Geurt. (2018). "Implementing joint ambitions for redevelopment involving cultural heritage: a comparative case study of cooperation strategies". *International Planning Studies*, no. 23:1.

"Lang Verwachte Opening De Hallen, Amsterdam-West 'Cadeau Voor De Wijk'", *Bouwen Aan Monumenten*. no. 2014: 148-151. Accessed June 02, 2019. <https://dehallen-amsterdam.nl/het-gebouw/>.

Pięt, Agata (2019). "Multifunctionality of the chosen contemporary railway stations", "Wielofunkcyjność wybranych, współczesnych dworców kolejowych." *Przestrzeń i forma, SPACE & FORM*, no. 37: 47-60.

Ryan, Zoë. 2012. *Building with water: Concepts typology design*. Walter de Gruyter: 88

"Sustainability Agenda 'Sustainable Amsterdam'". Accessed January 27, 2019. [https://assets.amsterdam.nl/publish/pages/675721/sustainable\\_amsterdam\\_27-3-2015.pdf](https://assets.amsterdam.nl/publish/pages/675721/sustainable_amsterdam_27-3-2015.pdf).

Tulkowska-Słyk, Karolina (2019). *Nowoczesne mieszkanie*, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa

Van der Ende, Teun and Hannema, Kirsten and MacKic, Arna (ed.). 2020. "Schoonschip Amsterdam. Space&Matter, Metabolic et. al.". *Architecture in the Netherlands Yearbook 2019/2020*: 91

Van der Putt, Pierijn (2018). "Funenpark Amsterdam". *DASH | Delft Architectural Studies on Housing*. no. 05: 156-164. Accessed February 01, 2021. <https://journals.open.tudelft.nl/dash/article/view/4660>

<http://schoonschipamsterdam.org/en/#het-plan>. Accessed January 06, 2019.

<http://www.bredacentraal.nl> Accessed March 03, 2015.

<http://www.railinfrasolutions.nl/projecten/stations-haltes/hotel-ibis-centraal-station/>. Accessed January 11, 2016.

<https://europe.uli.org/uli-netherlands-transformation-de-hallen/> Accessed June 02, 2019.

<https://www.crossmarkbreda.nl/wonen-het-station>. Accessed March 23, 2021.

<https://www.koenvanvelsen.com/nl/projects/73/woningbouw> Accessed March 23, 2021.

*Amr Abdelfattah, Ibrahim Saleh*

## Introduction

High-rise buildings have become important architectural issues today as concerns about increased world population. Architects have been in a race to build the highest buildings, and most of recently, and architects have their aggressive agenda (Al-Kodmany and Ali, 2013; Beedle et al., 2007; Foster et al., 2008; Hayashida and Iwasa, 1990).

Like other idealistic thoughts (Fishman, 1977), The Megacity Pyramid and Sky City intend to create all environments, making it possible for inhabitants to live from the cradle to the grave without a need to walk outside as far as possible. Even though suggestive of Le Corbusier's Contemporary City (Boesiger, 2006; Gang, 2008; Gassel, 2005), Arcosanti (Soleri, 1984) and other radical Megacity concepts of the mid-twentieth century, the Sky and Pyramid urban areas present some conceivable urban living situations, they consolidate investigations of imaginative structure segments, construction techniques, and development frameworks that cause them to show up not such a far off the real world (Goncalves, 2012).

According to Council on Tall Buildings and Urban Habitat, in 2008, there were 119 completed high-rise structures of 150 meters or greater height, and by 2018 there were 387 high-rise structures, with an average of 27 towers each year for the 10 years between 2008 and 2018 (CTBUH, 2020). The growth rate of these high-rise structures is based on governmental policies, future visions, density, and population growth. As population growth plays a pivotal role in high-rise mixed-use housing projects presence in megacities across the MENA region. The dynamics and the reasons for high-rise construction in the region are as diverse as the cities that comprise it.

## Research hypothesis

The paper attempts to discuss that modern towers' architecture from the understanding of architectural students is resilient to the encompassing context impact.

Besides, it contends that modern towers' impact on the surrounding context is far more prominent than the relevant parameters that influence their design itself, regardless of the tower's spatial program and principle functions. According to the literature review, the three main aspects of sustainability are the environmental, social and economic (United Nations, 1987). Therefore, these aspects will be the major principles of the proposed matrix that will be used in the analytical part to increase the potential role of residential urban spaces.

## Research aims and objectives

The research aims to identify the relationship between the modern towers and the surrounding context. Moreover, the research aims to develop a matrix composed of contextual sensitive design elements and various towers in different sites. This matrix investigates the impact of towers on the surrounding context and how far they can affect it.

Therefore, the research objectives could be outlined in:

- Identifying the contextual sensitive design elements.
- A proposed matrix will specify the correlations between the towers and their sensitive contextual elements.
- Confirming the existence of the mentioned correlations within the Egyptian pedagogical understanding.

## Research methodology

The paper pursues an analytical methodology that breaks down 30 distinctive students' design projects of towers among three diverse site locations from the 6th-semester design studio course in Architecture and Urban Design program, German University in Cairo. The selected projects were done during four years between 2015 and 2019.

Then a series of comparative studies will be done by developing a matrix that sets the interrelations between the various types of towers and the contextual sensitive design elements.

The paper classifies the selected towers as indicated by their different site locations within various cities in Egypt, and these locations are: 2015 in New Cairo City as urban expansion context, 2016 and 2018 in New Capital City as new city context next to the old capital Cairo, 2017 in Alexandria City as historical seafront context, and 2019 in New Alamein City as new urban seafront expansion context.

The student's towers projects spread the scope of different examples from the four different locations, and each sample is formed of sixteen ventures that similarly have been distributed as indicated by the student's GPA. All gathered data and analysis would be ordered and sifted through a proposed matrix of contextual sensitive design elements based on three major factors; street and infrastructure elements, architectural elements, and public realm elements.

### Characteristics and locations of selected case study in GUC Towers design studio

1- New Cairo City in 2015: a new local city was planned in 2000 on a space of 300 square kilometres, and it has been under development from that point forward with the intent to have a private residential and local business area outside the full focus of the capital Cairo (Figure1).

2- New Administrative Capital in 2016 and 2018: another local area was arranged in 2015 on a space of 700 square kilometres. It has been under construction from that point forward with the mean to have all legislative managerial central command outside the jam-packed focus of the capital Cairo alongside business, residential and recreational zones as one of Egypt's most significant continuous public ventures currently.

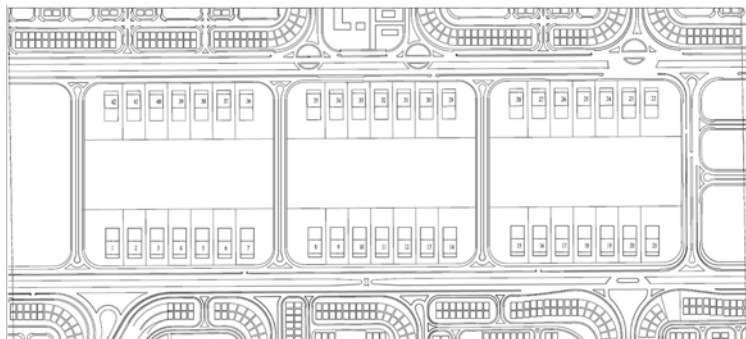


Figure 1. New Cairo proposed sites in design studio towers 2015.



Figure 2. New Administrative Capital proposed sites in design studio towers 2016 and 2018.

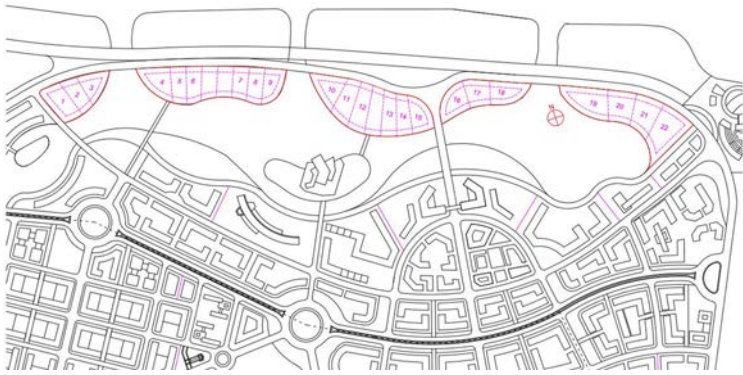


Figure 3. New Administrative Capital in Egypt proposed visions by the government [5]

Various skyscrapers are located in the new capital through the business area with the highest tower in Africa, which is currently under construction, and the chosen location for that design studio was in the same zone (Figures 2 and 3).

3- New Alamein City in 2019: the new coastal city by the Mediterranean Sea that was planned in 2018 on a space of 210 square kilometres and it has been under construction from that point forward with the mean to have another residential hub and recreational zone close to the historical city of Alexandria by the Mediterranean coast.

All the advancement of the waterfront in this city will be structured as high-rise buildings, and that was the selected site for the design studio towers in that year (Figures 4-5).

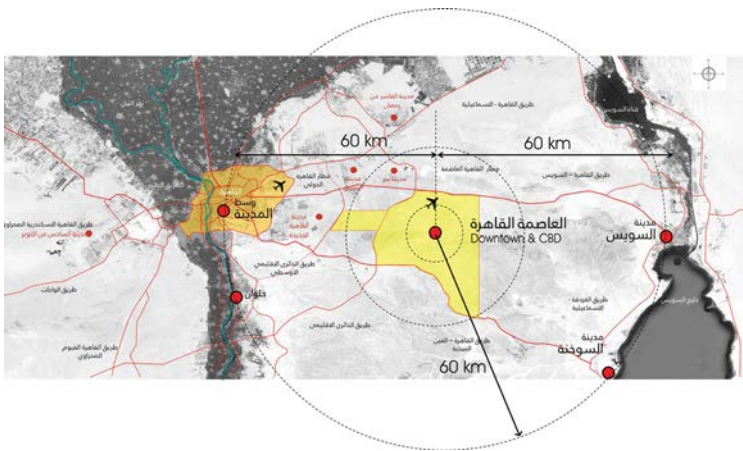


**Figure 4.** New Administrative Capital in Egypt proposed visions by the government [5]



**Figure 5.** New Alamein city waterfront under construction towers [6]

The below Figure 6 features the distinctive chosen locations for the design studios on the strategic vision map that was accomplished for the public authority in 2018. The red circles feature significant existing urban communities as part of the advancement plan to interface the existing and new cities.



**Figure 6.** Different selected sites for the design studios on the strategic vision map done for the government in 2018 [5]

## Studio structure of GUC Towers design studio

Through the years mentioned above, the studio has some mutual necessities from undergraduate students to accomplish the final project, as shown in Table 1. The structure depended on fostering their insights of high-rise building structures and their effect progressively over 14 weeks of the semester. The initial three weeks began with site analysis, context understanding, site visit and first metropolitan ideas of the main approach.

The following 4 -6 weeks typically concentrated on altering the student's urban approaches into keywords and design ideas for the building mass and form itself. The remaining weeks of the semester concentrated on the structural elements and façade treatments with different creative ideas. The various scales that students used for the model making techniques are:

- Macro-scale – Urban scale. Regularly from the scale of 1:5000 to 1:10000,
- Medium-scale – tower mass in neighbouring context scale. Regularly scale 1:1000
- Micro-scale – tower engineering (structure and façade) scale. Regularly scale 1:400 to 1:20 details.

Additionally, the students corresponding to the model making approach dealt with 2D drawings and 3D software models + chipping away creating thoughts through parametric tools and ecological simulation tools such as Rhino, Grasshopper, and Ladybug software.

The studies were given a detailed space program that was typically a mixed-use high-rise building of 40 stories with around 1500 square meters. The towers included office spaces, recreational and commercial spaces, residential private hotel units, exhibitions, other facilities, while the students had the opportunity to alter the given space program to coordinate with their urban needs and conceptual design approaches.

The suggested space program was somewhat altered in different semesters to lodging projects or exceptional typology such as community service centres to coordinate with the chosen locations' different needs with continually having some blended-use spaces incorporated in the building.

The discussions and correlations in this research paper additionally examine the different findings of the students' work in various locations as previously referenced, regarding comparative and somewhat altered space programs, and if the previously mentioned site locations and diverse space programs change influenced the context-sensitive elements of tower design appearance and impact or not.



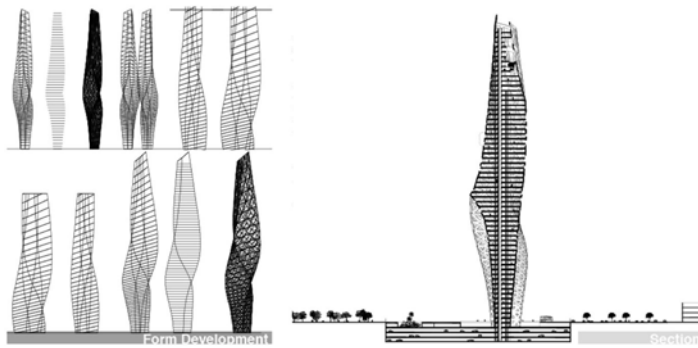


Figure 7. Example of studio towers 2015 in New Cairo with the student using parametric grasshopper tool for form generation and structure solutions by student Karim El Kurdi.

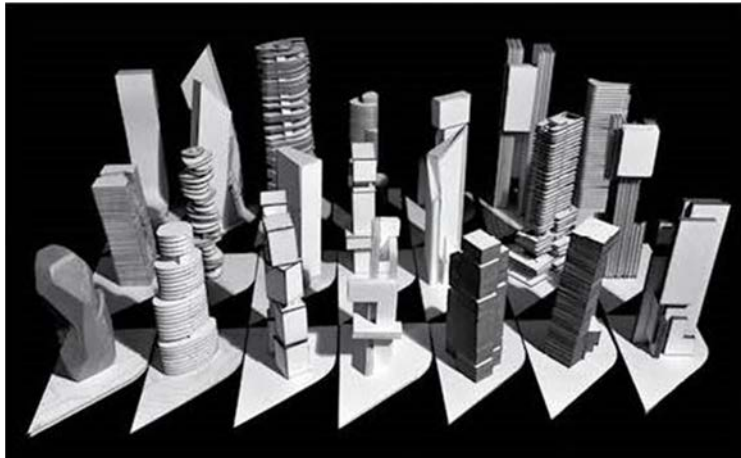


Figure 8. Example of studio towers 2019 in New Alamein City with the student using physical models scale 1:1000 for form generation alternatives.

### Contextual sensitive design elements

Every project has a different context, and understanding the project context plays a critical role in the success of any design project. Context can be addressed as a constraint and/or design opportunity. The context of any project plays a pivotal role in the final architectural design result of the project

A set of elements was developed from international context-sensitive regulations case studies regarding the relevance of the following design elements to the tower architectural design project, which results from a pedagogical point of view. These elements were categorized into three main categories:

1. Contextual Sensitive Streets and Infrastructure Elements;
2. Contextual Sensitive Architectural Elements;
3. Contextual Sensitive Public Realm Elements.

Each category included a list of sub-categories covering a range of contextual elements, as shown in Table 1.

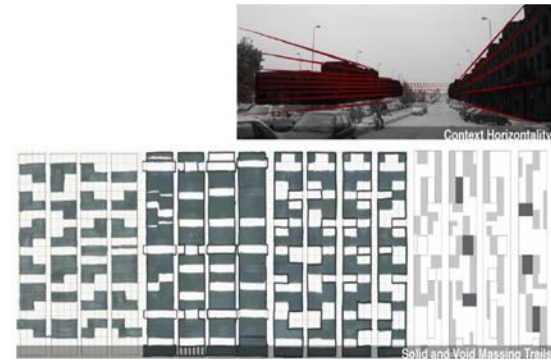


Table 1. Contextual Sensitive Design Components.

Contextual Sensitive Streets and Infrastructure Elements	
01	Present urban characteristics.
02	Consider the connection between open spaces, streets and buildings.
03	Supply remarkable situations.
04	Promote and bolster corridors' view.
05	Make a characterized and dynamic street wall.
06	Adjust various utilizations for a sustainable environment.
07	Comply with naturalistic aspects.
08	Integrate infrastructure network (streets, bridges, sidewalks, transportation systems ...).
Contextual Sensitive Architectural Elements	
09	Integrate clear architectural ideas toward the context.
10	Incorporate encompassing materials with building designs.
11	Consider the project's design from different viewpoints.
12	Supply dynamic building fronts.
13	Utilize sustainable approaches.
14	Integrate building techniques and materiality with the domestic context.
15	Consolidate landscape elements with public open spaces.
Contextual Sensitive Public Realm Elements	
16	Integrate site topography.
17	Connect public open spaces with the street-scape.
18	Supply public spaces to enhance physical comfort, diverse social activities and visual accessibility
19	Highlight the local characteristics.
20	Provide bicycling and public transportation.
21	Promote pedestrian pathways.
22	Consolidate social, environmental & cultural features.
23	Boost economic sustainability (land uses, business and other activities ...etc.).
24	Esteem natural features (connection to water or a view, open space, mountain...).
25	Consider the ecological features (climate, energy, water...).

## Applying the proposed matrix

The undergraduate students of GUC Towers design studio were approached to fulfil a survey established by table 01 to rate the significance of their design final results to each standard, with 0 addressing no relevance and 5 addressing maximum relevance. 80 participants out of 140 total tower students (an average of 16 students per design studio responded to the survey).

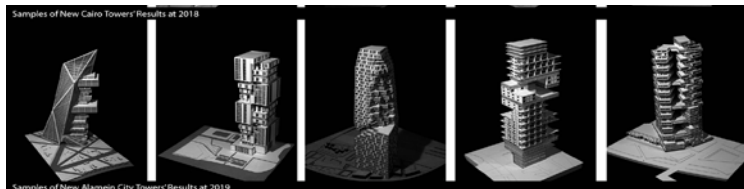
The overview conclusion for each design location is represented in a progression of graphs in Figure 10. While Figure 9 shows the various output examples of the students' final results.

The conclusion of the survey results for all site locations is shown in Table 2. The students were approached to select between a scope of 0 to 5 (0 addressing the non-presence of the criteria and 5 addressing concur with the criteria implementation in the design studio).

The concluding outline for New Cairo towers in the 6th semester - 2015 presented shortcomings in the accompanying criteria elements: Integrating building techniques and materiality with the domestic context and Integrating site topography. It presented strength in the accompanying criteria elements: Boost economic sustainability (land uses, business and other activities ...etc.).

The concluding outline for New Capital tower in the 6th semester - 2016 and 2018 presented weakness in the accompanying elements: Provide bicycling and public transportation, Consider the ecological features (climate, energy, water...), and Integrate site topography. It presented strength in the accompanying criteria elements: Promote and bolster corridors' view, integrate clear architectural ideas toward the context and Consolidate landscape elements with public open spaces.

The concluding outline for New Alamein tower in 6th semester - 2019 presented weakness in the accompanying elements: Integrate building techniques and materiality with the domestic context and Provide bicycling and public transportation. It presented strength in the accompanying criteria elements: Esteem natural features (as a connection to water or a view, open space, mountain...) and Supply remarkable situations.



**Figure 9.** Different examples of the final results in design studio towers.

## Conclusion

The investigations and findings in Table 2 and Figure 10, basically address a bunch of missing context-sensitive elements as indicated by every one of the four contextual case studies. The sixth-semester tower projects in the GUC and survey findings demonstrated the students' projects to be receptive to the surrounding context in specific criteria elements. However, the architectural tower design project is predominant in contrast with the sensitive contextual elements.

The regular shortcoming in sensitive contextual criteria was chosen dependent on scores under 3.00 from the survey results table, and they are as follows:

- Incorporate enveloping materials with building designs.
- Make a characterized and dynamic street wall.
- Integrate building techniques and materiality with the domestic context.
- Integrate site topography.
- Highlight the local characteristics.
- Provide bicycling and public transportation.
- Consider the ecological features (climate, energy, water...).

The regular strength components in sensitive contextual criteria were chosen dependent on scores under 4.00 from the survey results table, and they are as follows:

- Provide remarkable situations.
- Integrate clear architectural ideas.
- Integrate landscape elements with public open spaces.
- Supply public spaces to enhance physical comfort, diverse social activities and visual accessibility.
- Boost economic sustainability (land uses, business and other activities ...etc.).

This research paper summarizes that there is no common pattern for the student's response to the contextual sensitive design elements when designing high-rise towers. These responses are subjective to each student's design approach, and the research finally concludes some common strengths and weaknesses that are directed from the survey's results as presented in Table 3 and Figure 10.

Architecture students are fostered to pursue the concluded guidelines in Table 3 to be considered in their all-encompassing design approach and proposals to promote the high-rise buildings' design models comparable to the sensitive contextual design.

Table 2. Average score of each criteria based on the students survey results.

	Present urban characteristics	Consider the connection between open spaces, streets and buildings.	Supply remarkable situations.	Promote and bolster corridors' view.	Make a characterized and dynamic street wall.	Adjust various utilizations for sustainable environment.	Comply with naturalistic aspects.	Integrate infrastructure network (streets, bridges, sidewalks, transportation systems ...).	Integrate clear architectural ideas toward the context.	Incorporate encompassing materials with building designs.	Consider the project's design from different viewpoints.	Supply dynamic building fronts.	Employ sustainable features	Integrate building techniques and materiality with the domestic context.	Consolidate landscape elements with public open spaces.	Integrate site topography.	Connect public open spaces with the streetscape.	Supply public spaces to enhance the physical comfort, diverse social activities and visual accessibility.	Highlight the local characteristics.	Provide bicycling and public transportation.	Promote pedestrian pathways.	Consolidate social, environmental & cultural features.	Integrate social environment & cultural characteristics	Boost economic sustainability (land uses, business and other activities ...etc.).	Esteem naturalistic features (as connection to water or a view, open space, mountain...)	Consider the ecological features (climate, energy, water...)
Tower Studio																										
New Alamein Tower 2019	3.66	3.63	4.17	4.19	3.05	3.67	3.97	3.82	4.34	3.32	4.11	3.81	3.01	2.57	4.08	3.25	3.77	4.11	3.22	2.97	4.01	4.26	3.56	4.10	4.51	3.14
New Cairo Tower 2015	3.34	3.56	3.70	3.86	2.98	3.48	3.08	3.10	3.92	2.89	3.47	3.36	2.74	2.40	3.84	2.25	3.59	3.76	3.01	2.60	3.10	3.73	3.15	4.04	3.48	2.54
New Capital Tower 2016	3.04	3.20	3.46	3.78	3.11	3.37	2.84	2.99	4.05	2.75	3.51	3.53	2.61	2.31	3.91	2.27	3.67	3.69	2.89	2.38	2.90	3.65	3.09	3.79	3.17	2.22
New Capital Tower 2018	2.72	3.07	3.26	3.72	3.27	3.45	2.74	3.06	4.04	2.93	3.79	3.56	2.59	2.43	3.93	2.09	3.57	3.69	3.01	2.32	2.87	3.58	3.17	3.81	3.16	2.33

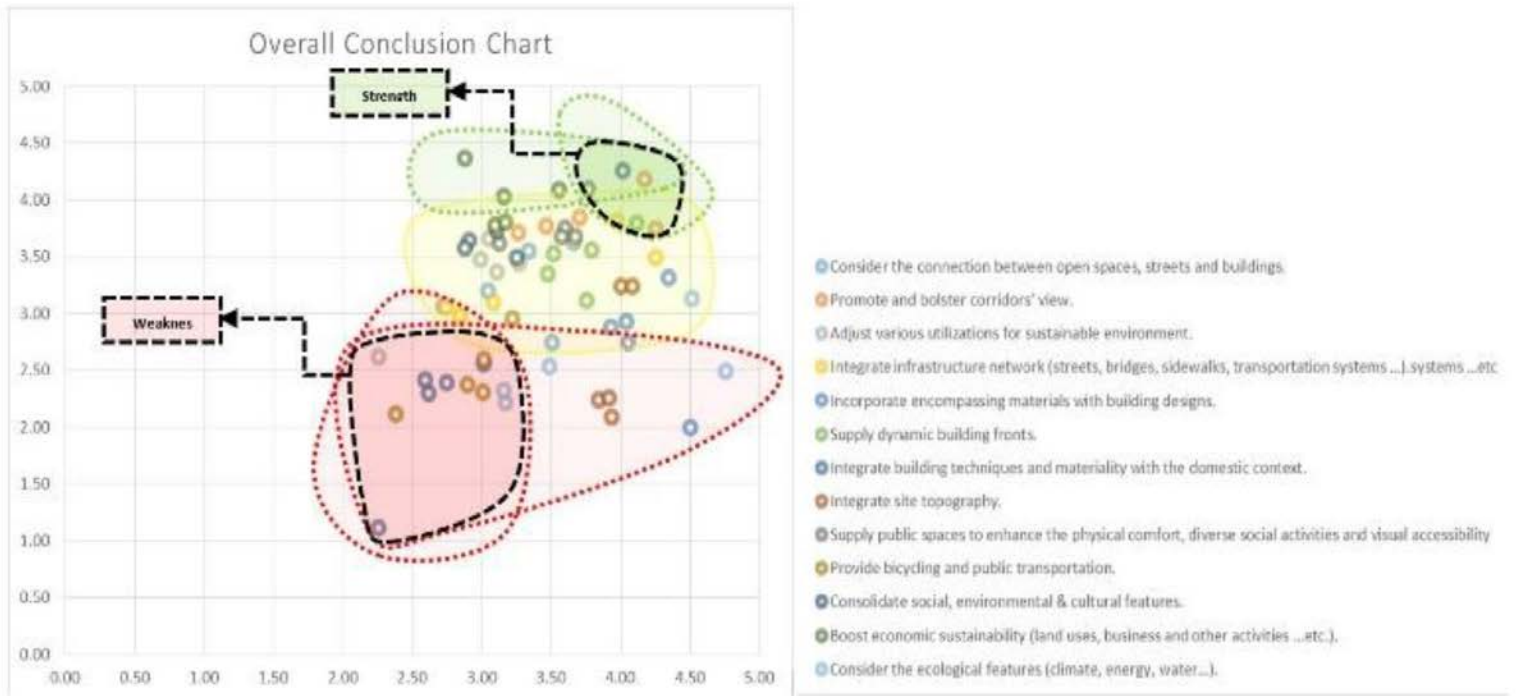


Figure 10. Overall strength and weakness categories based on survey results.

Table 3. Context sensitive elements high (in green color) and low (in red color) average scores.

Tower Studio	Present urban characteristics	Consider the connection between open spaces, streets and buildings.	Supply remarkable situations.	Promote and bolster corridors' view.	Make a characterized and dynamic street wall.	Adjust various utilizations for sustainable environment.	Comply with naturalistic aspects.	Integrate infrastructure network (streets, bridges, sidewalks, transportation systems ...).	Integrate clear architectural ideas toward the context.	Incorporate encompassing materials with building designs.	Consider the project's design from different viewpoints.	Supply dynamic building fronts.	Employ sustainable features	Integrate building techniques and materiality with the domestic context.	Consolidate landscape elements with public open spaces.	Integrate site topography.	Connect public open spaces with the streetscape.	Supply public spaces to enhance the physical comfort, diverse social activities and vis.	Highlight the local characteristics.	Provide bicycling and public transportation.	Promote pedestrian pathways.	Consolidate social, environmental & cultural features.	Integrate social environment & cultural characteristics	Boost economic sustainability (land uses, business and other activities ... etc.).	Esteem naturalistic features (as connection to water or a view, open space, mountain...).	Consider the ecological features (climate, energy, water...).
New Alamein Tower 2019	3.66	3.63	4.17	4.19	3.05	3.67	3.97	3.82	4.34	3.32	4.11	3.81	3.01	2.57	4.08	3.25	3.77	4.11	3.22	2.97	4.01	4.26	3.56	4.10	4.51	3.14
New Cairo Tower 2015	3.34	3.56	3.70	3.86	2.98	3.48	3.08	3.10	3.92	2.89	3.47	3.36	2.74	2.40	3.84	2.25	3.59	3.76	3.01	2.60	3.10	3.73	3.15	4.04	3.48	2.54
New Capital Tower 2016	3.04	3.20	3.46	3.78	3.11	3.37	2.84	2.99	4.05	2.75	3.51	3.53	2.61	2.31	3.91	2.27	3.67	3.69	2.89	2.38	2.90	3.65	3.09	3.79	3.17	2.22
New Capital Tower 2018	2.72	3.07	3.26	3.72	3.27	3.45	2.74	3.06	4.04	2.93	3.79	3.56	2.59	2.43	3.93	2.09	3.57	3.69	3.01	2.32	2.87	3.58	3.17	3.81	3.16	2.33
AVG.	3.25	3.24	3.77	3.86	2.93	3.32	3.37	3.29	4.17	2.78	3.73	3.48	2.64	2.16	3.95	2.62	3.54	3.77	2.90	2.48	3.23	3.75	3.17	4.02	3.81	2.55

## References

- Al-Kodmany, K. & Ali, M. (2013). "The Future of the City: Tall Buildings and Urban Design". UK, WIT Press.
- Beedle, L., Ali, M. and Armstrong, P. (2007). "Skyscraper and the City: Design, Technology, and Innovation". New York, Edwin Mellen Press, Lewiston.
- Boesiger, W., Stonorov, O., and Bill, M. Eds. (2006). "Le Corbusier: Complete Works in Eight Volumes". Germany, Birkhauser Basel.
- Council on Tall Buildings and Urban Habitat. (2020). "New Alamein City Under Constriction Towers". Accessed March 10, 2021. [https://www.ctbuh.org/?fbclid=IwAR0470hpym-qCKzqn0MH\\_oIkC3SDNxgXLBnDPp4JwsEHQ1U7tUSg-v7M9zhw](https://www.ctbuh.org/?fbclid=IwAR0470hpym-qCKzqn0MH_oIkC3SDNxgXLBnDPp4JwsEHQ1U7tUSg-v7M9zhw).
- Cube Consultants. (2018). "New Administrative Capital Vision". Accessed March 1, 2021. <https://cubeconsultants.org/thecapitalcairo/>.
- Foster, N., Luff, S., & Visco, D. (2008). "Green Skyscrapers What is Being Built, and Why?". A Report for CRP 3840. Accessed August 15, 2019. [http://courses.cit.cornell.edu/crp384/2008 reports/18 Green Skyscrapers.pdf](http://courses.cit.cornell.edu/crp384/2008%20reports/18%20Green%20Skyscrapers.pdf).
- Fishman, R. (1982). "Urban Utopias in the Twentieth Century: Ebenezer Howard, Frank Lloyd Wright, and Le Corbusier". USA, MIT press

Gang, J. (2008). "Wanted: Tall Buildings Less Iconic, More Specific". CTBUH 8th World Congress on Tall & Green.

Gassel, F. (2005). "The Development of a Concept for a Dutch Construction System for High-Rise Buildings". In proceedings of ISARC 2005. Ferrara, Italy.

Goncalves, J. (2012). "The Environmental Performance of Tall Buildings". Washington, D.C., Earthscan.

Hayashida, H. and Iwasa, Y. (1990). Aerodynamic shape effects of tall building for vortex induced Vibration. "Journal of Wind Engineering and Industrial Aerodynamics" Vol. 33, pp.237-242.

San Francisco Planning Department. (2018). "San Francisco Urban Design Guidelines". Accessed July 22, 2019. [http://default.sfplanning.org/plans-and-programs/planning-for-the-city/Urban-Design-Guidelines/Urban\\_Design\\_Guidelines.pdf](http://default.sfplanning.org/plans-and-programs/planning-for-the-city/Urban-Design-Guidelines/Urban_Design_Guidelines.pdf)

Real Estate. (2020). "New Alamein City under constriction towers". Accessed March 1, 2021. <https://realestate.eg/en/182-vacation-in-north-coast-north-edge-towers-compound#pid=16>.

Soleri, P. (1984). "Arcosanti: An Urban Laboratory". Arizona, USA, Cosanti Foundation.

### Post-war dwellings

During the 1950s and 1960s in Italy, intensive models of living spread: multilevel *palazzine*, isolated or inserted in residential parks, condominium which follow the lots of the consolidated city, aggregated to form “urban curtains” or, mainly in the suburbs, isolated buildings, conformed by building regulations, with collective and green spaces, and so on.

Typologically, the *palazzina* is composed of a volume isolated on four sides, of different heights and with a small central courtyard (Passeri, 2013). It appeared in many Italian cities, like Naples and Rome, at the beginning of the 1900s, especially in the expansion of the middle-class area of the ancient city. While a single property generally owned the villa, the *palazzina* consists of several apartments that occupied the entire floor of two or more families.

The condominium, as a type of real estate divided into several units, separately owned, rose in Italy in the 1930s, when during fascism, access to home-ownership was facilitated instead of renting. Full recognition of the condominium as a widespread system became effective only in 1939, when the new urban land registry introduced taxation for a property unit in place of taxation for a building or portion of it, thereby facilitating the transmission of single units (Bortlotti, 1978; 73).

Several national political measures that sanctioned the release of the rent and favoured the spread of the condominium, in conjunction with the expansion of building credit, proved the importance conferred on the property by the fascist regime. The property was conceived as something stratified from that moment, and it was possible to exploit the soil intensively through multi-storey buildings. However, living in a condominium became definitely a new housing model after World War II (Ingrosso, 2017), when Italy experienced an important economic boom. The so-called “economic miracle” started in 1952 and lasted about ten years.

Several factors, including the end of prohibition, energy self-sufficiency and low cost of wages, paved the way for

a boom without precedent. Between 1958 and 1963, Italy became one of the most industrialised Western countries from an almost entirely agricultural country. The urban and rural landscape, houses and lifestyles underwent a radical change during the “economic miracle”, and building, in particular, was a powerful driver for the Italian economy among the new free-market based neoliberal politics (Crainz, 2005).

### Naples, Rome, Milan

In the large Italian cities, there are several analogies in the dwellings built during the boom years, despite, in most cases, there are definite differences in terms of quality and experimentation, for example, in Milan compared to Rome and Naples.

In Rome, due to the morphology of the capital, composed mostly of lots in a checker-board system, the *palazzine* spread.

In Milan, instead, because of the block arrangement of the buildings, residential complexes with courtyards and similar heights, side by side to create a continuous line, were built; critics called them condominium, making explicit reference to their property regime (Irace, 1996).

In Naples, the *palazzina* was introduced at the beginning of the 20th century, mainly in the expansion areas of the old city. However, until the 1930s, the most common typology was made up of multi-storey residential blocks with courtyards. Only from the post-war years, isolated condominium spread in several urban areas and were built according to the city’s legislation and complex topography. Despite these differences, it is possible to find many similarities between the various solutions designed to articulate these three Italian cities’ volumes and façades of apartment buildings.

A recurring theme is the “dual façade”, intended as an autonomous element cladding the structure: a theme that derives directly from the development to the extreme consequences of one of the founding ideas of rationalism, that is to say, the system of the structural frame, which leads to non-bearing, light façades, acting merely as a cladding.

The detachment between structure and volume is also obtained by rotating the masonry covering the exterior or interior and varying the angles in order to create a “zig-zag effect”, which transforms the front into what could be described as “urban theatre wings”. Furthermore, in many condos, the disjunction between structure and volume reveals the supporting frame, while the building mass shows the “soul” of the building. The structure is autonomous, and the second cladding structure is generated to represent a parallel system.

This theme is applied masterfully by Ugo Luccichenti in the house in Via Fratelli Ruspoli in Rome (1948-49), where the acute angle of the lot resulting from the confluence of two roads is enhanced by the moving back of the building volume, leaving a vacuum in which two free piers stand to emphasise the structural arrangement.

A slight variation to the tendency towards a matrix of pillars characterised the fronts with balconies of Ignazio Gardella’s “Casa al Parco” in Milan (1947-54), or the principal facade of Michele Capobianco’s Palazzina in Parco Comola-Ricci in Naples (1952-55), in both cases the frame exposure goes through its partial concealment. The lateral facade of Capobianco’s Palazzina in Parco Comola-Ricci in Naples repeats the formula adopted by Luigi Moretti for “*Il Girasole*” in Rome (1947-50), where a series of windowed walls are arranged at right angles to the street to allude to a virtual opening to the exterior and at the same time guaranteeing as much light as possible to the trapezoid rooms. It cannot be excluded that his Roman colleague inspired the Neapolitan architect in developing this solution. Instead, the several condominiums of Ignazio Gardella represent impressively the gradual overcoming of the rationalism codes expressed by Terragni’s houses in Milan, all based on the extrusion of the frame. Generally, while in Milan much care was devoted to the façade as a flat surface, and so to the cladding and the windows of this curtain wall, in Rome and less in Naples, the volumes were more articulated thanks to the presence of a series of projections and recesses obtained by lodges, terraces, bow-windows or external stairs. These elements, characterised by cut profiles, in turn not always parallel to the façades, broken or curved, are used to ensure effects of light and shade and gain living space.

Vertical connections outside the building, often attached to the façade, are another recurrent element in many Italian condos in these years. For example, the staircase on the façade, with its transverse and diagonal pattern, which links the last two levels of the buildings of the housing complex in Piazzale delle Medaglie d’Oro by Ugo

Luccichenti (1949-53) (Manieri-Elia, 1980), or, again in Rome, the hexagonal staircase that divides the building in Via San Crescenziario by Vincenzo Monaco and Amedeo Luccichenti (1952). Another example is the “spiral” staircase on the back facade of the *palazzina* in Via Petrarca in Naples by Davide Pacanowski (1953-54), whose plasticity is in the best purist tradition.

The base and top are other important elements in the modern condo composition. The bases are often made up of colonnade porches that detach the building from the ground. In some cases, they are moved back to hold up the building, like a podium, as in the *palazzina* “*Il Girasole*” by Moretti (Greco, Remiddi, 2006). In the case of a complex of more buildings, one can form the base of the other, as in the case of the building by Moretti in Corso Italia in Milan (1949-55), which seems to deliberately break the orderly arrangement of the buildings, respectful of the urban context and alignments. At times, the bases are totally transparent, like in the condominium in Via Manzoni in Napoli, whose plans were designed by Francesco Di Salvo (1948) and brought to life by Vittorio Amicarelli (1952) (Fig. 1-5). Its in-line footprint, a matrix of pillars dividing five apartments per floor, is repeated to compose a sort of macro-structure of eight floors overlooking the bay by exploiting the different levels dictated by the hillside of Via Orazio. The floors are repeated strictly identically all the way up the building, apart from the presence of an atrium level with pillars which split the front into two parts, giving the colonnade the intensity of a belvedere between two equivalent spaces and giving the building the mass of the two overlapping bodies drawn together by punctiform junctions (Gambardella, 2003; 51).

In other cases, the composition is based on the orientation of the road, which the lot follows. As for the *palazzina* in Via Petrarca by Davide Pacanowski (1953-54), the sinuous movement of the steep road, with which the plot aligns, typifies the composition. According to this rule, the floors are divided between the various properties, with balconies facing the sea to highlight the parallel lines of the horizontal levels, which virtually extend to infinity. The high-quality details play on the small variations of the open or closed balustrades, the planters, the closures, and the cut-outs of the loggias. Even the names (“*azalea*”, “*orchid*”) of the condominiums in Via Petrarca evoke a park, with vegetation that covers the long balconies facing out over the sea. The balconies are composed “as a chain”, according to the author’s definition, obtained by staggering the volumes and shaping the spaces of the various floors with variable sections.



Figures 1-5. Condominium in via Manzoni, Naples, by Francesco Di Salvo (1948) and Vittorio Amicarelli (1952).

The greenery-clad floors and balcony balustrades form an artificial level that focuses on the nature metaphor (Pacanowski, 1955; 39).

In many cases, the intent of conferring prestige on the building translates into extreme attention to the cladding materials, also made possible by the loss of bearing function of the walls and, therefore, the progress made in the sphere of light façades. In Naples, where the tradition was strong, and brick structures were seldom used, starting from the post-war years, completely coated, frame-structured buildings began to appear ever more frequently. To give a few examples, we have brick coated façades of the palazzina by Michele Capobianco in piazzetta Santo Stefano (1956-58) of clear Scandinavian origin (D'Auria 1993) and the buildings that make up Parco Manzoni by Stefano Paciello and Giovanni Malatesta in Posillipo (1961-65), with their organic design (De Fusco, 1994). Overall, the claddings of the modern condominiums express the nature of the external coating of the building. Clinkers replaced bricks in Milan in the condominium by Caccia Dominioni in Via Ippolito Nievo (1955) or in Via Carbonari (1960-61) (Zucchi, 2018). The cement is often left exposed, some coloured or decorated even with bright colours, like in Via Dezza by Gio Ponti building (1956-57) (Irace, 1988). Vittorio Amicarella resolves the design of the front of the building in Via Manzoni with abstract geometric patterns with the intense colour of the parapets and loggias (now painted over). The tiled pillars of the entrance floor with blue mosaics dematerialise the volumes and therefore not break up the view of the sea that opens up from this view-offering portico. Regarding the colouring of the façades, an explicit reference can be made to the Neapolitan Concrete Art Movement (Menna, 2000, 96).

Another building of Michele Capobianco which cannot fail to be mentioned is Palazzo Decina (from the name of the builders), whose project demonstrates the ability to fully exploit the land made available by speculation after the demolition of a small villa built at the beginning of the century and the large garden that surrounded it. Situated along the bend of the inner road of Parco Grifeo, the building is arranged in two separate volumes: a building of four floors that extends horizontally on a pillar base and, in turn, serves as a base for a six-storey tower situated tangentially. In the overall design of the two façades, great emphasis is given to the relationship between large balconies and loggias, offering the overall image of two distinct buildings, and whose total volume, seen from Corso Vittorio Emanuele below, significantly alters the perception of the Vomero hill (D'Auria, 93, 22-26).

In a hand-coloured photomontage for the project, a chequer-board design covers the upper façade of the building, which in this project version follows the curve of the hill. The schematic nature of this illustration in black and white does not allow to reconstruct in detail how the architect intended to pursue such a pattern. However, the building recalls immediately the contemporary experimentation of Attilio Mariani and Carlo Perogalli in Via Beatrice D'este in Milan (1956-57), composed of a two-coloured clinker pattern (grey and beige), and the nearby and slightly earlier "Casa astratta" by the same authors (1951-52) inspired by the work of Alberto Magnelli and symbol of the synthesis of the arts at that time pursued by the Concrete Art Movement of Milan (Capitanucci, 2015).

Similarly, in the Decina building, geometric designs were used to frame the openings in the side façades of the building below, as can be seen from a picture taken by Paolo Monti when the building had recently been inaugurated.

## Conclusions

Despite numerous studies carried out in many Italian and international contexts on the contemporary architecture of the 1950s and 1960s, only a few publications have been published that have closely examined the Neapolitan architecture of this period. In this regard, with the support of the students of the History of Architecture courses, we are carrying out a series of studies on Neapolitan condominiums, which, perhaps more than any other housing model, urgently require restoration work. The goal is to contribute, as historians, to their critical re-evaluation, with the aim of protecting them.

The example of the palazzina or the condominio represented the solid image of the extremely fast densification of urban territory, which could not overcome the impact of a potent social pressure that brought different wishes and requirements.

The progressive dilapidation of the post-war building's heritage due increasingly to the poor quality of the modern materials used, together with neglectful or entirely absent physical and environmental maintenance, have led to a no longer sustainable loss of value. Such a highly compromised and dense scenario could be rethought through the project, with the aim of protecting them, even with the possibility of replacement of buildings and additional structures which could on one side redesign the system of connection to the ground level and on the other side, lead to the reformulation of the traditional type of Italian middle-class dwelling of the 20<sup>th</sup> century.



To tackle this ever more current issue of restoration and recovery of contemporary buildings heritage with realism and, at the same time, to see this part of the city as a new urban laboratory could be part of the innovative and visionary approach that our cities needs apparently. A study of the Neapolitan architecture of the post Second World War would be indispensable in taking action for its restoration and redesign. Our objective is to contribute, as a historian, to their critical re-evaluation.

## References

Borlotti, Lando (1978). *Storia della politica edilizia in Italia*. Rome: Editori Riuniti.

Burrascano, Marco, and Mondello, Marco (2014). *Lo studio Filo Speciale e il modernissimo partenopeo. Palazzo Della Morte*. Naples: Clean.

Capitanucci, Maria Vittoria (2015). *Il professionismo colto nel dopoguerra*. Milan: Solferino Edizioni.

Craiz, Guido (2005). *Storia del miracolo italiano*. Rome: Donzelli.

D'Auria, Antonio (1993). *Michele Capobianco*. Naples: Electa Napoli.

De Fusco, Renato (1994). *Napoli nel Novecento*. Naples: Electa Napoli.

De Pieri, Filippo, and Bonomo, Bruno, and Caramellino, Gaia, and Zanfi, Federico (2013). *Storie di Case. Abitare l'Italia del boom*. Rome: Donzelli.

Ferracuti, Giovanni, and Marcelloni, Maurizio (1983). *La casa*. Turin: Einaudi.

Fusco, Gaetano (2003). *Francesco Di Salvo. Opere e progetti*. Naples: Clean.

Gambardella, Cherubino (1999). *Posillipo moderna*. Naples: Clean.

Gambardella, Cherubino (2003). *Ossature metropolitane in Francesco Di Salvo. Opere e progetti (Fusco, Gaetano ed.)*. Naples: Clean: 43-51.

Ginborg, Paul (1989). *Storia d'Italia dal dopoguerra ad oggi*. Turin: Einaudi.

Grandi, Maurizio, and Pracchi, Attilio (1980). *Milano. Guida all'architettura moderna*. Milan: Zanichelli.

Greco, Antonella and Remiddi, Gaia (2006). *Luigi Moretti Guida alle opere romane*. Roma: Palombi Editori.

Ingresso, Chiara (2017). *Condomini Napoletani*. Syracuse: LetteraVentidue.

Ingresso, Chiara (2020). *Elena Mendia. Un'architetta nella Napoli del Secondo Dopoguerra*. Syracuse: LetteraVentidue.

*Irace, Fulvio (1996). Milano Moderna. Città, critica, architettura negli anni '50- '60*. Milan: Federico Motta.

*Manieri-Elia, Mario (1980). Ugo Luccichenti architetto*, Rome: Officina Edizioni.

*Menna, Giovanni (2000). Vittorio Amicarelli Architetto. 1907 -1971*. Naples: Edizioni Scientifiche Italiane.

*Pacanowski, Davide (1955). "Tre palazzine panoramiche", Edilizia Moderna", no. 55.*

*Passeri, Alfredo (2013). Palazzine romane*. Rome: Aracne.

*Zucchi, Cino (2018) Everyday Wonders / Meraviglie Quotidiane*. Luigi Caccia Dominioni e Milano: il complesso di Corso Italia. Mantua: Corraini Editore.

# 58 TRANSITION OF NEIGHBOURHOOD, FROM CENTRALISED TO THE MARKET SYSTEM. CASE STUDY "8 MARSİ" NEIGHBORHOOD, TIRANA

*Fatlinda Murthi, Mevis Struga*

## Introduction

Albania has been under a command economy for 45 years, from 1944 till 1990. Many forces influenced the territorial form and structure of its cities during that period. The lack of market on land and other immovable properties greatly influenced the structure of the whole city in the country, especially in Tirana. Land uses and buildings densities or inhabitants densities were not based on the demand from consumers but on the minimised inputs provided by legal acts of the time.

Many new neighbourhoods were constructed around the city, in the open spaces or the spaces obtained from demolishing existing buildings (1 and 2 floors). The urban design of these neighbourhoods, based on the legal acts of the time (Law "Per urbanistikën" and Regulation "Per urbanistikën") was characterised by; the low height of the buildings (max. 6 floors height), low densities of the buildings and population, presence of public buildings (schools, kindergarten, daily nurses), open spaces and sports fields, services (shops) etc. The land was owned by the state, except the land occupied by the individual residential buildings.

The period after the 90s was characterised by free and no organised movement of population. As the capital of Albania, Tirana experienced the most extensive chaotic urban development compared to other country cities. This development occurred in the aspect of sprawl and congestion of the city. The demolition of existing small buildings and construction of the high buildings instead of them was one way to construct new ones in the existing residential zones for new developments. The construction in the existing open spaces, sports spaces or public buildings plots was another way of development.

The second way is the case of this study. After 1990, with the law's approval on "restitution and compensation of immovable property", the land of open spaces, sports spaces or public buildings parcel was restituted to the old owner totally or partially. In the restitution land, they boiled many high buildings, so the neighbourhoods' structure and

urban indicators changed a lot. We will analyse the case of the "8 Marsi" neighbourhood in Tirana city with the aim to study the transformation of the neighbourhood units in the period from a socialist system to a market.

## The aim and objectives of the research

The research aims to identify the transformation of urban design and development elements from centralised to the market system at the neighbourhood level in terms of land ownership transformation. Objectives of the study are:

- Identify the urban and architectural design elements at the neighbourhood level in Tirana city, according to the law.
- Identify the transformation on land ownership in Albania, and Tirana city, after 1990.
- Identify the transformation in urban design and architectural elements in a neighbourhood.
- To analyse the influence of this transformation on neighbourhood quality of life.
- To propose the appliance of the urban and architectural design elements to make the neighbourhood more comfortable and loveable.

## Literature review

Guest (2012, p.49) defines urbanisation as "the process that increasing number and concentrations at high densities". This general concept has happened in Albania and especially in Tirana city. Urbanisation is the outcome of social, economic and political developments that lead to urban concentration and growth of large cities, changes in land use pattern of organisation and governance (Kwasi Nsiah-Gyabaah, 2005). Kellett & Girling, the creators of an interactive scenario analysis 8 platforms called Elements DB, (2015) explain that "in community design, indicators play a crucial translation role between aspirations and concepts ('big picture visioning') and implementable actions, including the design and spatial arrangement of infrastructure, buildings and open space explain Kellett & Girling.

Neighbourhood quality is inherently complex and difficult to measure (Brent D. Mast 2010). Many urban indicators help the creation of the neighbourhood with a high quality of life. Although many policymakers and researchers rely on such indicators, they may have limited ability to measure the quality of neighbourhood life as rated by residents (Buron and Patrabanish, 2008).

Land tenure is a social relationship comprised of rules (legal or customary) set up by societies that regulate how people relate to land (Lall et, 2009). Poor tenure, cadastral and registration system as some of the factors hindering the efficient growth of cities. (Dowall and Clarke 1996).

### **Objectives of the research**

The objectives of this research study are;

- Identify the transformation in land ownership in Albania, and Tirana city, after 1990
- Identify the transformation on urban and architectural design elements at the neighbourhood level in Tirana city
- Analyse the influence of this transformation on neighbourhood quality of life.
- Propose the urban design elements that can be obligatory at the neighbourhood level

### **Research question**

The research questions for each objective of the study are:

- What are the urban design indicators of a neighbourhood?
- What are the differences between urban design and development before and after 1990 in Albania?
- What was the land tenure system before and after 1990 in Albania?
- What are the influences of the transformations of the land tenure system in the development and quality of life in a neighbourhood?
- What are the urban design elements that can be obligatory at the neighbourhood level?

### **Methods**

As a conclusion from the literature review, the urban indicators play an important role in the quality of life in a neighbourhood. Land tenure is an element that has an important role in the pattern of land use design and land development.

This study tends to identify the influence of land tenure changes on the transformation of the neighbourhoods in Albania (Tirana) and the quality of life in this neighbourhood. The research is based on one mixed-method: quantitative and qualitative;

Neighbourhood urban design and land development indicators are tested and measured based on content analyses, comparing the graphic design of these neighbourhoods in 1980 and 2015 using map measurement; The urban design elements are compared with the standard of the time in which that is design or build (1980 and 2015). The opinion about the quality of life in the neighbourhood is collected through walking tour assessments and the results of questionnaires (80 questionnaires are fulfilled from the students of the Urban planning Branch in the Faculty of Architecture and Urban Planning in Tirana).

Questionnaires and Walking tour assessment:

- Functionality - Is the neighbourhood a multifunction one? Have the residents all the functions they need to have near their homes?
- Size - Is the Surface of the amenities and other public space suitable for its use?
- Inhabitants opinions - Have the recent developments improved the quality of the neighbourhood?
- Public participation – do the inhabitants take part in the decision-making process for their neighbourhood development?

### **Findings/Results**

For this research, a neighbourhood in Tirana city is chosen as a case study. This neighbourhood is situated in the Northwest of the city centre at a distance of 1000m from the main square of its. This neighbourhood was design in the years 70-80 of the last century and developed according to that design. There were residential buildings with height 4-6 floors, school, kindergarten, sports field, playgrounds, roads, and squares in this neighbourhood.

#### **The situation of “8 Marsi” neighbourhood in 1980**

The city's main ring road confined this neighbourhood in the north of it and with another main road of the city in the Southwest of its. The residential zone continued on the East side of that neighbourhood.

The land ownership Status was a specific element in the urban design of neighbourhoods (and cities) in that period. The ownership of the land, even the ownership of the apartments it was the state one.

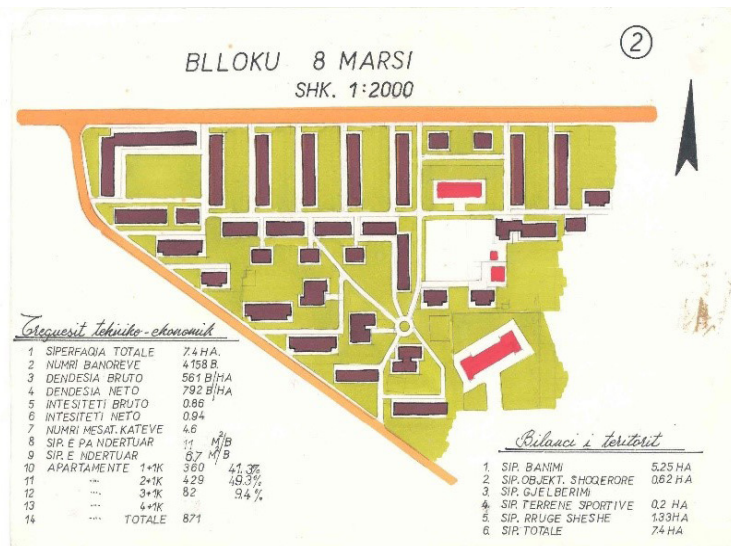


Figure 1. Urban design plan of "8 Marsi" neighbourhood. (1980)

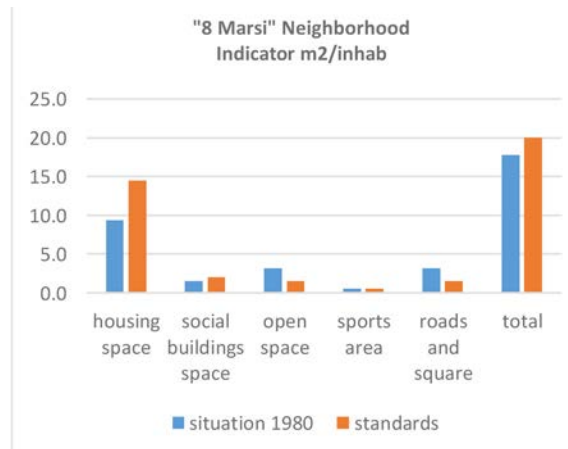
The Figure 1 shows the urban design plan of "8 Marsi" neighbourhood designed and constructed in 1980 by the National Planning Institute. In the urban design process, it was obligatory to respect urban indicators. The National Urban Regulation contained the urban indicator for the neighbourhood design.

The Table 1, Graphic 1 and Graphic 2 below show the urban indicators of the "8 Marsi" neighbourhood design and national standards.

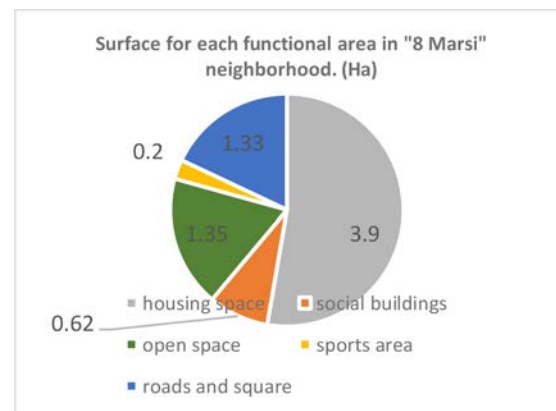
The land ownership for all the areas of the neighbourhood was state ownership.

Table 1. Urban design indicators in the "8 Marsi" neighbourhood. (1980)

Land use	Surface	Norms	Land ownership			
		ha	%	m <sup>2</sup> /inhab	m <sup>2</sup> /inhab	
1	Housing space	3.9	53	9.4	14.5	State
2	Social buildings	0.62	8	1.5	2	State
3	Open space	1.35	18	3.2	1.5	State
4	Sports area	0.2	3	0.5	0.5	State
5	Roads and square	1.33	18	3.2	1.5	State
	Total area	7.4	100	17.8	20	



Graphic 1. The indicators m<sup>2</sup>/inhabitants in the "8 Marsi" neighbourhood (1980)



Graphic 2. The indicators of land use in the "8 Marsi" neighbourhood. (1980)

### The situation of the "8 Marsi" neighbourhood in 2015

We can see the rapport between the different uses in the "8 Marsi" neighbourhood and the indicator m<sup>2</sup>/inhabitant of the urban design of the neighbourhood and the national standards from the table and graphics above.

As the graphics show, the urban design and development indicators for the housing space and the social building space are less than the national standards for that uses. The indicators for open spaces and roads are more than national standards. The indicator for sports spaces is equal to the national standards.

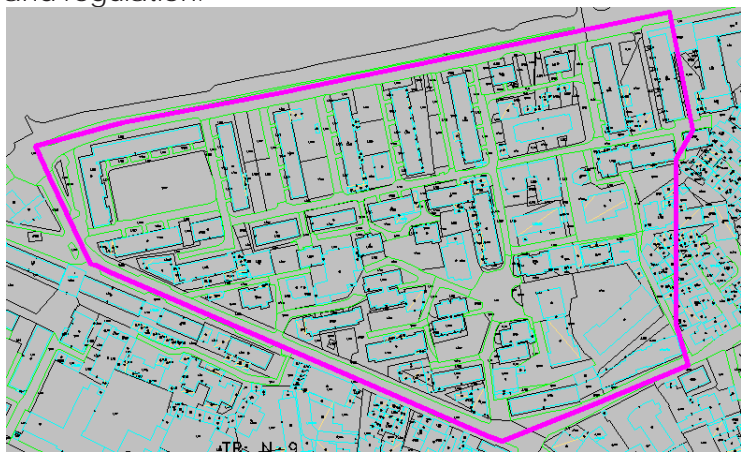
After 1990 with the economic and political changes in Albania, many changes happened in the urban development field. These changes consisted of legal changes and land planning and development.

In 1993, Law No. 7698, “On the Restitution and Compensation of immovable properties to ex-owners”, was approved. According to this law, a part of no occupied territories was restituted to ex-owners. For a part of occupied territories, the right of ownership was known for the private ex-owners. Based on that Law, the ex-owners had the right of restitution of their ownership in the open spaces.

The recreate spaces, sports fields, playgrounds and in many cases and parcels of kindergartens and schools were affected by these processes. Because of the ownership restitute, many territories with state ownership were transferred in the territories with private ownership. This phenomenon was followed by giving landowners the right to build in these spaces, which changed the ownership status. In the case that the municipality did not give the building permission, the land was surrounded by fences by landowners or illegal buildings were built in that land. So the community was not allowed to use these public lands created for him and were used by him for many years. This phenomenon was happened in the recreate spaces, playgrounds and schools and kindergarten parcels.

The changes in land ownership status were followed by many changes in the build and functional structure of the neighbourhood units. The space occupied by buildings, especially residential buildings, was growth and the recreate, sport and school parcel spaces were reduced.

Most of this development was not applied according to the urban planning field (Urban Law. The owners constructed new buildings in the restitution land based on the “The Restitution and Compensation of immovable properties to ex-owners” and did not respect the urban law and regulation.



**Figure 1.** Land ownership plan of “8 Marsi” neighbourhood. (2015).

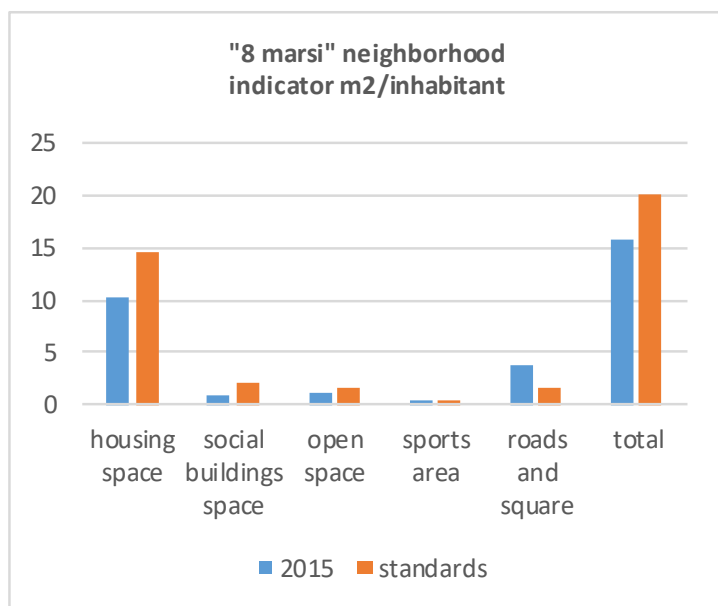


**Figure 3.** Situation of “8 Marsi” neighborhood. (2015)

As in Albania’s whole urban areas, many changes happened in the neighbourhood units in Tirana, especially in the neighbourhood near the city centre. One of these residential units is the “8 Marsi” neighbourhood. The map below shows the divided land, which has been state land, in the small properties, most of which is private land. This change in land ownership was followed by changes in land use and land development. Many new buildings, especially residential buildings, were built in recreating spaces, open spaces or school and kindergarten parcels. The map below shows the neighbourhood transformation. Because of that development, the population of the neighbourhood was increased, and the indicators M2/inhabitants have changed. We can see these changes in the table and graphics below.

**Table 2.** Urban design indicators in the “8 Marsi” neighbourhood. (2015)

Land use	Surface	Land ownership		m <sup>2</sup> / in	
		ha	%		
1	Housing space	4.8	65	10.2	Private
2	Social buildings	0.4	5	0.9	State/ Private
3	Open space	0.5	7	1.1	State/ Private
4	Sports area	0.2	3	0.4	State/ Private
5	Roads and square	1.8	24	3.8	State
	Total area	7.4	100	15.7	State/ Private



**Graphic 3.** The indicators m<sup>2</sup>/inhabitants in the "8 Marsi" neighbourhood. (2015)

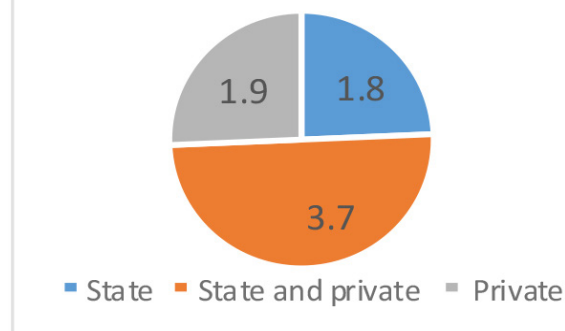
As the table and graphics show, the urban design and land development indicators for almost all uses; the housing space, the social building space, open spaces and sports spaces are less than the national standards for these uses. The indicators for open spaces and roads are more than national standards.

These developments happened in the continuity of land ownership transformation. The transformation the ownership from state land to private land stimulates the land-owners to build new buildings that were not forecast in the urban design of the neighbourhood. The table below shows the land ownership status in the "8 Marsi" neighbourhood.

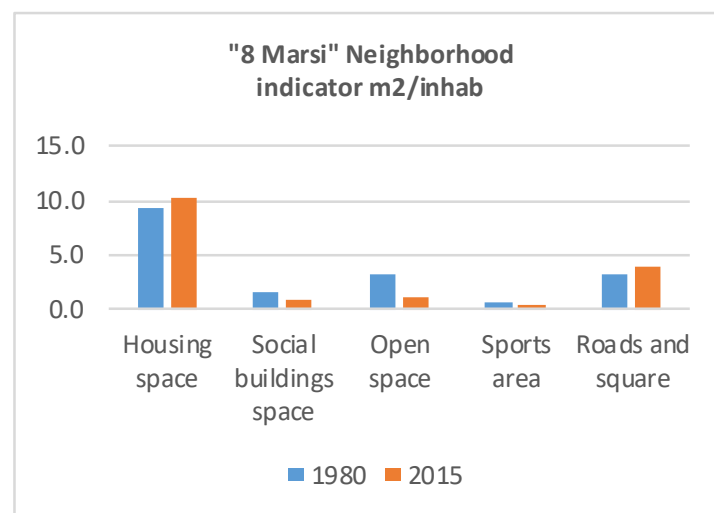
**Table 3.** Land ownership in the "8 Marsi" neighbourhood. (2015)

	Ownership	Surface	
		Ha	%
1	State	1.8	24.3
2	State and private	3.7	50.0
3	Private	1.9	25.7
	Total area	7.4	100

Land ownership  
"8 Marsi" neighbourhood, 2015



**Graphic 4.** Land ownership in the "8 Marsi" neighbourhood. (2015)



**Graphic 5.** The indicators m<sup>2</sup>/inhabitants in the "8 Marsi" neighbourhood. (1980, 2015)

Because of land ownership transformation, many changes have happened in the neighbourhood's land use. The first is an increase in the footprint and the constructed surfaces. These caused reduces of the common public spaces, open spaces, recreation spaces, sports fields, playgrounds, etc. The second is increased the number of neighbourhood inhabitants. This caused the increase of the population densities in the neighbourhood and decreased the shared public space for each inhabitant.

As we can see from the graphic below, the surface of buildings footprint for each inhabitant is increased, and the surface for common public spaces (school, kindergarten, recreates) is reduced.

**Table 4.** The indicators  $m^2/inhabitant$  in the "8 Marsi" neighbourhood. (1980, 2015)

Land use	$m^2/inhabitant$	
	Year 1980	Year 2015
Housing space	9.4	10.2
Social buildings space	1.5	0.9
Open space	3.2	1.1
Sports area	0.5	0.4
Roads and square	3.2	3.8
Total	17.8	16.4

### Questionnaires And Walking Tour Assessment

The students of the Urban Planning Branch of Architecture and the Urban Planning University of Tirana have collected the opinion of the neighbourhood community based on the questionnaires.

The opinion of the residents for the role of the common spaces in their neighbourhood:

- 85 % of the residents think that common public spaces are an important element that affects the quality of life in the neighbourhood
- 82 % of the residents think that common public spaces are important for the children and old people
- 90 % of residents do not agree with the occupation of common public spaces by the new buildings
- The proposals of the residents to protect and improve the common public spaces in their neighbourhood:
- -84 % to protect the surface of common spaces
- 86 % not to allow the construction of new buildings in shared public spaces
- 90 % to equip the public spaces with functional elements (benches, playgrounds ..)
- The feeling of the residents for the future of common public spaces in their neighbourhood:
- -74 % of residents are afraid that new buildings will be constructed in the common public spaces of their neighbourhood, especially in the sports field.

### Results

Based on technical analyses, walking tour through the zone and results of questionnaires assessment, according to the transformations in the builder and open spaces of "8 Marsi" neighbourhood, conclude:

- Occupy of the common public spaces from the new buildings, especially residential buildings or parking squares - has reduced their size.
- The size of the common public spaces for each inhabitant ( $m^2/inhabitant$ ) is reduced.
- The number of residents using these spaces is small compared with the neighbourhood residents that can use these.
- The fear of residents for constructing the new buildings in the shared public spaces is present

### Conclusion

In conclusion, there is a growing tendency to reduce common spaces because of the changes in the land ownership status. That has influenced the reduction of common public space as an important element that affects the neighbourhood's quality of life.

### Recommendations

Based on this study, in order to reduce the phenomena of occupying common public space from new buildings, recommend as below.

Government Planning Authorities.

- To evaluate the public spaces as elements that influence the increase of the quality of life of the community in the neighbourhood, in the setting of norms and standards
- To set a minimum size of recreational space obligatory in the neighbourhood to allow the construction of a new residential building in an existing neighbourhood.
- To propose and apply new planning and development instruments to compensate the landowners of the public common space.
- To set community participation in the neighbourhood design and development process as an obligatory act.
- Local Planning authorities.
- In designing the detailed local plans, the common public space should meet the standards and in terms of the size for each inhabitant ( $m^2/inhabitants$ ),

- Do not allow the occupying of the existing common public space from some residents or commercial activities.
- To collect the inhabitant's opinions for their neighbourhood before the decision-making process.
- To implement new planning and development instruments to compensate the landowners on the public common space
- Residents.
- To maintain the open spaces in their neighbourhoods
- Do not occupy the open spaces near their apartments or commercial activities
- In collaboration with the municipality to improve the situation in the existing open spaces
- To collaborate with the municipality in the decision-making process.

## References

- Brent D. Mast 2010. U.S. Department of Housing and Urban Buron, Larry, and Satyendra Patrabansh. 2008. "Are Census Variables Highly Correlated With Housing Choice Voucher Holders' Perception of the Quality of Their Neighbourhoods?" *Cityscape: A Journal of Policy Development and Research* 10 Lall, S.V., Freire, M., Yuen, B., Rajack, R, & Helluin, J. J. (2009). *Urban Land Markets; Improving land management for successful urbanisation*. Washington D.C: World Bank
- Development- Measuring Neighborhood Quality With Survey Data: A Bayesian Approach
- Dowall, D. E& Clarke, G. (1996). *A framework for reforming urban land policies in developing countries*. Urban management programme. Washington DC: The World Bank.
- Guest 2012 (p.49) *World Urbanization: Destiny and Reconceptualisation*
- Kellett, R., & Girling, C. (2015). *Spatial Sustainability Indicators in Community Design*. Retrieved from <http://elementslab.ca/tools/indicators/>
- Kwasi Nsiah-Gyabaah, 2005. *Urbanisation Processes – Environmental and Health effects in Africa*
- Law, nr.7698, date 15/04/1993. "Për kthimin e kompensimin e Pronave ish Pronarëve"
- Law, nr. 7693, date: 06.04.1993. "Per Urbanistiken"
- Law, nr.8405, date 17.9.1998 "Per Urbanistiken"
- VKM, nr.593, date 13.12.1993 "Për miratimin e rregullores se urbanistikes "
- VKM, nr. 722, date 19.11.1998 "Për miratimin e rregullores se urbanistikes "



The background is a dark gray field filled with a complex, overlapping pattern of light gray hexagons. Some hexagons are solid, while others are defined by dashed lines, creating a sense of depth and connectivity. The overall effect is a futuristic, geometric design.

# Chapter 6

Modern designing  
and  
future technologies



Paolo Di Nardo

## Essay

*"Of all the things that are certain, the most certain is doubt".*

*Bertolt Brecht*

In 1974, in the *Corriere della Sera*, Pier Paolo Pasolini wrote:

*"I know, because I am an intellectual a writer, who tries to follow everything that happens, to know everything that is written about it, to imagine everything that is not known or that is kept silent, who coordinates even distant facts, who put together the disorganised and incomplete pieces of a whole coherent political picture, which re-establishes logic where arbitrariness, madness and mystery seem to reign. All this is part of my job and the instinct of my profession."*

As always, the role of the intellectual, and even more so that of the 'creative' in any era, lies in understanding the reality that surrounds him and in trying 'to imagine everything that is not known or that is silent'. An essential role for evolution, or rather the mutation of a creative discipline, capable of putting "together the disorganised and fragmentary pieces of a coherent whole" to find in contemporaneity and in the concept of the future "logic where arbitrariness, madness and mystery seem to reign". The word "future" was used precisely because it has become obsolete and meaningless. Therefore, it is part of that dark side of interdisciplinary knowledge that deliberate or hidden events have caused to be forgotten in recent decades' creative and other experiences.

An abandonment that has detached the sense of the near future from the vision of the contemporary future, as from utopia. In part, this severe loss of a sense of the "future" is due to the very essence of the creative person, the individual engine that drives the creation and conception of an object, such as architecture and, why not, a city: the ego as the creative trigger. As the only recipe for creativity, the egocentrism of past decades has led us to turn away, after brief flashes of media excitement

linked to only momentary economic well-being, to look towards possible shared visions without implementing the actual vector of creative development: doubt. For a creative person today, doubt is the most charming antidote to the intoxication of partial knowledge that risks turning into arrogance and arrogance of the idea. Saint Augustine was the first, at the end of the 4<sup>th</sup> century, to codify the contradictions of doubt:

[...] if it is not clear to you what I say and you doubt that it is true, at least see if you do not doubt that you doubt it; and if you are confident that you doubt, seek the reason why you are confident. In that case, the light of this sun will surely not come to you, but the true light that enlightens every man who comes into this world. (De vera religione, 39, 73)

Doubting everything is therefore impossible, because one cannot doubt the doubt itself. Doubt, however, is for St Augustine an obligatory step to arrive at the truth: son of the Socratic lesson, doubt is the very expression of truth because we could not doubt if there were not a truth that tries to evade doubt. Truth is revealed as an awareness of error, as the capacity to doubt the false illusions that bar the way. This capacity for analysis and introspection has run aground like the very concept of the future, precisely because the one could not exist without the other, especially at times of ideological, social and above all political crisis such as those we are currently experiencing. Regarding the ability to exercise "doubt", Roger Waters, leader of Pink Floyd, on the cover of his latest album, after having erased all other possible questions, asks himself: *Is This the Life We Want?*<sup>1</sup>.

It is a question that cannot be postponed, and that involves everyone as social persons, but above all as designers, because the absence of shared visions, of research without fences and dialogue between different knowledge has become unbearable: "Is this the life we want? Alternatively, "Is this the search for new creative paths that we want?" This is the question that has been running through governments and communities for a decade now, as they have been hit by the economic crisis that has revealed the illusion of development without lim-

its, without rules, without respect for the future, without respect for the world of youth.

Adriano Olivetti (1901-1960), a revolutionary at an entrepreneurial level and a technological, social and therefore political level, was fond of saying of himself, 'there is nothing but the future in me'.

In a historical period, such as the one marked by the events of 2020, reactivity to the crisis, and therefore its resilient value becomes a socially important act if it is based on doubt and the constant question of what is "unsustainable" without resting on the few remaining certainties, especially in the discipline of design, the values of which must be saved, but not the effects, the processes, but not the technique alone, so as not to risk "preferring routine, a compulsion to repeat, a consolatory repetition of roads already marked out, which is the symptom of a slow agony" (Einstein, 1952, p. 33). 33).

Albert Einstein (1952) wrote:

*"We do not expect things to change if we keep doing the same things. Crisis can be a great blessing for people and nations because crisis brings progress. Creativity is born out of anguish as the day is born out of the dark night" (p. 75).*

The sense of contemporaneity becomes change if it can involve social, political, economic, technological, environmental and, consequently, cultural aspects. However, all this is possible with a wide range of involvement of personal knowledge on the condition that the latter can overcome its disciplinary limits to take on a geographical dimension: in the network of international relations, in the crises between negative individualisms.

At a conference presenting his book "Futuro", Maurizio Carta (2019), an urban planner by university background, but a keen connoisseur of social and creative dynamics at all thematic scales, but above all of the project representation, including design, metaphorically drew, through two types of "dance", the field of action of what comes from the recent past and what could be the future perspective of research: "in the 20th century the dance that represents research is a tango round, while in the 2000s it will have to be a shared space and not an elitist one like a square dance". Therefore, the metaphor of the "dance" broadens the horizon of the individual disciplines to establish a new shared path between different ways of approaching research capable of welcoming other fields of study to enrich one's own.

The first possible operation is, therefore, to be wary of making individual disciplines complex, often self-referential, by following a path of simplification capable of resolving,

through research, the conflict between society's urgent demand and the weakness of the ruling classes' responses: "Today, being revolutionary means taking away more than adding, slowing down more than speeding up, it means giving value to silence, light, fragility and sweetness" (Arminio, 2017, p. 12).

Design, like the other creative disciplines, cannot escape from the search for the transformation of its margins to identify "margins of flexibility" that capture, preserve and value differences: With the compartmentalisation of knowledge, it is impossible to grasp the multidimensional, fundamental and global issues of the current era in their irreducible complexity. First, a new analysis must be carried out on the meaning of the design, going beyond its scale and concept, to define a new contemporary post-pandemic crisis, post-climate crisis, post-crisis crisis, post-crisis of national and international values. In the Italian language, the word "design" is closely linked to the sphere of interior design: a noun linked to Italian culture, industrial design and therefore to a precise and defined professional discipline of "making". In the English language, which represents the Esperanto of the creative arts, the word "design" means a project, planning, the action of linking thought, idea, concept to the project, through the tool of drawing and which is realised with the essence of "doing", namely technology. In this sense, therefore, the English language does not differentiate between scales as design, or the ability to compose can go from a scale of 1:1 to 1:1000 and vice versa. Therefore, it should be coined as a new shared term, even if only by quoting it in a whisper or representing it in a watermark, that can expand the limits of the cultural frame of this discipline: design(ing). The term "design(ing)" moves on a play on words in which the noun "design" becomes a verb, through its gerund isolated in brackets, synthesising two terms in a single word, defining a multi-scalar and trans-disciplinary conceptual dynamism. Designing, therefore, becomes a disciplinary bridge tending towards the English linguistic interpretation, but with a broader cultural meaning, underlining the fact that often in the art of composing, there are no distinctive characters, no identity affiliations, but above all places or scales of intervention: a cultural and methodological synthesis extended between being and doing. The term Designing, therefore, takes on an important cultural value because it overcomes the fences of discipline and cultural belonging, uniting in single concept art, architecture and craftsmanship that are capable, separately, and individually, of drawing a strong belonging and a compositional richness in a "multi-scalar" sense.

In addition to the creative field of action of design(ing), the range of action must find spaces for grafts without which it is impossible to provide contemporary answers: sociology, psychology, politics, physics, and science. A fitting example, taken from the past, of the broad field of action of "design(ing)" is Bruno Mathsson's Superellipse table.

In 1964, the city of Stockholm in Denmark commissioned Piet Hein, a philosopher, poet, and mathematician, to design a physical system to ease car traffic in Stockholm's Segel Square. Hein then naturally tried a circular roundabout but noticed that the solution for the urban shape of the square did not do the job for which it was designed. As a mathematician, he defined it numerically using the formula  $(x/a)^n + (y/b)^n = 1$ .

The new geometric form, derived from the formula whose value "n" was 2.5, became the famous "ellipsoid", or elongated circle or square with two faces. Bruno Mathsson saw this new form, even though it was created on urban space, and thought of transporting it to the field of design, realising its potential and revolutionary value. From this transposition, or estrangement, came the famous "Ellipsoid" table, composed of slender, easily removable legs, a metaphor for the shape of the Segel Square roundabout. The table was so successful that it was chosen for the 1965 Peace Conference in Paris to resolve the Vietnam crisis.

This example is the natural symbol of Designing because it demonstrates many things: that intuition has no scale; that number as a measure, rather than a formula, governs the balance and grace of an object, whether on a scale of 1:1 or 1:1000. The transhumance of rules and concepts also takes place horizontally between different disciplines, as well as vertically between different scales of representation and application, demonstrating that beyond individual disciplinary definitions (design, architecture, painting, sculpture, music, poetry, etc.) there is a "project culture" that covers every ideational pathway: designing.

This new awareness that invests didactics, as well as the "doing" of design, makes it possible to trigger new paths and new awarenesses that find their new value in "resilience", as the ability to react to the crisis of the present, as Edgar Morin (2001) reminds us: "The first difficulty in thinking about the future is to think about the present". This kind of research has always existed for single sporadic cases. However, it has never been culturally systematised. At the same time, the social and health difficulties of recent years impose a different reflection of the present, especially as we witness climate change and its consequences on humanity.

The figure of the designer, as an intellectual, is skilfully traced in a cultured and exciting historical excursus by Marco Biraghi (2019) in "L'architetto come intellettuale." The architect (the designer) is not only a technician of the moderation of space but is the author of interpretations of the world, capable, if not of modifying it, at least of questioning it, of opening the doors of the different present and not only of indulging its immanence (p. 54).

To open the doors of the "different present" to all scales, the first step is to be aware that "when someone says I can do this too, it means that they know how to do it again. Otherwise, they would have done it before" (Munari, 1996, p. 132), following Bruno Munari's famous cultural suggestion. An admonition that is still valid today, indeed prophetic if read in the light of overcoming the ego-culture and the present crisis of values. In this sense, the first conceptual step is to understand the meaning of "mutation", referring to the birth of its scientific meaning precisely to understand the flexibility of contemporary adaptation to this new cultural approach of the design of the future, of "future design". Therefore, future design cannot but be linked, in its creative evolution, to the concept of mutation, of transformation of the data already present in the discipline through a silent revolution, uncertain and capable of modelling itself on every possible occasion. The term "mutation" finds its immediate connection to the term "genetic mutation", defined as follows:

Mutations are the essential elements through which evolutionary processes can take place. Mutations lead to what is known as genetic variability, i.e., the condition in which organisms differ in one or more characteristics. Natural selection works on this variability through genetic recombination, promoting favourable mutations at the expense of unfavourable or even lethal ones (Genetic mutation, n.d.). Therefore, the concept is linked to 'evolutionary processes' characterised by 'variability', which can give 'character' and therefore differences between organisms. In the field of medicine, these characters become essential elements for implementing a "natural selection" that can establish which mutations are "favourable" or "unfavourable". Thus 'mutation', in the sense of considering a new work from another, cannot but lead to evolution in whatever field it is applied. What results is a new diversity, a synthesis of the previous ones. The first task for a scholar, and therefore all the more so for a designer, is to investigate and reknit all those creative invariants present in the tradition of a discipline to produce and add a new chapter of creativity. For a designer, the field of action does not change as the scale changes, moving from the

object to the city and vice versa, but finds new stimuli in the transition between present and future, future and past and vice versa.

At the end of the 16<sup>th</sup> century, Titian painted the 'Allegory of Prudence' (c. 1565-1570), a small canvas depicting three human heads, an old man, a mature man and a young man, above the heads of a wolf, a lion and a dog. The motto completes the painting, "Based on the past / the present prudently acts / not to spoil future action". Past, present and future are inextricably linked, and the future requires the exercise of prudence, understood as the holistic capacity for memory, intelligence and foresight. For Titian and Scholastic Philosophy, Prudence is not synonymous with slowness or uncertainty. Instead, it is a cardinal virtue that requires us to use intelligence to guide our actions so that they do not compromise the future<sup>2</sup>. It is a very timely call to look at the future as an outcome of the present, as a resilient reaction to difficulties of interpretation and action. Moreover, St Augustine wrote that: *There are three times: present of the past, present of the present, present of the future. These three times are in my soul, and I do not see them elsewhere. The present of the past is history; the present is vision; the present of the future, which is expected.*

Therefore, the "future designer" must reconnect the three times and live them simultaneously, thinking history to focus on a vision of the different present that accompanies the expectation of the future.

Edgar Morin writes:

*We must therefore recover the ambition of Cartesian encyclopaedic thinking to account for the fluid and constantly changing articulations between disciplinary sectors, which were then shattered by a simplifying and hyper-specialistic Enlightenment thinking that isolates what separates and conceals all that connects, interacts, and interferes.*

Morin reminds us that complex thought aspires to multidimensional knowledge but is aware from the outset of the impossibility of complete knowledge, following a principle of permanent uncertainty that allows us to recognize new links between entities ever, distinguishing them but not isolating them from one another. Against the 'barbarity of hyperspecialization, which generates boundaries between disciplines and dries up the field of knowledge, Giuliano da Empoli rails with great emphasis, inviting us to become 'mental hermaphrodites', i.e., capable of crossing knowledge and experience gained in different fields to arrive at an approximate understanding of reality, rather than the fallacious model of an ideal world. This

is not necessarily the end of the competence. However, the competence useful to design the future must be porous, open to encountering other competencies, acting within a cognitive system, open, dialogic, and plural, but based on solid knowledge and not superficial perceptions or readings. For the "future" of design, as of any discipline open to connections, Luigi Einaudi's words (1959) are not so far off: "[...] first know, then discuss, then deliberate." Therefore, design is required to re-read its scientific-disciplinary statute to consolidate its physiognomy by adopting "new interpretative keys". One knows how to link "knowing" and "doing directly". If it is true that design is identified with a "young knowledge", an initial field of educational activities must be identified, with the haste of the "future". The actual experimental field, the "dance" to be performed, moves within the disciplinary boundaries of that shared "square" that is based in schools and universities through a new didactic, no longer specialized, and specialized, but open to the construction of multidisciplinary training courses to accustom a young designer to think by connecting present, past and future in search of a new vision: Future Design.

## References

- Arminio, F. (2017). *Cedi la strada agli alberi. Poesie d'amore e di terra*, Milano: Chiarelettere.
- Biraghi, M. (2019). *L'architetto come intellettuale*. Torino: Einaudi Editore.
- Carta, M. (2019). *Futuro. Politiche per un diverso presente*. Soveria Mannelli (CZ): Rubbettino Editore.
- Einaudi, L. (1959). *Prediche inutili*. Torino: Giulio Einaudi Editore.
- Einstein, A. (1952). *Come io vedo il mondo*. Bologna: Giachini Editore.
- Morin, E. (2001). *I sette saperi necessari all'educazione del futuro*. Milano: Cortina Raffaello Editore.
- Munari, B. (1996). *Da cosa nasce cosa*, Bari: Laterza.
- Mutazione Genetica. (n.d.) Retrieved April 28, 2020, from [https://it.wikipedia.org/wiki/Mutazione\\_genetica](https://it.wikipedia.org/wiki/Mutazione_genetica)

## Note

<sup>1</sup> Is This the Life We Really Want? is the fourth solo studio album by English rock musician Roger Waters and former leader of Pink Floyd, released on 2 June 2017.

<sup>2</sup> The Jesuit Baltasar Gracián wrote memorable pages on prudence as a virtue of the art of government in his *Oráculo manual y arte de prudencia* of 1647.

### Origins of surface perceptology

In 2017, at the Polytechnic of Bari, the author founded InmATEX, an acronym for INteraction MATerial EXperience Lab, or a physical and virtual archive of materials based on interactions between sectors of surfaces organised in accordance with sensorial gradients. The study of sensorial gradients arose from a reconsideration of purovisibilist theories occasioned by contemporary studies addressing the design of surfaces, and in particular the relationship between materiality and the digital world, as well as between materiality and modern-day media (Bruno, 2014/2016, Pinotti & Scrivano, 2001, Pinotti & Somaini, 2016). In the introduction to the Italian translation of *"Das Problem der Form in der bildenden Kunst by Adolf von Hildebrand"*, originally published in 1893, Pinotti and Scrivano reprise the role of that text as an opportunity for reflection on "the concept of artistic products being illustrations of the sensory and mental processes that lead to the construction of content, rather than illustrations of the content itself" (Pinotti & Scrivano, 2001, p. 8). Underlying the purovisibilist theories, therefore, as well as the more general efforts of the School of Vienna (Riegl, 1901/1959, 1966/2008) to establish new categories for the viewing and production of the visual arts, were relations between sensory and mental processes. I hold that this focussed outlook provides an opportunity, at present, for a reconsideration of materiality and sensory perception in the digital age, with the further possibility that they can take on new meanings through the surfaces/facings that mediate their appearance.

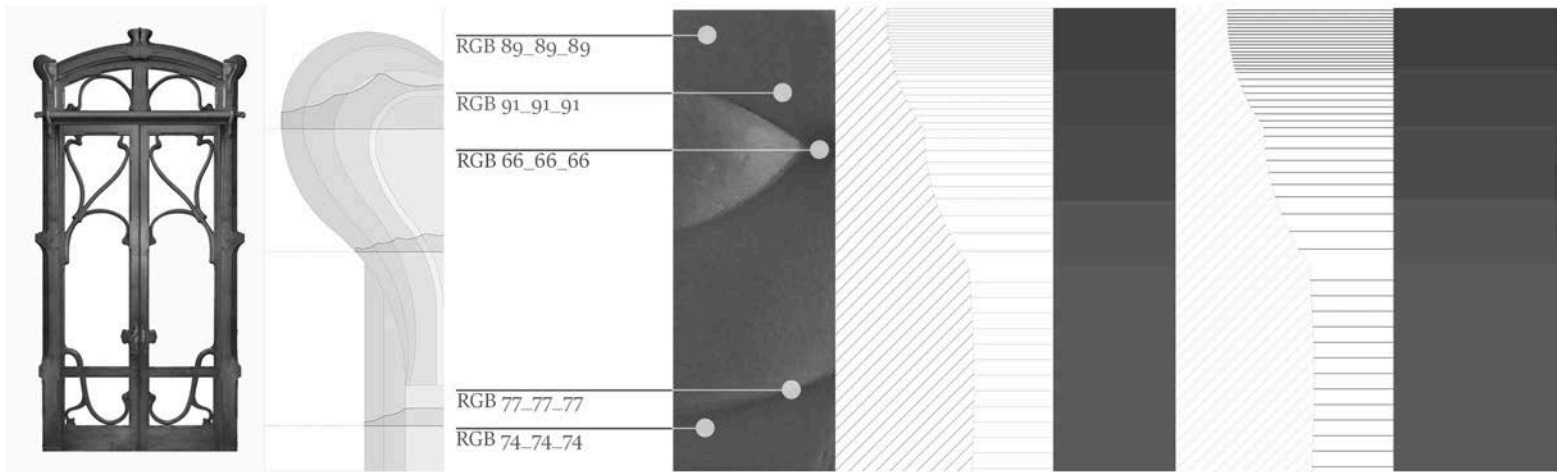
Surfaces and their markings play a key role in these studies (Hildebrand, 1893/2001, p. 41), which aim at determining possible relations between the two-dimensional nature of the surfaces that characterise painting and its related disciplines, and the three dimensions of sculpture, the art form that Hildebrand considers in his text, inasmuch as: "In the case of sculpture, the sense of sight appears insufficient. Sculptures trigger a sensory perceptivity that also involves the kinetic capacity of the observer's body [...] inevitably inhibiting or heightening the onset of a level of sensorial interactivity greater than would be the case, for

example, with painting, sculpture's perennial rival" (Pinotti & Scrivano, 2001, pp. 8-9). In this form of interactivity, the body, together with materiality and sensory perceptions, all make noteworthy contributions. For a sculpture to be understood, there must be material-corporeal participation, with the surface serving as the medium that enables viewers to acquire mental images of their sensory perceptions. How does this occur?

Hildebrand provides an apt explanation, establishing what amounts to a *perceptology* of vision that posits touch "as the *gnoseological* paradigm for three-dimensional spatial representations" (Pinotti & Scrivano, 2001, p. 12). As Hildebrand sees it, the dialectic between surface and depth hinges on the capacity of the surface first to contain depth, and then to convey it through specific markings of chiaroscuro effect or colouring: "If we imagine individual bodies in space, they project plane appearances that do not yield, but rather pose obstacles in the face of the general leaning towards depth, which is precisely what gives these bodies volume. Indeed, depending on how the plane appearance occupies certain specific markings over which the drive towards depth flows, the bodies are provided with a precise volume: a moulded form [...] sooner or later the overall appearance, as determined by its component parts, always leads the plane surface to resist" (Hildebrand, 1893/2001, p. 59).

The plane appearance in question, triggered by a mental process, is the surface. Or better yet, the surface is less a physical reality than the result of the mental process of perception. Its markings bringing it into being, meaning the surroundings, the lights and shadows, the colours needed to expedite the relationship with the perception of depth, with the materiality of what is real.

Put simply, Hildebrand's markings are the perceptive gradients of the surface, seen as a powerful tool in the dialectic of constructing and viewing the work. In such a dialectic, perception functions more as a powerful conceptual device than a sensory attribute, removing from consideration the sensory theories in favour back then and the more modern neurosciences. However, there is inevitably a certain overlapping with both.



**Figure 1.** Ernesto Basile: chiaroscuro system of the mouldings in the interiors of Villa Igia. 1899-1900. Source: Bepy Daniele, Giuseppina Dantes, Valeria Di Lauro, Daniele Garofalo, Stela Karabina.

Starting with Hildebrand, an outline of the interaction between the viewer and the work is unveiled, with the user perceiving not the work in and of itself, but rather how it is put together or the logic behind its formation processes.

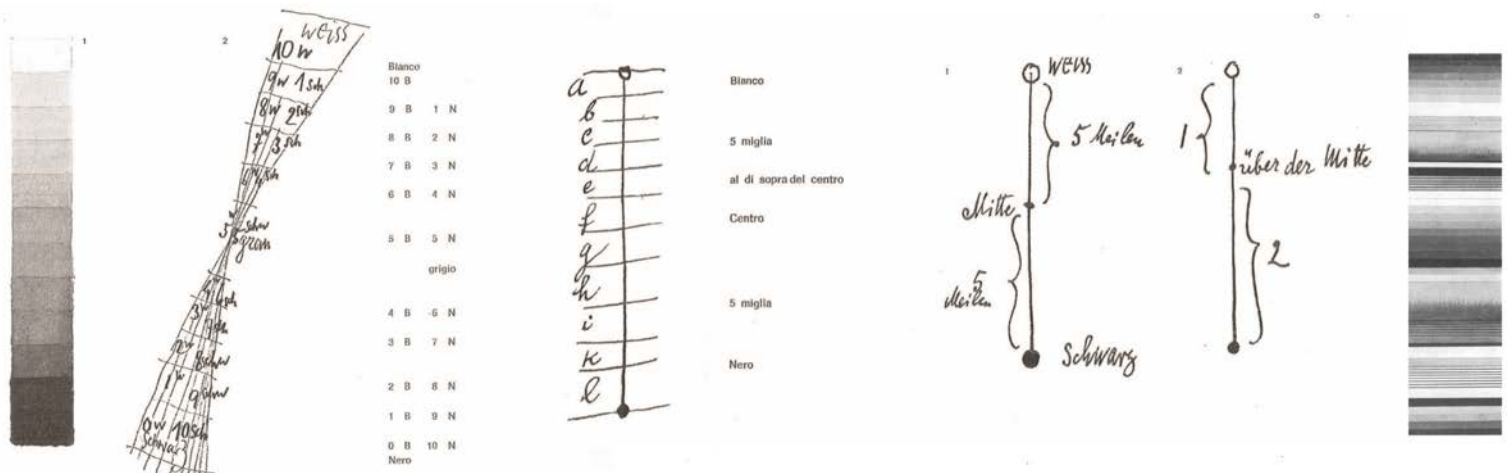
### Representative examples of surface markings

The practical demonstration of the above considerations is found in projects involving the surface facings of a number of interior settings created in the early 1900s by major architects and proto-designers. Of particular interest is the work of Ernesto Basile (Carullo, 2017, 2019), who shows a ready awareness of this theoretical and conceptual outlook that currently enjoys renewed relevance.

Revealed with plaster castings, the surface markings that characterise the facings employed by Basile during one of his first modernist efforts, the ballroom of the Villa Igia in Palermo, can be made available for study<sup>1</sup>.

The plaster castings were photographed under identical lighting conditions in order to catalogue the chiaroscuro effects that break down the three-dimensional moulding of the facing into surfaces which can be encoded and measured.

The chiaroscuro gradients projected onto the surface analyse the system of relations between the parts that make up the overall, with identification of multiple planes of viewing (Fig. 1).



**Figure 2.** The Chiaroscuro tools from *Unendliche Naturegeschichte*, Benno Schwabe & Co., Basel, 1959. Source: Paul Klee.



These constitute the resistance of the plane to the concatenation of forms comprising depth, all of which gives rise to the core grammar of the work. With its flowing motion, the moulding mimics the rippling water of the *Acquasanta* spring atop which the building stands.

The depth is rendered by means of the two-dimensional chiaroscuro gradients connected through the act of perception, making it possible to perceive their logical-mental configuration.

These chiaroscuro scales tie sensorial processes to mental ones in a two-way relationship that results in an unbreakable bond, giving rise to fertile configurative and conceptual abstraction. This process engenders a logic of relations between the planes of depth that can be decoded through the chiaroscuro, together with colour: "But we must also mention colour contrasts as forces which bring together and separate things in the picture, forces which produce forward and backward tendencies. It is self-evident that colour is especially serviceable in our perception of space. Unity of colour in a picture can be spoken of only in so far as the colour takes part in the great work of forming a three-dimensional unity" (Hildebrand, 1893/2001, p. 65).

It is little wonder that the opening lesson of the preliminary Bauhaus course given by Paul Klee (Klee, 1956/70) had as its subject the concept and applications of chiaroscuro gradients (Carullo, 2017, 2018). These provide the underpinnings of figuration, the equivalent, for Klee, of Hildebrand's form. Klee's study of chiaroscuro gradients gives a deeper sense of the seed planted by Hildebrand (Pinotti & Scrivano, 2001, p. 12).

By this point, no further reference is required than that of the abstract logic of the internal relations that determine the conformation of the gradients. As if they constituted a new decimal scale, the shades of grey between the opposing absolutes of white and black give rise to a system of reciprocal relations between surface markings, in a word, to the process of reconstructing the work (Fig. 2).

### **The crystallisation of the impossible**

This process of conceptual control of the dimensions of the chiaroscuro sectors and tones is not, however, a definitive solution for the problems of figuration.

On the contrary, it leads to a dialectic with indeterminacy, consisting of a perceptive stream of interactions among the sectors of grey on the scale, and between those and the opposing poles of black and white: "It would be too daunting a task to determine how each of

these is influenced by the black or the white. But even if it were possible, the only conceivable result would be a contradiction, or a calculation of something whose effectiveness rests solely on rapid movement, which rules out any possibility of calculation." (Klee, 1959, p. 311)

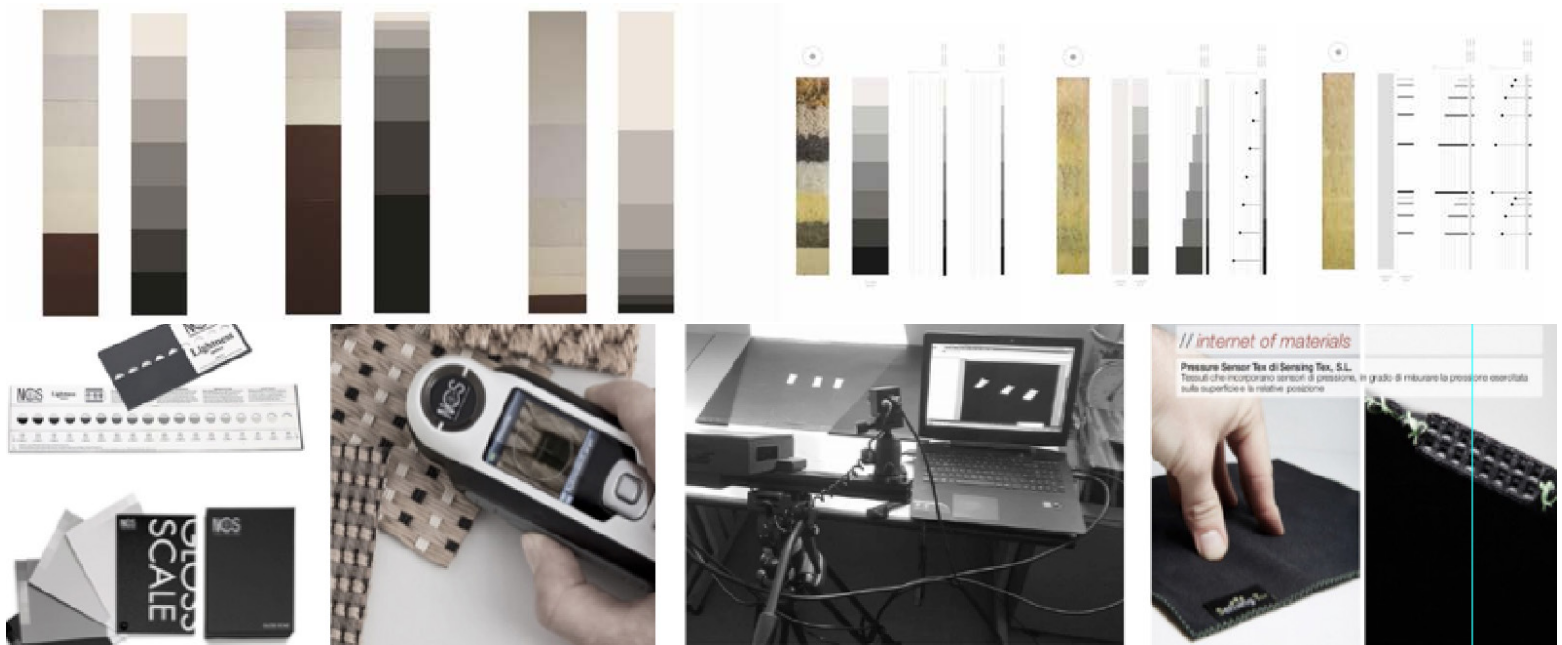
Klee considers it practically an admission of the crystallisation of the impossible, all the more because the greys, upon further contemplation, prove not only to be an extension of geometric sectors subject to quantitative objectification, but also the substance of a pigment, of a material, of the density of a weight. This is the logical and theoretical framework upon which *Inmatex* was created. It rests on the indispensable relationship between measurement and matter, between processes of the mind and those of the senses, as recorded in the surface markings (Carullo, 2017). The objective is to be the first materials library capable of determining interactions of perception between sectors of different materials based on continuous gradients.

### **The *Inmatex* surfaces: an interaction laboratory**

To reach this objective, it was also necessary to consider the latest advances in the study of aesthetics and criticism of the visual arts, in particular the reflections of Giuliana Bruno (2014/2016) on the role of surfaces in the digital age, together with the results of contemporary Material-Experience studies (Ashby & Kara, 2002/2005). In this case, the goal is to catalogue the perceptive-sensorial properties of materials as part of an ongoing dialogue between design and the scientific study of materials, chemistry, physics and mechanical and computer engineering.

When a given material is made a part of the *Inmatex* laboratory ([www.inmatex.it](http://www.inmatex.it)), its surface is broken down and subjected to modifications of transformation and perception to reinforce its sensorial values. Optical-tactile scales are drawn up, with ratings of softness, hardness, roughness, transparency and opacity, making it possible to benefit from the more recondite qualities of the material.

For this reason, *Inmatex* is, first and foremost, a laboratory of interaction. The experiments it carries out are meant to have a radically innovative effect on relations between subjects and objects: "Here, the surface amounts to an architectural element, a partition that can be shared. It is explored as a primary form of habitation for a material world, viewed as the material configuration of relations between subjects and objects" (Bruno, p. 10).



**Figure 3.** Design methodologies of tactile and optical scales for the sensory enhancement of surfaces. Experiments on softness parameters of Pecora Gentile di Puglia wool. Source: Michele Dechirico

### The establishment of sensorial relations in the digital age

What happens when the values of optical and tactile vision come into contact with the demands and conditions of the universe of screens/surfaces that has come to represent the powerful communications system of the digital age? What transformations does materiality undergo? Can it still exist? “[...] Materiality can be revived in the digital age, for it has always been virtual. In stating that materiality does not depend on materials, but is fundamentally tied to material relations, I am attempting to communicate the sense of transformation awaiting those relations” (Bruno, p. 16). According to Bruno, attention should be focussed on relations between sensory and mental processes, to reformulating the ways in which materiality and sensory perception combine in the digital age.

Transforming the ratings of sensorial gradients, such as softer, stiffer, rougher etc., into gradients of grey makes it possible to determine the relative ratings for material sectors presenting different designs. The chiaroscuro values quantify differences in sensorial parameters along scales of soft-rigid, smooth-rough, transparent-matt etc., augmenting explorations of visual culture with technical-scientific categories defined in the course of studies on materials-experience. Inmatex reframes materials as surfaces on which to construct conceptual processes or, as Bruno puts

it, virtual or relational scenarios, and not merely as formal results, although forms are utilised to represent them.

By shifting the focus from the thing to its relations, Inmatex<sup>2</sup> has adroitly become a digital platform (Fig. 6) on which material gradients are represented and measured with the very latest scientific instruments, in a synaesthetic coupling of technology and the visual arts.

The procedures for producing the sensorial scales present incremental levels of complexity. The result is that the laboratory also proves to be an exceptional teaching tool in the sector of materials design. The sequence of design phases calls for the formulation of an initial scale of sensorial reference (under the parameters smooth/rough, soft/rigid, matt/transparent etc.) consisting of sectors of material of equal dimensions.

Then comes an initial variation of the extended sectors, followed by a series of actions, or better yet variations, or rather still working procedures, that reinforce or diminish the level of comfort. An info-graphic of chiaroscuro scales manifests the values of softness or rigidity, with respect to the dimensions of the material sectors (Figs. 3-4), by rendering them digitally perceptible and repeatable. The quantitative data is constantly cross-analysed with the weighted results. The optic and the haptic are monitored as part of a reciprocal planning control. Finally, a parallel process of technical-scientific measurements is performed, in order to place the conceptual reflections within the framework of technical-scientific studies of material-experience.



Figure 5. The physical structure of the Inmatex Material Library. Authors: Rossana Carullo; contributors Sabrina Scaletta, Sara Ferraro, Nicoletta Faccitondo, Mariagrazia Panunzio.

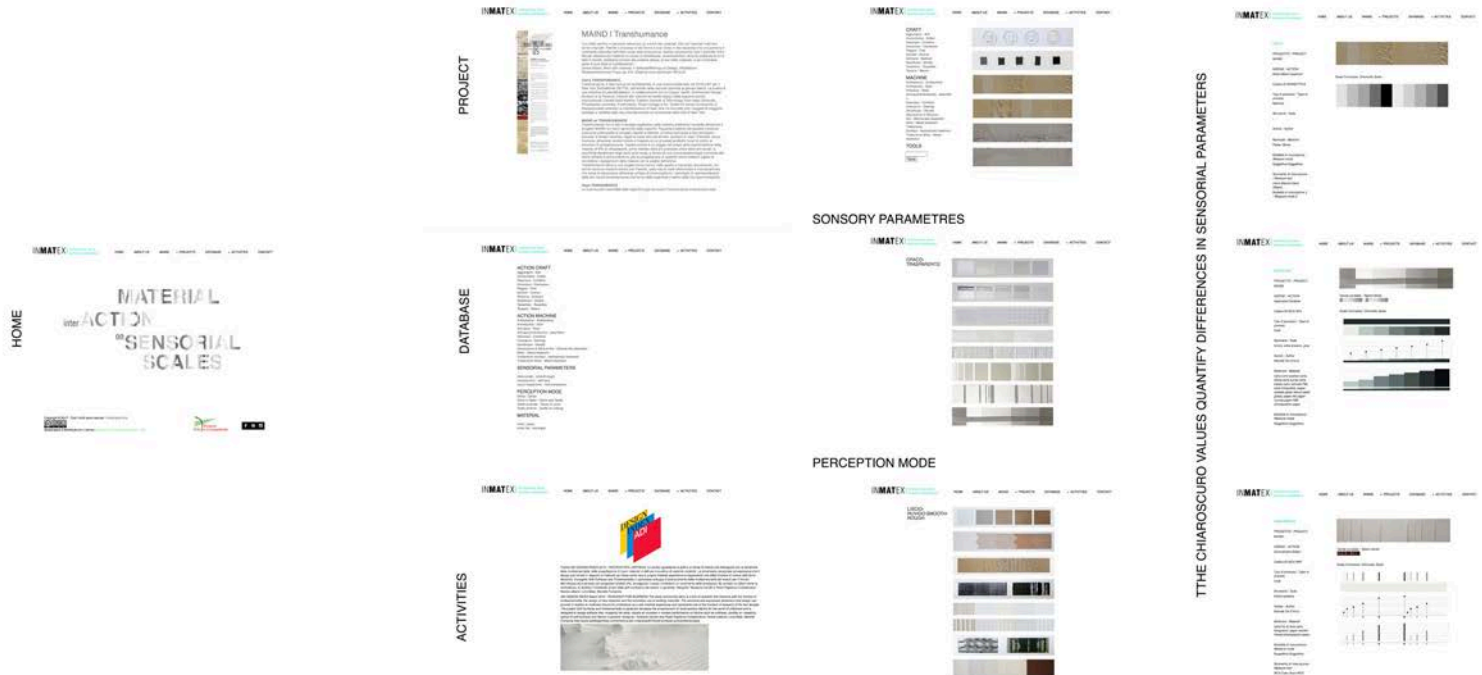


Figure 6. The virtual structure of the Inmatex Material Library. Authors: Rossana Carullo; contributors Sabrina Scaletta.

### Conclusions: “infinite modification of the spacious modulation of the skin”

The methodology followed has made it possible to arrive at a digital platform on which material gradients are represented and measured in a synaesthetic coupling of the technological and the visual, thanks to a shift in fo-

cus from the surface to its interrelations, meaning scales of grey measured with the latest scientific instruments and suitable for reproduction under any industrial process. The Inmatex platform offers the scientific community, local industrial concerns and designers a tool for reflection that engenders a continuous, scientifically managed exploration of the complexity of design processes with respect to problems of perception.

The replacement of a taxonomy of cataloguing with a taxonomy of categorisation makes it possible to reinvent materiality, as Bruno would put it, through simple processes that give rise to new relations. This is aptly explained by a major artist of modern times who points out that: "The focus of interest is no longer the object as such, but rather [...] what is in the middle, between the different surfaces, where it changes during the creation of each perspective, as the work progresses. We can think of Monet as being interested, first and foremost, in the path followed from one painting to another. In the final analysis, what mattered most to him was the process, not the result" (Kiefer 2011/2018, p. 170).

Kiefer stresses the procedural dimension of the methodology but also the attention placed on what he defines as "the interstitial space between things" (p. 175). In this space, the materiality of the surface appears to full corporeal effect, as the relationship between the material and its perceived appearance is taken to its furthest extreme. The most cogent words, but also those most laden with imaginative possibility, maybe those penned by the philosopher Jean-Luc Nancy in his *Corpus* (1992/2014), where he explains that: "All materiality and all subjectivity of clarity are the results of a correct distribution of chiaroscuro. That is where the dividing line between the sign and the surrounding colour begins, as together, the one inside the other, they produce the first appearance, the first view, the first painting" (Nancy, 1992/2014, pp. 40-41).

## Note

<sup>1</sup>The analysis of the interiors of the Villa Igiea is found in a graduate thesis presented at the Polytechnic of Bari in the academic year 2016/2017: *Forma Fluens*: Coordinator and adviser on interior architecture: Prof. R. Carullo; faculty committee: Interior Decoration: Prof. Rossana Carullo; Design and Plaster Castings: Prof. V. Castagnolo; Architectural History: Prof. Antonio Labalestra; Internship: Prof. M. Marafon. Graduate candidates: Bepy Daniele, Giuseppina Dantes, Valeria Di Lauro, Daniele Garofalo and Stela Karabina. The plaster-casting approach was inspired by the theories on the technique of Giovanni Filippo Battista Basile.

<sup>2</sup>Inmatex was also developed thanks to financing tied to the Maind Ritma project on eco-innovative materials and advanced technology for the manufacturing and construction industries, PON03\_00119, led by the Cetma Centre for European Research on Materials Technology and Design in Brindisi.

## References

- Ashby, Mike and Johnson, Kara (2002). *Materials and design*, Oxford: Elsevier, (It. transl. *Materiali e design*, Rozzano: Casa Editrice Ambrosiana, 2005).
- Bruno, Giuliana (2014). *Surfaces. Matters of Aesthetics, Materiality and Media*, Chicago: University of Chicago Press, (It. transl. *A proposito di estetica materialità e media*, Cremona: Johan & Levi Editore, 2016)
- Carullo, Rossana (2017). *Design delle superfici: gradienti sensoriali tra peso e misura*, in *2nd Environmental Design*, 217-228, Torino: De Lettera Publisher-MDA.
- Carullo, Rossana (2018). *Riflessioni sui gradienti sensoriali tra continuo e discontinuo. Studi e sperimentazioni sulla materialità delle superfici*, 127-135. In *Esperimenti di design. Ricerca e innovazione con e dei materiali*. Edizioni LISTt Lab.
- Nancy, Jean-Luc. (1992). *Corpus*, Paris, Edition A.M. Métaillee (trad. it. *Corpus*, Napoli, Edizioni Cronopio, 2014)
- Riegl Alois, (1901) *Spätrömische Kunstindustrie, nach der Funden in Österreich-Ungarn*, (It. transl. *Arte tardomana*, Torino, Einaudi, 1959).
- Riegl, Alois, (1966). *Historische Grammatik der bildend Künste*, Graz-Köln, Hermann Böhlau Nachf, (trad. it. *Grammatica storica delle arti figurative*, 2008, Macerata, Quodlibet).
- Von Hildebrand, Adolf. 1893/2001. *Gesammelte Schriften zur Kunst*, Westdeutsher Verlag, Köln, (It. transl. *Il problema delle Forma nell'arte figurative*, Palermo, Aesthetica Edizioni, 2001).
- Kiefer, Anselm (2011/2018). *L'art sourvivrà à se ruines*, Paris, Edizioni Régrad, (It. transl. *L'arte sopravviverà alle sue rovine*, Milano, Feltrinelli, 2018)
- Klee, Paul. (1956). *Unendliche Naturegeschichte*, Benno Schwabe & Co., Basel, (It. transl. *Teoria della forma e della figurazione*, Milano: Feltrinelli, 1970).
- Carullo, Rossana (2017). *Colore e identità percettive in Ernesto Basile*. Così si alterano le apparenze delle superfici, pp. 114-121, in D. Russo, (a cura di) *Identity: the colors of project*. Palermo: New Digital Frontiers srl.
- Carullo, Rossana; Pagliarulo, Rosa (2019). *Ernesto Basile und Die Farbe in der Wahrnehmung des Innenraum*. In AA. VV. *Orte DerFarbe*. Herausgeber, Koln: Autorne un Verlag der Buchandlung Walther König.
- Pinotti, Andrea; Fabrizio, Scrivano (2001). *Presentazione*, in Adolf von Hildebrand, *Il problema della Forma nell'arte figurativa*, 7-32, Milan: Aesthetica edizioni.
- Pinotti, Andrea; Somaini, Antonio (2016). *Cultura Visuale. Immagini sguardi media dispositivi*, Torino: Einaudi.

*Sabrina Lucibello, Carmen Rotondi*

## Introduction

The material libraries were born at the end of the last century's nineties to give a concrete answer to the problem of over-choice (Manzini, 1986), collecting samples of materials according to criteria and interpretations at multiple levels. Their “mission” is to support designers in choosing the most suitable materials for their projects, being able to access research aimed at specific technical, productive and expressive-sensorial parameters. With careful awareness of the social implications that the choice of the wrong material could generate, all this. Significant responsibilities characterise the result of correct use of materials in the project concerning the world in which we live and has implications and consequences not only of an economic but also moral and social nature: in fact, materials are possible “drivers” of social change, with the potential to alter societies for better or worse (Ashby & Johnson, 2002).

Today, the entry into modernity has radically changed the extent of the issues to be addressed and, therefore, also the design and research on materials, elevating the role of material libraries to catalysts of interdisciplinarity and technology transfer (Wilkes, 2011). As Bauman (2000) affirms, the modernity in which we live is characterised by a condition of liquidity, in which the transformation processes take place at a speed that is difficult to catalyse and settle, and in which excessive freedom makes facing reality a decidedly more complex issue. Consequently, in many fields such as that of materials, arises the need to reorganise knowledge in a multiverse modality (Ferrara & Lucibello, 2012), which facilitates the mutual fertilisation of the disciplines and therefore allows to look at «both the performative and depicting character (of the materials) concerning the type of civilisation, both the symbolic values with which they are equipped» (Fiorani, 2000). Design with its characteristics of pervasiveness and flexibility, thus stands as a synthesis discipline, can combine through the project the technical approach of scientists with the aesthetic-intuitive one of creatives, restoring to matter the complexity and plurality of the aspects that

constitute it: semantic, expressive, of user experience. In this sense, material libraries can represent an essential tool for designers and other figures, facilitating the encounter between sciences and other knowledge, practical experimentation on samples of materials and fruitful discussions in shared physical spaces, further enhancing interdisciplinarity also from a methodological point of view. The material libraries can also facilitate the fruitful meeting between manufacturers and designers (with the design acting as a mediator), overcoming communication problems (from the inaccessibility of the information about the processes to a lack of clarity in the technical and descriptive sheets of the materials) and fostering technology transfer and innovation (through meaningful applications or even through material improvement). Finally, they can favour the diffusion of the “social knowledge” of the materials, allowing any user to explore this world.

However, precisely because the condition of fluidity that characterises modern civilisation has made increasingly global and complex the challenges to be faced, more and more addressing the design activities, even in the materials libraries' organisation is necessary to plan changes. For example, new material classification systems based on design possibilities, not chemical similarities, can come to the fore, allowing users to search more freely, by associations and inspirations, guaranteeing them access to physical samples and their manipulation with different rules. Materials, a focal point of discussion on the way and the world we live in (Pedgley, 2014), capable of calling into question various contemporary knowledge and issues, can become a tool for raising awareness among designers and the whole of society on matters of particular relevance, such as sustainability (environmental, economic, ethical, social), which need to be addressed through an ethical redefinition of the built world.

From these considerations, “Hylocene” was born. It is a physical and virtual material library based at the SAPERi&-Co interdepartmental centre of the Sapienza University of Rome, which focuses on promoting innovation and research in the largest university in Europe (Fig. 1).



**Figure 1.** Hylocene - Physical and virtual material library based at the SAPERI&Co interdepartmental center of the Sapienza University of Rome, whose contents can be explored through a graphically presented exhibition itinerary. Source: Saperi&Co, 2020.

It is imagined as a design tool within an open and coworking space in which to activate interdisciplinary co-design processes, and it collects a reasoned selection of materials, largely still experimental; production processes, largely creative; products and projects resulting from the collaboration between universities, companies, research centres and designers in general, to create innovation and technology transfer starting from the material.

The term "Hylocene" from the Greek *-hyle*: matter and *-cene*: recent, etymologically indicates "today's materials" but more generally underlines the strong differentiation and characterisation of the new material library compared to the existing ones. In fact, it does not concern solely facilitating the access to information related to nowadays materials and production processes to give producers visibility and support potential users in the search for ideal material solutions for their projects. Rather, it aims to immerse the user in the dense networks of contemporaneity, allowing him to explore the social, economic, and cultural trends that pull strings: making him aware of the most urgent contemporary emergencies; offering him an

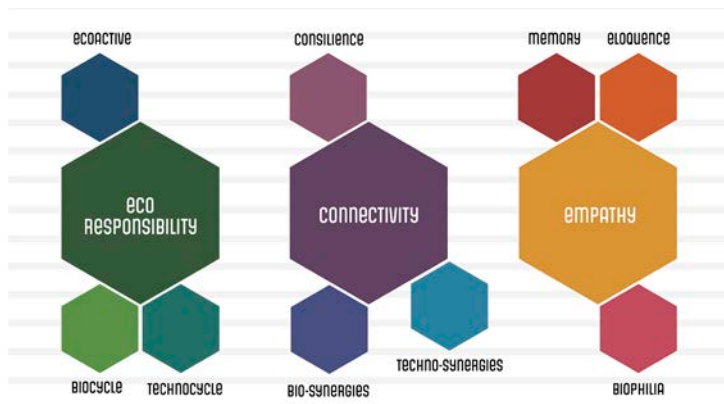
overview of the central role that designers are assuming in the complexity of the present and how through the same materials and their manipulation, they offer innovative and sustainable solutions for a better future. For these reasons, Hylocene goes beyond "deterministic" cataloguing that divides materials into limited categories relating to technical, applicative, and sometimes sensory aspects, but explores and interprets open and current themes - Eco Responsibility, Connectivity, Empathy - subdividing content in a fluid and flexible channels (through the use of tags and clouds) which, overlapping the classic filters, allow for exploration rather than research, inspiration or comparison rather than an "exact" material, innovation rather than finished objects.

This article, therefore, aims to provide a narration, which through the investigation of the three main themes of the material library, namely the three macro-categories into which the collected materials are divided (Fig. 2), wants to stimulate and inspire new synaesthetic thinkings and activate novel, hybrid and transdisciplinary connections able to approach the modern complexity.

## Eco responsibility: Biocycle, Technocycle, Ecoactive

In recent years, the combination of design and research on materials has played an increasingly central role concerning sustainable innovation, not only because they represent the physical interface of production and therefore the burden in terms of resource consumption (Pellizzari & Genovesi, 2017), but also because they are tools through which to characterise the project, both in terms of new and better performances (not only technical and mechanical but also environmental and of production sustainability) and in semantic and perceptive regarding. Furthermore, the drive for sustainability reinforced by top-down initiatives by world governments leads not only designers but also academia, industry and research in other disciplines to develop alternative and eco-responsible material solutions. They see the involvement of design upstream, which reinvents and experiments through creativity with new forms of industrialisation and “disruptive” visions of materials and downstream, giving them identity through applications of meaning. In fact, if on the one hand, designers enter the phase of creating new materials favoured by bottom-up phenomena such as do-it-yourself (Atkinson, 2006) and material tinkering (Parisi et al., 2017), on the other, is fundamental their contribution in the requalification of the semiotic environment of a material and in the definition of its recognisability as well as its meaning (Ceppi, 2016).

In particular, the research and production of eco-responsible materials is evolving in two main directions, apparently opposite but which represent the two sides of the same coin.



**Figure 2.** Macro and micro categories - Hylocene divides the contents into three macro-themes – Eco Responsibility, Connectivity, Empathy – further divided into three micro-categories, offering a complete but precise overview of contemporary materials. Source: Saperi&Co, 2020.



**Figure 3.** MyMantra, Nuo, 2014 - Wood veneers engraved by laser cutting with microtextures that can vary its softness but also the final tactile experience. Source: Saperi&Co, 2020.

The first, more artisan and self-sufficient, is that of circular materials deriving from waste from production, consumption and post-consumption of products, according to a systemic “cradle to cradle” approach which, by assimilating industrial models to nature, aims to transform them in a regenerative perspective (McDonough & Braugart, 2003). These materials, in turn, can derive from a process of re-evaluation and up-cycling of waste raw materials of natural origin, renewable and biodegradable (Biocycle), or from the regeneration and enhancement of synthetic, finite and limited waste (Technocycle). In the first case, the waste can derive from biobased and bio-sourced production processes, such as “Appleskin”, an echo-sustainable leather and ethical alternative to the animal origin ones, obtained from the re-use of industrial waste from the industrial processing of organic apples in South Tyrol. Or, abundant resources in nature are re-evaluated, such as “Shiro Alga Carta” produced by Favini, which deals with the surplus of weed algae of the Venice Lagoon (harmful to the environment and difficult to dispose of) by re-using them in the creation of this paper which by the way, can become whiter over time due to the presence of chlorophyll. In the case of techno-cyclic materials, on the other hand, the waste is generally recovered from landfills and urban mining activities, which aim to give value and new usefulness to rejected materials because they are now ob-

solete. For example, in the “Rethinking materials” project, Ecopneus and Matrec have developed 15 new aesthetically renewed, sound-absorbing and anti-vibration materials derived from 100% recycled rubber from discarded, mixed and poly laminated tires, useful for different applications: from urban furniture to objects, to flooring.

The circular materials are contrasted by the high-performing ones, in which the most sophisticated technologies of today give voice to their usefulness, endowing the material with biological characteristics of autonomy and self-organisation, sensitivity and multifunctionality. We are talking about eco-active materials (Eco-active), which, thanks to their intrinsic characteristics, can activate themselves autonomously, produce a response to certain conditions, or undertake a phase change, usually reversible. This is how “living” materials are born which, like living organisms, are capable of self-cleaning such as “I.Active Biodynamic”, the photocatalytic cement from Italcementi; but also to block UV radiation, to reduce pollutants, or to purify the water. For example, “Sunspace” is a bioinspired, porous and economical material, developed by the University of Brescia and still in the definition phase, capable of capturing atmospheric particulate and regenerating itself like a leaf, constituting a valid alternative to existing filters.

### **Connectivity: Consilience, Biosynergies, Technosynergies**

The new holistic vision of the Universe that sees us part of a complex and interconnected system, in which the sharing of the individual parts affects the functioning of the entire system, stimulates us to rethink our way of acting in the world, towards a more open and collaborative vision, in which the connections not only between man and man but also man-nature and man-machine can provide a concrete answer to the global problems we face. Today, conscious that complex problems are best solved by working together, the collaboration between man and man has acquired more and more importance. The American biologist Edward O. Wilson defines with the term “consilience” today’s transdisciplinary push that involves different branches of knowledge towards a common and shared goal (1998). A clear concept for contemporary design, which acts as a bridge between disciplines and as an interpreter of the progressive convergence of branches of knowledge, which under the sign of creativity increasingly fade the boundaries of their fields of action (Oxman, 2016). But even the geographical and cultural boundaries, between different knowledge and languages, between industrial sectors, local and global, innova-

tion and tradition, today are blurring. These phenomena strongly influence the design revolution and material experimentation, resulting in innovative hybrid outputs and technological transfers, which see the participation of actors of different natures and social backgrounds (Consilience). “Pinatex” for example, is a new non-woven fabric obtained from the waste from pineapple plantations in the Philippines whose innovativeness also derives from the consilience of different knowledge and actors involved in the production process. It starts from the first phase of drying and processing pineapple leaves by the local population, who, by re-proposing ancient techniques, can separate the cellulose fibres from the remaining biomass and weave them to create semi-finished products similar to ribbons. The transformation is then completed in Spain, where the fibres are blended with PLA, coloured and transformed into fashion products.

However, thanks to advances in science, technology and culture, we cannot only interact and collaborate amongst ourselves but also with other protagonists of the Universe. Thus, cutting-edge materials and processes are born that make the biosphere its main collaborator (Bio-synergies). Taking advantage of today’s possibilities of observing, controlling and manipulating nature right into its deepest fibres, they go beyond its emulation, aiming instead at the actual incorporation of living organisms into the project. These are sustainable materials with unexpected properties and aesthetics, which feed and grow in a controlled or uncontrolled way and prefigure a new world in which biological processes will progressively replace industrial and mechanical systems (Myers, 2012). This is the case, for example, of “Wooden Leather”, a fragrant vegetable leather with a woody appearance that is the result of the experiments that designer Marlene Huissoud carried out in collaboration with bees and silkworms. Both are, in fact, able to produce adhesives, such as sericin and propolis, useful for joining different natural fibres into new material. Also, “Mogu” moves in this direction, a family of composite materials for indoor uses and with sound-absorbing properties, consisting of 80% vegetable fibres and 20% mycelium, vegetative state of mushrooms and natural biopolymer, engineered to obtain specific properties and monitored during growth according to strict protocols. Similarly, the digital and computer revolution has created an artificial dimension that is equally varied, active, interconnected, capable of interacting with humans and the biosphere (Van Mensvoort & Grevink, 2010). This increasingly stimulates widespread creativity, leading designers to experiment with the material and manipulate it through



new, customised and controlled manufacturing techniques, free from the rigour of classical production and conditioned by human action (Techno-cycle). This leads to new materials which performative and expressive properties derive from the application of a creative and digital process, such as “Nuo”, soft and flexible material like a fabric, but produced starting from thin wood veneers engraved by laser cutting with microtextures that can vary its softness but also the final tactile experience (Fig. 3).

### Empathy: Eloquence, Memory, Biophilia

The communicative power of all these materials is an increasingly important aspect that involves research in design in order to give it equal dignity with respect to performative skills. However, some projects make values communicate their strength and the search for meaning the way to innovation. Through the materials, they try to convey an innovative message, be it critical, experiential or expressive, but still capable of stimulating the senses and going deeper (Eloquence). “Marm/More”, conceived by the start-up Fili Pari for example, is innovative microfilm made from marble dust and spreadable on fabric, but alongside the performative aspects, the creators place the accent on the “softness of marble”, which



**Figure 4.** Fili Pari, Marm/More, 2018 - Innovative microfilm spreadable on natural and synthetic fabrics, obtained from the recycling of scraps from the processing of marble. The fabric is soft and waxy to the touch, thanks to the presence of calcium carbonate. Source: Saperi&Co, 2020.

thus becomes warm, flexible and malleable enough to be worn (Fig. 4). Today the values to transmit are many, and the designers, immersing themselves in contemporary ethical, environmental and social problems; in the new holistic view of the Universe; as much as in the state of mind of the community, they try to reveal and communicate them, also stimulating through material experimentation new languages, attitudes and behaviours such as respect for biodiversity or cultural diversity; the re-evaluation of memory and the importance of the quality of life. For example, belong to this trend, some materials that, in spite of a globalised world, are made up of homologated aesthetics and products without personality, aim to safeguard local specificities, cultural models, customs and traditions, and make their semantic character the competitive element (Memory). “TipicoAtipico”, for example, is a souvenir collection created by Lanificio Leo, which combines contemporary graphic expressions with an ancient handmade woodcut technique in rust on fabric, to reconstruct the iconographic imagery of the Italian regions. Along the same path move all those material experiments that investigate our very essence as human beings, the profound apprehension for survival and the imperceptible ties with the living, which translate into concretisations that best summarise the ultimate goal of design: to improve the quality of our interconnected essences (Biophilia).

### Conclusion: telling complexity with experience

The field of materials is in continuous and rapid evolution and today appears more stimulating than ever for the project. The new materials and design approaches, in which material choice becomes the very object of the design activity both upstream and downstream, offer multiple and surprising opportunities for the designer (Karana et al., 2019). Opportunities are aimed at rebalancing our relationship with the planet and, at best, reshaping society (Franklin & Till, 2018). Although many experiments are in a prototype phase or limited to small series, the results achieved are fundamental for material culture’s evolution, encouraging designers to restore confidence in their ability to intervene on the matter and to act as catalysts of an environmentally and socially sustainable materiality. Even Hylocene, with its 80 (current) samples, collects materials and products on the market, but also research results not yet mature and known but highly innovative, which therefore require the involvement of designers in order to be qualitatively improved and/or applied in new products.



**Figure 5.** Material sheets – Each material has a dedicated sheet in which are listed all the principal informations. The properties are communicated through scales of gradient. Source: Saperi&Co, 2020.

Like a museum itinerary, Hylocene thus offers a broad and articulated vision of how the most current contemporary scenario on material experimentation presents itself and allows the user to venture into real exploratory paths, which start from the general and delve into increasingly more articulated and specific themes, investigating very distant issues but without losing the overall picture. On a virtual level, through specific algorithms, each material will be “tagged” with one or more themes, which, if of interest to the user, can be explored. Selected, they can lead to a webpage wholly dedicated to the topic and explain it through descriptions, articles and materials, comparing them. On the physical level, a graphically presented exhibition itinerary immediately makes the three macro-themes clear; while going in deep, you can discover the ramifications of each. In this way, the user experience becomes experiential and interactive, allowing him to enjoy samples of the materials in person and explore their perceptual-sensory characteristics, as well as compare them with other materials, explanatory paperbacks, product prototypes, etc. Also, in this case, the user can explore and interpret the younger and more dynamic production reality that surrounds us rather than collect precise data and information like a scientist. This does not mean that the material library does not pay attention to the rest of the information: for each material will be listed physical, performative, sensorial, and sustainability properties (according to scales of gradient); category; applications and much more; both on a virtual level – through a classic sys-

tem of filters that allow you to find a specific material – both on the physical level – presenting a sheet for each material with all the necessary information (Fig. 5).

## References

- Manzini, E. (1986). *La materia dell'invenzione*. Milano: Arcadia edizioni.
- Ashby, M. & Johnson, K. (2002). *Materials and design: the art and science of material selection in product design*. Oxford: Butterworth-Heinemann.
- Wilkes, S. (2011). *Materials Libraries as Vehicles for Knowledge Transfer*. *Anthropology Matters Journal*, 13(1), 1-12.
- Bauman, Z. (2000). *Liquid Modernity*. Cambridge: Polity.
- Fiorani, E. (2000). *Leggere i materiali con l'antropologia, con la semiotica*. Milano: Lupetti Editore.
- Ferrara, M. & Lucibello, S. (2012). *Teaching material design. Research on teaching methodology about materials in industrial design*. *Strategic Design Research Journal*, 5 (2), 75-83.
- Pedgley, O. (2014). *Materials Selection for Product Experience: New Thinking, New Tools*. In Karana, E., Pedgley, O. & Rognoli, V. (eds.), *Materials Experience – Fundamentals of Materials and Design*. Oxford: Butterworth-Heinemann, pp. 337-349.
- Antonelli, P. (2019). *Broken Nature – XXII Triennale di Milano*. Milano: Mondadori.
- Atkinson, P. (2006). *Do it yourself: democracy and design*. *Journal of design history*, 19(1), 1-10.
- Parisi, S., Rognoli, V. & Sonneveld, M. (2017). *Material Tinkering. An inspirational approach for experiential learning and envisioning in product design education*. *The Design Journal*, 20(1), 1167-1184.
- McDonough, W. & Braungart, M. (2002). *Cradle to Cradle – Remaking the way we make things*. New York: Farrar – Straus and Giroux.
- Wilson, E. O. (1998). *Consilience: the Unity of Knowledge*. York: Knopf.
- Oxman, N. (2016). *Age of Entanglement*. *Journal of Design and Science*, 1, 1-11.
- Myers, W. (2012). *BioDesign*. London: Thames&Hudson.
- Van Mensvoort, K. & Grievink, H. (2012). *Next Nature*. Barcelona: Actar.
- Karana, E., Nimkulrat, N., Giaccardi, E. & Niedderer, J. (2019). *Alive. Active. Adaptive: Experiential Knowledge and Emerging Materials*. *International Journal of Design*, 4(3), 43-52.
- Franklin, K. & Till, C. (2018). *Radical Matter – Rethinking Materials for a Sustainable Future*. Londra: Thames & Hudson.

*Giorgio Verdiani, Andrea Pasquali, Elisa Miho, Julia Demiraj, Kristiana Kumi, Megi Ballanca*

## Introduction

In the context of the digital revolution, the architect, the urbanist, the designers are no more allowed in operating as simple users: none of the traditional professions can keep unaltered the structure and behaviours from the past. If the professional wants to be included in the transformation, there is no way to escape the rethinking of teams, references, strategies. If not, the world will go on nonetheless this choice, but with the risk of losing precious opportunities. So, as promoters, the architects are members of teams that should exploit the possibility offered by different tools, both on the front of gathering data, analysing them, and proposing new solutions that hopefully will be tuned with the new reality. A critical analysis of the Hardware and software tools that offer the new possibility of knowledge and functioning may allow some reflecting on the new level of skills required for appropriate intervention on buildings and new urban assets in the middle of the digital revolution. Following it will be defined a specific and basic taxonomy for the main digital survey tools and the other significant hardware products allowing to integrate and enhance the architectural and urban design and restoration/regeneration scenarios as well as their state of implementation in the general architectural work-flows.

At the same time, the digital tools for the representation of architecture brought a significant step in the architectural profession during the past 20 years. From some reflections about this event, it is clear that critical analysis of the software tools allows identifying new possibilities of investigation and intervention in the middle of the digital revolution. In fact, this set of tools are more and more accepted in the process of the architectural/urban definition, with gradual reduction of the operators considering the operations of digital modelling and data treatment as something "external", almost a disturbing accessory, in front of the pure architecture process. A specific taxonomy will be defined for the digital tools Reflecting on the new level of

skills required for appropriate operations on buildings and new urban/regeneration assets. It aimed to analyse and design the sites and the projects, with specific attention to their influence in the final results (CAD and BIM environments, data analysis, generative modelling, imaging software, crew sourcing solutions, APP for personal devices dedicated to operators/users, etc...) as well as their state of implementation Vs main difficulties in the general architectural work-flows.

## Digital survey

Documenting and acquiring a correct representation of the real is a fundamental step in any architectural and urban intervention. More and more, the creation of digital twins of the reality will make available since the start a digital 3D model of the real, but right now, the options are pretty far from such a "utopic" condition.

## Active measurement systems

It is considered an "active" measurement system, any tool producing a variation (emitting light or any other kind of emissions) capable of being used as a measuring procedure. Long range laser scanning works using a laser beam. The system measures the beam's time of flight (the time passed between the emission and the return of the reflection) or its variation in the phase of the light wave (Fig. 1). This operation allows to measure the distance. The scanner at the same time records the horizontals and vertical angles of the beam, positioning each point by polar coordinates that are immediately converted in accurate x, y and z coordinates. The point, enriched by chromatic values (based on reflectance values and/or colours from a separated camera) is then recorded into a file then available for 3D visualisation using specific programs. The more recent 3D scanner units are capable to gather up to two million points in a single second and with an accuracy of about one millimetre at 10 meters distance.



**Figure 1.** A Laser Scanner unit (Cam/2 Faro X330 Phase Shift measuring technology with an operative range up to a distance of 330 metres) during the survey of Palazzo Vecchio in Florence, August 2019. Source: G. Verdiani.

In this sense the 3D laser scanners (Bini, et al. 2012) in our time are the classical and most performant active measurement systems. With operative ranges going from few centimetres to a couple of kilometres, these systems are now on the edge of a significant transformation: the 3D laser scanner units have lowered their weight in the last 15 years, passing from 20/15 kilograms to the 1 kg of the Leica Geosystem BLK360. This weight reduction has been accompanied by the realisation of more and more performative machines, well designed and affordable by non-specialists. The simplification of the whole alignment/post-processing procedures has brought an extremely powerful tool in the hands of any professional. This is true for almost any interior intervention, while large buildings with articulated shapes may still result in quite tricky to easy management. The present direction taken by these tools seems to be the massive data gathering, even at the operative limits of most of the workstations, with the production of huge archives, where the enormous amount of data also works as a guarantee for later choices and for sure it compensates mistakes in the on-field operations. It seems not far a further better implementation of photographic processing and the development of fully implemented point clouds into the more and more frequent "Scan to BIM" definition (Biagini and Arslan, 2018).

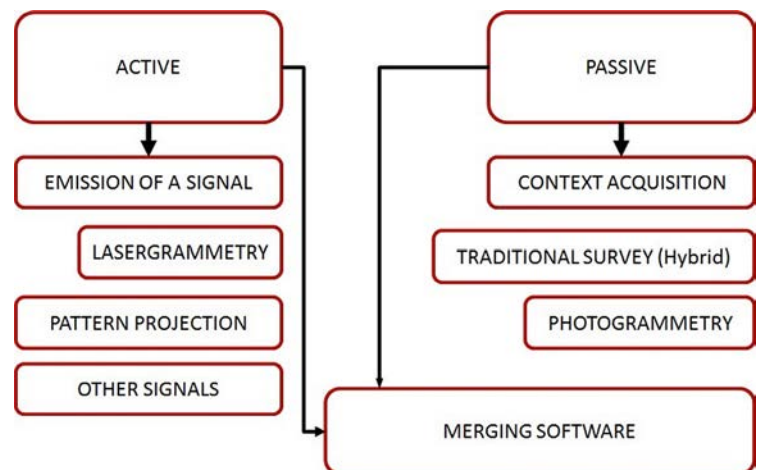
## Passive measurement systems

Terrestrial and Aerial (UAV/Drone) Photogrammetry has revolutionised the way to produce textured 3d models for many professionals, not only architects and engineers have discovered themselves capable of producing good quality 3d models from pictures. From a past where the photogrammetry was connected to the use of very complex procedures and highly specialised/calibrated cameras, these solutions recently (mainly in the past ten years) moved to point and shoot and fast (and often "black boxed") procedures.

This has moved the focus centre of the solution from the phase of the post-processing to the moment of the shooting. Any camera, a correct set of pictures will always produce a 3d model with applied textures. No matter if the picture comes from a smart-phone or a very professional digital SLR (Pucci, 2015), the model will always come out; the better the pictures, the better the final results. The introduction of highly portable solutions, like the recent "LIDAR" module in the Apple iPhone 12 Pro, has pushed the use of digital surveys to a very popular level.

At the same time, the large diffusion of drone/UAV solutions has brought the possibility to gather pictures in ways unimaginable until a few years ago.

This whole set of scanning and imaging procedures creates the best conditions for passing from the real to reliable digital twins, versatile for design studies as well as for restoration or simply for documentation and/or multimedia use (Fig.2).



**Figure 2.** General scheme for the Active and Passive measuring systems in digital survey. Source: G. Verdiani.

## Diagnostic: on the surface and under the surface

The digital tools for diagnostic are extremely impressive, efficient for getting “in-depth” information about the conditions of walls, soils, roofs, statues, mural paintings, frescos and so on... their capacity to inspect in a contactless mode and without the need of any kind of demolition allows to get a detailed description of the phenomena ongoing in the existing building. Thermography, Georadar, Electromagnetic, Ultraviolet, and so on... are the terms indicating quite different technologies to inspect and read the state of the reality. For all of them, it is important keeping in mind that the interpretation of the data is a fundamental step. Any diagnostic data gathering needs technical and well-skilled preparation. The support from specialists in these fields is more than ever fundamental. Studying an object from its surface, photogrammetry may be one of the main tools. The accurate 3D model generated by digital cameras can be used for creating various matches between different states of the same object. With specific hardware solutions, especially when combining a 3D laser scanner with the photogrammetry of single details [Columbu, Verdiani, 2014], it is possible to come back in place, in a different time and take again corresponding shots usable for checking the changes in shape of the surfaces. The same procedure can be applied to 3D laser scanner surveys, where the matching between scans in time should be better guaranteed when supported by a specific topographical/GPS integrated survey.

For example, checking the state of a vault or a wall previously digitised may help fully understand the state of the building and its ongoing conditions. Thermal photography, UV photography, X-Ray, Georadar and Geoelectric are the most common names indicating the technologies available for documenting the invisible aspects of a building under the surface. All these tools require specific competencies both on the front of the use of the single tool and on the front of the data post-processing and interpretation. Reading what is lying beneath the plaster (Fig. 3) could understand the presence and diffusion of water/humidity in a wall or terrain. The possibility to use Georadar tools to interpret the consistency of underground structures has brought a great opportunity in programming excavations, from archaeological digging to infrastructure. The preliminary inspection of the soil allows the reduction of costs, potential damages and better-aimed interventions. In the same way, the reading of the walls can bring excellent awareness about the present situation before programming a restoration (Carsana et al., 2011).

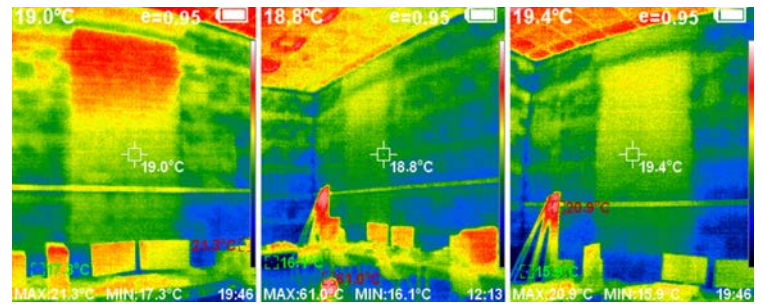


Figure 3. Thermographic imaging showing the presence of a walled window beneath the plaster. Source: G. Verdiani.

## From digital to real

The possibility of expanding the concept of printing (from graphic sheet procedures to fully spatial models) gives a new full opportunity to exploit the digital definition of architecture. The use of physical models - of “maquettes” - has been a great solution for the materialisation of the design ideas and their checking/presentation, the production of the model directly from digital 3d models has created right now the possibility to influence two main contexts: the one, typical, of the production of scale models, where simple and/or complex shapes can be generated with easy passages, and one of the production of models and digital replicas of artworks, sites, tactile models for blind and partially sight-impaired people, that can become a part of the setup of an exhibition or in the redesign of some specific museum room. In direct relation with architecture and urban interventions, it is possible to define three main categories of physical 3D models production:

1) Subtractive model production, where the term indicates any technologies “removing” material from a raw piece to extract the final shape. Laser cutters, Mechanical cutters and Robotic arms are the most common tools of this procedure. They may look like a new step in a line of industrial machines, but their “popularisation” has simplified the previously limited access to these tools. The “cutting” machines allow the production of planar elements, from self-completed ones to entire “mounting kits”. The use of robotic arms allows the production of wholly finished or partially completed models of any shape, where the limit to the complexity is only defined by the articulation of the arm and the characteristics of its working tools.

2) Additive model production. They are characterised by the large set of 3D printers developed in the last years that allow an “additive” processing of 3D models production, using various materials, like chalk, different types of plastic and resin.

These solutions are most of the time used to produce scaled models of any geometry, but it is possible to plan these models inside exhibitions, as final design products or even for special replacement/restoration functions. The more and more simply processing for passing from the digital model to this 3d printing solution is making very popular the presence of a small unit in architecture offices, and even if it is not a machine thought for massive model production, its integration in the studio activities is only a matter of creativity.

3) Real architectural element production, which is a sort of "sub-category" of both the previous. However, it can be well defined thinking that from printing in plastic to printing in concrete, the step is not that long, on the front of using 3d printing solutions to produce final architectural elements or entire buildings, state of the art is right now still at a pioneering level. However, the interesting impact of the early experiences and the fascinating connected scenario create conditions for a well promising evolution for the following years.

### The Internet of things and the architects

The definition of the Internet of things has evolved due to the convergence of multiple technologies, real-time analytics, machine learning, commodity sensors, and embedded systems (Wired, 2018). Traditional fields of embedded systems, wireless sensor network control system, automation (including home and building automation) and others, all of them contributing to enable the Internet of Things (Bahga, Madiseti, 2018). The concept of IoT may appear still a little blurry, but its consistency and its options will be a critical need in the near future of urban planning (i.e. the complex system of relationships established between the people driving a car, the navigation system and the network of public transportation). The main question now should be: How IoT works? An IoT ecosystem consists of web-enabled smart devices that use embedded processors, sensors and communication hardware to collect, send and act on data they acquire from their environments (IoT, 2019). IoT devices share the sensor data they collect by connecting to an IoT gateway or other edge devices, where data is either sent to the cloud to be analysed or analysed. Sometimes, these devices communicate with other related devices and act on the information they get from one another. The devices do most of the work without human intervention, although people can interact with them, such as setting them up, giving them instructions, or accessing the data.

Ambient intelligence and autonomous control do not necessarily require Internet structures. However, there is a shift in research (by companies such as Intel) (Lea, 2018) to integrate the concepts of the IoT and autonomous control, with initial outcomes towards this direction considering objects as the driving force for autonomous IoT (ResearchGate, 2019). Building on the Internet of things, the web of things is an architecture for the application layer of the Internet of things looking at the convergence of data from IoT devices into Web applications to create innovative use-cases. In order to program and control the flow of information in the Internet of things, a predicted architectural direction is being called BPM Everywhere, a blending of traditional process management with process mining and special capabilities to automate the control of large numbers of coordinated devices (IoT, 2019).

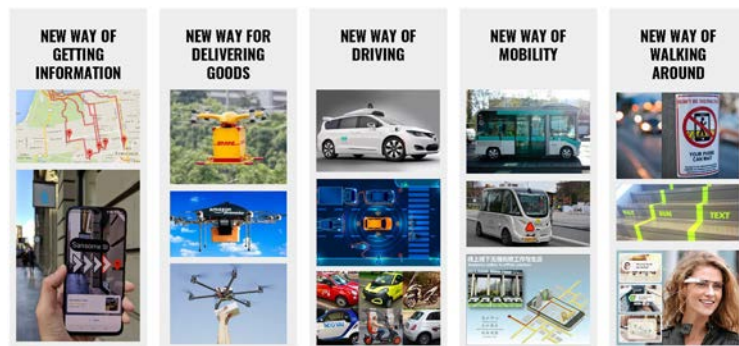


Figure 4. Urban mobility: how some of the Digital Technology influences and will influence the planning choices.

### Domotics

The term domotics comes from the union of 'domus', which in Latin means "house", and of the Greek suffix *tics*, which indicates the disciplines of application, it is the interdisciplinary science that deals with the study of technologies suitable to improve the quality of life in the home and more generally in the anthropised environments. This highly interdisciplinary area requires the contribution of many technologies and professionalism, including construction engineering, architecture, energy engineering, automation, electrical engineering, telecommunications, and design (A&D, 2019). Home automation was born during the third industrial revolution in order to study, find tools and strategies for:

- a) Improve the quality of life;
- b) Improve security;
- c) Simplify the design, installation, maintenance and use of the technology;

- d) Reduce management costs;
- e) Convert old environments and old plants. Home automation plays a very important role in making intelligent equipment and systems (BTicino, 2019).

For example, an intelligent electrical system can self-regulate the switching on of household appliances to not exceed the threshold that would trigger the counter. "Smart home" means an environment - properly designed and technologically equipped- which provides the user with systems that go beyond the "traditional", where equipment and systems are able to perform partially autonomous functions. A home automation system is usually completed through one or more communication systems with the outside world (for example, pre-recorded telephone messages, SMS, automatic generation of web pages or e-mail) to allow the control and display of the status even from remote (Clichome, 2019). Communication systems of this type, called gateways or residential gateways, act as advanced routers, allowing the connection of the entire home network to the outside world, and therefore to the public domain networks. The various components of the system have connected each other and to the control system by types of interconnections (for example, local network, conveyed waves, radio waves, dedicated bus, etc.).

### Urban perspectives

From the self-driving cars to the flying man, the challenges to foresee the future is again an element of the table of architects and planners (Fig. 4). The intention in making any project more and more sustainable, reversible limited in energy consumption should be mandatory. However, at the same time, the need to be "elastic" about the introduction of new players and behaviours with new paradigms in urban mobility should be considered as something not related to a remote future. Self-driving cars with AI software pilots (Tareq, 2018) may influence road design and urban assets in the long run. People receiving constant information from their personal devices and moving in the urban scenario with a layer of digital indications are a "science fiction" scene closer and closer to becoming real. At now the most immediate aspect seems the one connected to personal devices and urban mobility, the use of "familiar" tools like Google Maps for reaching a place has changed a lot in the behaviours of people, as well as the way of walking around of many others (looking at their smart-phone all the time). However, between funny reflections and future solutions,

the question is yet here: how will this way of interacting with the urban areas influence the town's design? It should never be too soon to start a severe reflection about it.

### Architecture and robots

What does it mean to think of a design compliant with AI and Robots? The two words at know are more and more present and recurrent in the common talking, but how they will influence the architecture is yet not that clear. Thus, it is possible to imagine the integration of AI and intelligent informatics solutions in mechanisms, architectural details, and how certain spaces will be able to enter into a relationship with the users. The classic science fiction idea of a virtual manservant receiving the house owner is just anticipated by the recent introduction of Amazon's Alexa and similar solutions. At the same time, the more and more common use of the Arduino and similar micro-computers in design projects (Ridolfi, 2019) is creating the premises for self-autonomous mechanisms operating in favour of the functions of public spaces/housing. At the same time, experiences and premises to possible future development are recently traced by artistic installations (La Biennale, 2019) (Fig.5) and landscape design proposals (Hurkxkens, 2019).



*Figure 5. A robotic arm operating an art performance at the Biennale di Venezia in 2019, "Can't Help Myself" artwork by Sun Yuan and Peng Yu.*

### CAD, or that Middle-Aged professional...

When talking about CAD it is impossible to talk about "new" technology: with a story started in 1963 (Verdiani, 2019)(Fig.6) it would be like naming "new" the Computer Mouse, the "Lava Lamp" or the "Smiley Face" (all are been invented and/or distributed from this same year). But everything is relative when is about time and tools,

but nothing can remain the same without obsolescence when everything around is changing.

So, the traditional CAD solution has been “eroded” little by little by other tools and integrations, while its central logic was trying to keep the solidity and the continuity with procedure of “direct” results. The original abstraction of the “desktop” where the CAD was the “technical drawing sheet”, supported by the procedure of “I want a line, I draw a line” is until now too robust and well working to pass the way to innovations. Thus, there is no doubt the renewals and updates have brought this category of software to be more and more versatile, usable, generalist or specialised accordingly to the needs of the users. Being at the bases of many architectural processing, tools like Autodesk AutoCad (Autodesk, 2019), VectorWorks (former MiniCAD) (VectorWorks, 2019), and Bentley MicroStation (Bentley, 2019) bring on a solid tradition, where the XYZ axis is turned with the Z toward the operators like it was used to happen on the paper sheet: drawing the plant of the building and later rising up the fronts and the sections. So, no substantial changes on this front, but the user should keep in mind how many CAD is built around a quite simple central logic with enrichment of solutions all around; they grow in a long time-line following needs and new solutions, but in a series of branches that sometimes may appear quite a maze to be solved than a clear procedure, and at the same time considering that the old and well-structured procedure they have always used



**Figure 6.** The first CAD system, Sketchpad by Ivan Sutherland, 1963, developed at the Massachusetts Institute of Technology.

maybe not the more practical, and that the reason that it “works” does not necessarily means that it is “correct” from the point of view of the efficiency and the quality of the final results.

### 3D Modelling and rendering

Architectural object communication, or any category of project, has consolidated the practice of digital virtualisation. Whether it is the rationalisation of an idea through a direct modelling process, in the case of a project, or the digitalisation of reality through reverse engineering, for the study of reality, the common work-flow is always divided into two phases. The first is the composition phase (or management for the BIM platforms), and the second, finalisation through the computation of the image rendering process. Attention is to be placed on the relationship between these two phases, which appear to be totally linked and dependent on each other. This ratio will allow the optimal result to be achieved with minimum effort and time. With this, it is considered essential for the modelling and rendering work project, useful for ordering the steps and understanding the most pivotal and secondary steps. Beyond that, today, the modelling phase can be developed either on dedicated modelling software or BIM platforms, depending on the product to be obtained. At the same time, the resulting rendering process can be calculated using different mathematical methodologies, with peculiar and recognisable differences.

### Biased vs. unbiased

Since the born of Computer Graphics, one of the most significant issues has been the communication of the product, created by the programmer or the artist, to its consumer. The software platforms for creating the virtual world, or the 3D object, always had unlimited possibilities of navigation, easy depending on the preparation of the operator. The finishing point of the work or research has always been achieved by creating constraint systems useful to focus the user’s attention on the particularities of the product sought by the developer who provides the finished product through them. The workflow on modelling software or managing 3D elements has always integrated image rendering engines to finalise the activity. In the scene of software houses, which over time have developed modelling and rendering platforms or only rendering engines, there are two types of calculation algorithms, based on Biased or Unbiased methods (Cgviz, 2019). These typologies differ enormously in the final coding of





**Figure 7.** Same 3D digital model, rendering in Biased (on the left) and Unbiased (on the right) graphic engines.

the visual characteristics. For this reason, they appear to be quickly and highly distinguishable (Fig.7). From this, their different and opposite peculiarities allow their optimal choice depending on the most relevant result. In mathematical terms (simplifying the concept), the difference between the types is the way to achieve the “physically correct result” (Treddi.com, 2015).

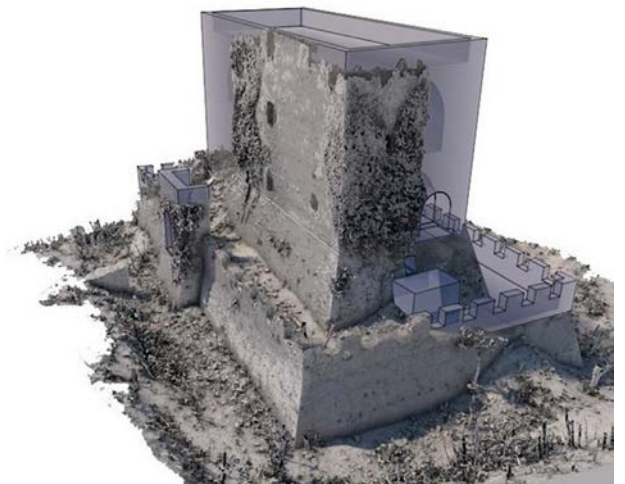
The Biased rendering engine allows the image to be obtained through calculation settings that simulate the physical components of the real world, allowing the user to choose the quality and quantity, up to the exclusion itself of one or more parts. Among these components, the most significant is calculating the behaviour of light. Generally, in Biased engines, we find the possibility of varying definition parameters of Global Illumination, Caustics, refraction or reflection compartment up to the Sub-Surface Scattering. These components can be varied, altering the accuracy of the final scene and bringing the result as close as possible to the full simulation of reality but leaving out, by simplifying or reinterpreting, the visual components that distinguish and characterise it. The setting of the calculation parameters allows the user to check the speed of the calculation process in addition to the visual code to be obtained. This gives elasticity to the Biased engine control of the time/result economy. The Unbiased render engine uses more complex calculation algorithms. It replaces or integrates the simulation components of the Biased engine, using much more precise physical and optical models, also introducing luminous interactions between the elements of the scene. In the end, the most effective implementation is always on the calculation of lights, where physical effects improve from spectral dispersion to

optical aberration. However, this implementation generates a more rigid, or limited, control of the settings of the components; this is due to the vocation of the calculation process to achieve the result as close as possible to the reality, causing an increase in timing. More correctly, shifting the control of the time/result economy from the user’s control (as it was in the Biased engine) to the component characteristics of the hardware hosting the process (ChaosGroup, 2016). The current situation sees the Biased engine growing in the accuracy of the definition of physical behaviours, giving the operator the possibility to choose a very advanced photo-real representation, raising the level of calculation accuracy of the simulation components. With results that are not distorted compared to reality and averagely short calculation times, or in any case always quickly controllable. While the Unbiased engine finds a strong reduction in the calculation times, always significant but necessary to obtain the most precise photorealism.

### Photorealistic vs. non-photorealistic and “from representation to understanding”

The management of the virtual environment and the 3D objects contains in it is disseminated to the public through the image rendering process. At the end of the modelling and management phase and the rendering process, the operator chooses the visual coding of the final image: this coding is just the style of representation (Fig.8).

The representation methodology of the rendering occu-



**Figure 8.** Forte Giove, Elba Island, Italy, mix of photorealistic and non-photorealistic images aimed to help understanding the past aspect of this ruined fortification (A. Pasquali, A. Mancuso, M. Pucci).

pies the range that goes from the technical drawing to the research of photorealism, passing through complex graphic codes. This is commonly simplified with the visual distinction of photorealistic and non-photorealistic. Following the previous paragraph reasoning, it is possible to connect the visual code to the choice of the optimal rendering engine to obtain it. In fact, a Biased engine, which at present can reach highly accurate photorealistic levels, is the only one capable of computing more graphic representations (DAZ3D, 2015). Depending on the software house, some Biased render engines allow both the calculation with flat colour effects and the generation of lines, ordered according to the technical standards of representation. This is combined with the possibility of saving in vector or z-depth image formats, which will allow further management of the image file with other specific software. The Unbiased engine is the maximum security for achieving true photorealism, with the only problem of calculation times concerning the final disturbance of the image (quality), and therefore its pleasantness in being observed. With this specification, which of the two ways of representation is the most suitable? For sure, the final product should already be defined at the time of the work-flow planning. On most rendering engines, the non-photorealistic (or graphic) representation is strongly influenced by the mesh topology (or NURBS organisation). As in the photorealistic calculation process, the exclusion or reduction of secondary scene components may favour the decrease of the calculation time. The desired communication guides the choice. The non-photorealistic choice may be best suited for technical descriptions or focusing on peculiar components, while photorealistic choice will bring the image to a complete perception, mainly more romantic or direct. It is, therefore, possible to simplify the reasoning, combining the non-photorealistic with the ability to provide clear information. The photorealistic with more immediate perception, moving the observer in the "trick" of simulation of the most familiar reality, opening a perception of the rendering subject connected to the memory and the experience of the viewer: this may free the ease of use of the image to a generic public and, at high levels of processing, ending in indistinguishability between real and virtual images. The evolution of the rendering engines has brought a significant change: in the biased and (largely) in the unbiased images, what comes out is a representation of the idea quite close, if not corresponding, to the real aspect of the realisation. This moves the significance of the image from a mere representation to the field of evaluation and reflection. If a space

comes out "dark" or some elements appear awkward, it should be not a matter of "retouching" or "correcting" the image (which thing is extremely well accepted from a graphical point of view), but the occasion to re-edit and rethink some parts of the project to allow a better result. In a certain way, the rendering phase moves itself from the very ending phases to any decisional moment of the processing.

### **BIM, Building Information Management (or something like that)**

The popularity of this acronym is just the first element to testify the extreme relevance of the step it indicates in the actual decade. Behind the many words that can be found (a simple Google search using "Revit BIM" as criteria produce about 20 million results). It is important to keep in mind two very simple facts when approaching and while treating the argument in the professional and academic debate: 1) the BIM is not a single software but a whole procedure, and it involves multiple operators, its most difficult step to take is acting the "centrality" of the 3D model in between them. 2) the production of the 3D model at the kernel of the process is not "drawing" the architecture. It realises a "digital twin" of the project to be used for the management and realisation of the project itself, the level of abstraction between real and digital is reduced. A fact that can be difficult to understand and manage for many professionals well used to basic CAD procedures.

### **Generative Modeling... What?**

Are the architects well inclined to informatics abstractions, scripting, and programming? Optimistically is it possible to answer: "some of them". Thus, the set of software based on "procedural, parametric and generative" procedures is becoming more affordable by operators with traditional building processing in their minds. In Generative Modeling, inputs based on numerical and geometrical values are moved to define elements based on the interpretation of parameters. These procedures have brought two significant results, the development of an innovative series of buildings and the development of versatile tools for studying and implementing the analysis of places. The large diffusion of free plug-ins like Grasshopper (Grasshopper, 2019) for Mcneel Rhinoceros 3D and the recent commercial implementation of Autodesk Revit by Autodesk Dynamo (Autodesk, 2019), have brought powerful tools



**Figure 9.** King's Cross Station, London - 2012

*Arup, John McAslan and partners, a good sample of generative modelling applied to architecture.*

for developing fully generative projects in the context of previously "traditional" 3D modelling practice (Fig. 9). On the front of the architectural production, it is worthy of mention the realisation of sensational results from the Melbourne Rectangular Stadium by Cox Architects and Planners, built-in 2011 (Cox Architecture, 2019); to the China Pavilion for the EXPO 2015 in Milano by Studio Link-Arc (Link Ark, 2018), to arrive at the recent Morpheus Hotel in Macau, by Zaha Hadid Architects (Zaha-Hadid, 2019) and the Galaxia Burning Man Temple, by Mamou-Mani London (Mamou-Mani, 2019), both completed in 2018. On the front of the studying and analysis, the most significant

are: the experience conducted by the Autodesk office and research space at the MaRS Innovation District in Toronto, wherein 2016, they brought on a project named "The Living Autodesk Studio" based on the application of generative algorithms to the production/solution of interiors on the base of pre-defined parameters (The Journal of the American Institute of Architects, 2018). At the same time, the development of powerful tools like "City Engine", released in 2008 and recently acquired by the software house ESRI (ESRI, 2019), and open tools like Cheetah, integrating Grasshopper for McNeel Rhinoceros 3D and presenting itself like "A Plug-in for Configurative Urban Design

& Planning” (YouTube, 2013), has opened to the urban interventions the opportunity to apply rapid and efficient solutions, to study the situation of a place and analyse the variable transformations in relationship to multiple parameters. As demonstrated by the very recent software, the automatic procedures can little by little be integrated for better efficiency in the design process. It is the case of Finch, a tool to automatically generate floor plans based on the constraints of a site. Architecture studio Wallgren Arkitekter and Swedish construction company BOX Bygg collaborated to create this parametric tool, which “seeks to help architects understanding the potential site limitations in the early stages of the design process” (Architizer, 2019); and by TestFit (Clifton, 2019), a software capable of adapting various building solution from their volumetric definition to the elements of service, like the best fit of a parking area to a lot.

#### Diagnostic and simulation tools, from the structural aspects to the environment

The development of software solutions to study and analyse reality allowed a great improvement of all the procedures aimed to understand the behaviour of structures, decay, environment, complex human and/or natural phenomena. In all the cases, these tools need a clear understanding of the real, both in terms of shape and consistency and in terms of the procedures used to study and analyse its behaviours. In all the cases, these tools need a clear understanding of how a structure works and studying the way the environment works related to the structure. By introducing architects to structural simulation in Autodesk Revit (Autodesk, 2019), the learning process is modified to work with visual thinkers—developing a stronger connection to the design process and improved direct feedback (visual in nature) to the ramifications and potentials of design decisions.

The understanding of simulation tools is required to provide an additional level of vision to the architect. These tools give decision support to create a wider array of informed design alternatives. At now, these tools appear quite various but may be resumed in two-three main groups: 1) Simulation of the structural behaviours, with the analysis of the condition of the building or when stimulated by external phenomena like winds or earthquakes. 2) Simulation of the environment, from the solar radiation to the air movement across spaces to the propagation of sounds. 3) Other kinds of simulations, i.e., the “Virtual Crowd” tools, simulating the movement of a crowd, which may not be

so striking in front of other simulations but may bring very interesting reports about the design choices.

All these software solutions may be found with a stand-alone solution or as plugins/integration of existing major CAD/modelling/BIM solutions. It is important to keep in mind that the simulation’s quality and reliability will be poor or consistent and realistic according to the quality of the data/information available and the accuracy of the model used for the simulation.

#### Conclusions



**Figure 10.** Two fully graphic presentations in Microsoft PowerPoint format commenting this paper can be downloaded from [www.laboratoriolia.com/IFAU2019/PPTX\\_00.pptx](http://www.laboratoriolia.com/IFAU2019/PPTX_00.pptx) (it is possible to scan the QR codes here upon for direct link)

This rapid summary enlists a wide series of tools, sometimes coming from different disciplines, but all aimed to influence the way of designing and planning architecture and the city. Is it an interesting challenge or not? How many architects consider the chances of contemporary technologies as something to be exploited appropriately in their interventions?

Obviously, there is no need to dive into the digital world as a new victorious conqueror of the world. However, a profound reflection about what the hardware tools offer and require in terms of opportunities, methods and strategy should be a fundamental step in reconsidering professional teaching and evolution. At the same time, an “elastic” approach to the most advanced innovation should be made with a calm disenchantment, guiding the professional and academic choice to proper results and trying to produce the most in terms of comfort and stress-reduction for all the people living across the new digital layer existing in all the contemporary cities.

The Software solutions for urban and architecture planning and/or analysis are continuously growing and are

focusing on procedures aimed at the “digital twin” logic step by step. The realisation of the digital model seems the opportunity to make less empirical the building process, enhancing the results, giving new options, augmenting efficiency and safety, reducing the costs. However, it is not a priceless miracle. It asks for understanding, learning, efforts in creating a new common ground between professionals and tools. The award is extremely interesting, especially in the scenario where the digital twins do not stop their usability at the completion of the courtyard but keep on overlaying the real for managing, dissemination, maintenance, and communication scopes.

As a condition, it needs the full participation of the operators of the building process and where Architects and Urban Planners should be driving the path, with proper research, experiences and sharing, starting from the Academy.

## References

A&D (2019), “20 Anni di Domotica”, homepage, Accessed September 22, 2019. [www.architetturaedomotica.it/chi-siamo-20-anni-di-domotica](http://www.architetturaedomotica.it/chi-siamo-20-anni-di-domotica)

Arshdeep Bahga and Vijay Bahga Madiseti (2018). *Internet of Things: A Hands-on Approach*. Hyderabad: Universities Press.

Autodesk (2019), “Autocad” specific page. Accessed September 22, 2019. <https://www.autodesk.com/products/autocad/overview>

Autodesk (2019), “Dynamo” specific page. Accessed September 15, 2019. <https://www.autodesk.com/products/dynamo-studio/overview>

Autodesk (2019), “Structural Simulation for Architects: An Introduction to Structural Thinking for Design Students” lecture by David Beach. Accessed September 22, 2019. [www.autodesk.com/autodesk-university/class/Structural-Simulation-Architects-Introduction-Structural-Thinking-Design-Students-2012](http://www.autodesk.com/autodesk-university/class/Structural-Simulation-Architects-Introduction-Structural-Thinking-Design-Students-2012)

Bentley (2019), “Microstation” specific page. Accessed September 22, 2019. <https://www.bentley.com/it/products/brands/microstation>

Bertolini, Luca; Carsana, Maddalena; Gastaldi, Matteo Maria, Lollini, Federica and Redaelli, Elena (2011), *Corrosion assessment and restoration strategies of reinforced concrete buildings of the cultural heritage*. In *Materials and Corrosion*, 62; pp. 146-154, John Wiley & Sons, Inc.

Biagini, Carlo and Arslan, Pelin (2018), *Industrial Heritage in the historical neighbourhood: BIM strategies for urban regeneration*, in *Disegnarecon* Vol. 11, N. 21, *Advanced*

*Technologies for Historical Cities Visualisation*, A. Giordano, K. Huffman (editors), University of L’Aquila, Italy.

Bini Marco, and Bertocci Stefano. 2012, *Manuale di rilievo architettonico e urbano*, CittàStudi, Torino, Italy.

BTicino, Brochure sistema Domotica (2019), “Progetta facile, progetta domotico. Le soluzioni su misura per ogni ambiente” online promotional brochure, Accessed September 22, 2019. [www.legrand.ro/userfiles/custom/253/Brochure\\_My\\_Home\\_Architetti\\_e\\_Progettisti.pdf](http://www.legrand.ro/userfiles/custom/253/Brochure_My_Home_Architetti_e_Progettisti.pdf), Italy.

Cgviz (2019), “Biased vs Unbiased Rendering Engine”, Accessed September 21, 2019. <https://www.cgvizstudio.com/biased-vs-unbiased-rendering-engine/>

ChaosGroup (2016), “The Truth About Unbiased Rendering”, Article by Christopher Nichols, Accessed September 21, 2019. <https://www.chaosgroup.com/blog/the-truth-about-unbiased-rendering>

Clichome (2019), “Domotica: sviluppare un progetto e un preventivo”, homepage, Accessed September 22, 2019. [www.clichome.it/progetto-domotica.php](http://www.clichome.it/progetto-domotica.php), Italy.

Columbu, Stefano and Verdiani, Giorgio (2014), *Digital Survey and Material Analysis Strategies for Documenting, Monitoring and Study the Romanesque Churches in Sardinia, Italy*, in *Lecture Notes in Computer Science Digital Heritage*, Ioannides Marinos et al. (editors), Springer, Switzerland.

Cox Architecture (2019), “AAMI Park” specific page. Accessed September 21, 2019. <https://www.coxarchitecture.com.au/project/aami-park/?discipline=architecture>

DAZ3D (2015), “Unbiased Rendering - over rated?”, post by Dantec, Accessed September 21, 2019.

<https://www.daz3d.com/forums/discussion/55070/unbiased-rendering-over-rated>

ESRI (2019), “Esri CityEngine” specific page, Accessed September 21, 2019. <https://www.esri.com/en-us/arcgis/products/esri-cityengine/overview>

Grasshopper (2019), “Algorithmic Modeling For Rhino” Homepage. Accessed September 21, 2019. <https://www.grasshopper3d.com>

Hurkxkens, Ilmar (2019). “Robotic Landscapes: Forming Terrain with Granular Material”. Lecture at the Berlage Centre for Advanced Studies in Architecture and Urban Design. Accessed August 30, 2019.

[www.theberlage.nl/events/details/2019\\_04\\_05\\_robotic\\_landscapes\\_forming\\_terrain\\_with\\_granular\\_material](http://www.theberlage.nl/events/details/2019_04_05_robotic_landscapes_forming_terrain_with_granular_material)

IoT (2019), *Internet of things (IoT)* Margaret Rouse, article by Matt Burgess, Accessed September 1, 2019. [internetofthingsagenda.techtarget.com/definition/Internet-of-Things-IoT](http://internetofthingsagenda.techtarget.com/definition/Internet-of-Things-IoT)

La Biennale di Venezia (2019). “Sun Yuan E Peng Yu”.

Allestimento alla Biennale di Venezia, Padiglione Centrale Arsenale. Accessed September 1, 2019. [www.labiennale.org/it/arte/2019/partecipanti/sun-yuan-e-peng-yu%C2%A0](http://www.labiennale.org/it/arte/2019/partecipanti/sun-yuan-e-peng-yu%C2%A0)

Link Ark (2019), "China Pavilion for Expo Milano 2015" specific page, Accessed September 21, 2019. <http://link-arc.com/project/china-pavilion/>

Matt Pharr, Wenzel Jakob, Greg Humphreys (2016). *Physically Based Rendering: From Theory To Implementation*, third edition. Morgan Kaufmann Books.

Mamou-Mani (2019), "Galaxia Burning Man Temple 2018" specific page, Accessed September 21, 2019. <https://mamou-mani.com/project/galaxia/>

Perry Lea (2018). *Internet of Things for Architects: Architecting IoT solutions by implementing sensors, communication infrastructure, edge computing, analytics, and security*. Birmingham: Packt Publishing UK.

Pucci, Mirco (2013), *Prima che appaia il "divieto di fotorilievo": considerazioni sulla fotomodellazione*, in *Disegnarecon Vol. 6, N. 12, Disegnare con la fotografia digitale*, Pablo Rodríguez-Navarro (editor), Dipartimento di Architettura, Università di Bologna, Italy.

ResearchGate (2019), "IoT Architecture", Accessed September 22, 2019. [www.researchgate.net/profile/Prakasam\\_Periasamy/post/What\\_research\\_exists\\_or\\_is\\_currently\\_taking\\_place\\_on\\_the\\_Architecture\\_for\\_Internet\\_of\\_Things/attachment/59d64456c49f478072eacd6a/AS%3A273752842014725%401442279171391/download/2InternetofThingsFactsheetArchitecture.pdf](http://www.researchgate.net/profile/Prakasam_Periasamy/post/What_research_exists_or_is_currently_taking_place_on_the_Architecture_for_Internet_of_Things/attachment/59d64456c49f478072eacd6a/AS%3A273752842014725%401442279171391/download/2InternetofThingsFactsheetArchitecture.pdf)

Ridolfi, Giuseppe (2019). "Mailab High | Bombastic Adaptive Skin conceptual prototype Exploratory research". In *DIDA Research Week Book 2018*, 174-175, Florence: DIDA-PRESS, Italy.

Tareq Z. Ahram (2018), *Advances in Artificial Intelligence, Software and Systems Engineering: Joint Proceedings of the AHFE 2018 International Conference on Human Factors in Artificial Intelligence and Social Computing, Software and Systems Engineering, The Human Side of Service Engineering and Human Factors in Energy*, July 21–25, 2018, Loews Sapphire Falls Resort at Universal Studios, Orlando, Florida, USA, Springer.

The Journal of the American Institute of Architects (2018), "Autodesk MaRS Office", Article, Accessed September 21, 2019. [https://www.architectmagazine.com/project-gallery/autodesk-mars-office\\_o](https://www.architectmagazine.com/project-gallery/autodesk-mars-office_o)

Treddi.com (2015), "Biased & Unbiased , quale soluzione per un risultato "Fisicamente Corretto?"", forum by LucaRosty, Accessed September 21, 2019. <https://www.treddi.com/forum/topic/120533-biased-unbiased-quale-soluzi->

[one-per-un-risultato-fisicamente-corretto/](https://www.treddi.com/forum/topic/120533-biased-unbiased-quale-soluzi-one-per-un-risultato-fisicamente-corretto/)

Vectorworks (2019), "Vectorworks" homepage. Accessed September 22, 2019. <https://www.vectorworks.net/en-US>  
Verdiani, Giorgio; Di Tondo, Sergio; Fantini, Filippo; Pucci, Mirco (2011). *Il ritorno all'immagine, nuove procedure image based per il Cultural Heritage*. Editor: Giorgio Verdiani. Lulu.com.

Wired (2018), "What is the Internet of Things?", article by Matt Burgess, Accessed September 22, 2019. [www.wired.co.uk/article/internet-of-things-what-is-explained-iot](http://www.wired.co.uk/article/internet-of-things-what-is-explained-iot)

Verdiani, Giorgio (2007). "I nuovi strumenti hanno compiuto quarantatré anni", in *La documentazione dei beni architettonici ed ambientali. Sperimentazioni didattiche*, edited by Puma Paola, 21–24. Firenze: Saffè.

Youtube (2013), "Cheetah: A Plugin for Configurative Urban Design & Planning", Video published by Pirouz Nourian, <https://www.youtube.com/watch?v=5ejhOcyFsMI>

Zaha-Hadid Architects (2019), "Morpheus Hotel" specific page, Accessed September 21, 2019. <https://www.zaha-hadid.com/architecture/city-of-dreams-hotel-tower-cotai-macau/>

*Luigi Maffei, Massimiliano Masullo, Aniello Pascale*

## Introduction

The development of digital technologies has been pushing architectural projects towards more complex design solutions, very difficult to be represented by two-dimensional drawings. As a result, the role of the 3D models has been increasingly consolidated. Today, about the modelling and its workflow, the industry is divided in two paradigms: Computer-Aided Design (CAD) and Building Information Modelling (BIM). While the former is best suited for free-form modelling (Zboinska 2015), the latter was conceived as a collaborative platform for the various specialities involved in a project (Daniotti et al. 2020). CAD geometry is free of BIM constraints and, thus, faster to generate and manipulate than BIM geometry. On the other hand, BIM objects have associated semantics, which facilitates and automates many of the tasks that have to be performed. Neither paradigm offers a satisfactory solution regarding the visualisation mechanisms available, particularly regarding the navigation through the 3D space in real-time. In fact, to fill this gap, Game Engines within the workflow for the representation and evaluation of architectural projects and products has been introduced in the last decade. (Moloney and Harvey 2004). The use of Real-Time technology has paved the way for the increasingly massive use of Immersive Virtual Reality, which today manages to achieve a very high degree of photorealism and interaction.

However, the mere visualisation of the architectural project is not enough to represent a project in its entirety. The perception of the space around us is, in fact, entrusted to the combination of all the sensory stimuli involved and takes place in a holistic way (Calvert and Spence, 2004). This concept has prompted researchers to conduct experiments on environmental perception through laboratory simulations that could reconstruct the package of stimuli necessary to reproduce the same sensations of a real experience on a user. In the first approach to multi-sensory

design, these studies were based on the combination of the two most easily characterised and reproducible stimuli: acoustic and vision ones (Maffei et al. 2013, 2014, 2015, 2016). Today, the concept of Human-Centered Design asks us to pay more attention to the centrality of a final user in the process of conceiving a project, including architecture and design. Being the last user of the project or product, he automatically becomes an active part of the development process, providing continuous feedback to improve the product. Hence the future needs to have dedicated spaces, ready to simulate projects and products with a high degree of loyalty in order to be able to conduct testing campaigns on samples of people. Technological advancement today offers a variety of tools for simulating and monitoring feedback for all sensory stimuli. In this direction, several research groups from different parts of the world are developing laboratories that combine different technologies for stimuli simulation. Many of these focus more on the visual stimuli, thanks to the large projection spaces (Theater), tracking the users' physiological parameters. On the other hand, others are complex sets of technologies capable of completely stimulating the user. At Polytechnic of Milan, for example, the ED-ME LAB Laboratory for Environmental Design and Multisensory Experiences offers a physical space in which to develop experiences of digital, multimedia and multi-sensory world. The main equipment consists of a Virtual Theatre (Back-projected screen) with a 30-seat capacity, an integrated system of sensors to detect user's interaction, biosensors to detect physiological parameters, multi-sensory interaction devices, audio system and smart lights. The laboratory offers a chance to conduct studies involving complex activity and multi-sensory interactions in sectors such as design, biomedicine, environmental simulation, rehabilitation and learning. Another interesting example is the MSP Lab - Multisensory Perception Lab of the University of Minnesota. As part of the Center for Applied and Translational Sensory Science

(CATSS), the MSP Lab houses integrated research tools for studying audio-visual perception in various simulated environments. About the equipment are available sound attenuation chambers, professional audio presentation systems, video projection systems (180-Degree), systems of motion and eye-tracking, a system for biofeedback (GSR, EEG). More, in Singapore, the Integrated Multi-Sensory Research (IMSR) Laboratory of the Nanyang Technological University focuses on technologies that can aid research on the five human senses: sight, sound, touch, scent and taste related to the fields of social science and psychology. Also, in this laboratory is possible to find equipment: Anechoic chamber and reverberant room for the acoustic control of the experiments, an olfactometer and ventilated experimental room with ambience and sound controls for mood manipulation, equipment for physiological and behavioural responses. Based on these experiences, the new Sens i-Lab laboratory of the Department of Architecture and Industrial Design of the Università della Campania Luigi Vanvitelli, puts together the newest technologies in a testing environment for user sensory stimulation and analysis of movements, as well as biofeedback. All this, within an environment where it is possible to control all the surrounding conditions: lighting, acoustic and thermohygrometric.

## The multisensory design: Basic approach

Starting in 2006, our research team began to experiment with the effects of different combinations of stimuli on the perception of the environment around us. From the beginning of this research activity, in step with technological advancement, Virtual Reality experiments were conducted, developed, and reproduced with technologies now considered primitive. The approach has always consisted of the characterisation and simulation of audio and visual stimuli, administered according to precise protocols to samples of people in order to monitor and acquire reactions related to the explored environment (Fig.1). Until now, several applications and case studies have been proposed, on the one hand, to investigate the complex phenomena of interaction between sensory stimulations, on the other to validate the effectiveness of Immersive Virtual Reality (Audio + Video) as a tool for simulating environments and therefore for project evaluation.

In several studies on wind farms, for example, the effect of visual stimulus on the nuisance perceived by the noise of wind turbines has been demonstrated. Following evaluation questionnaires on a sample of people, it emerged that, generally, with the same levels of noise produced, the wind turbines visually better integrated with the landscape (green colours) were less annoying (Maffei, 2013).

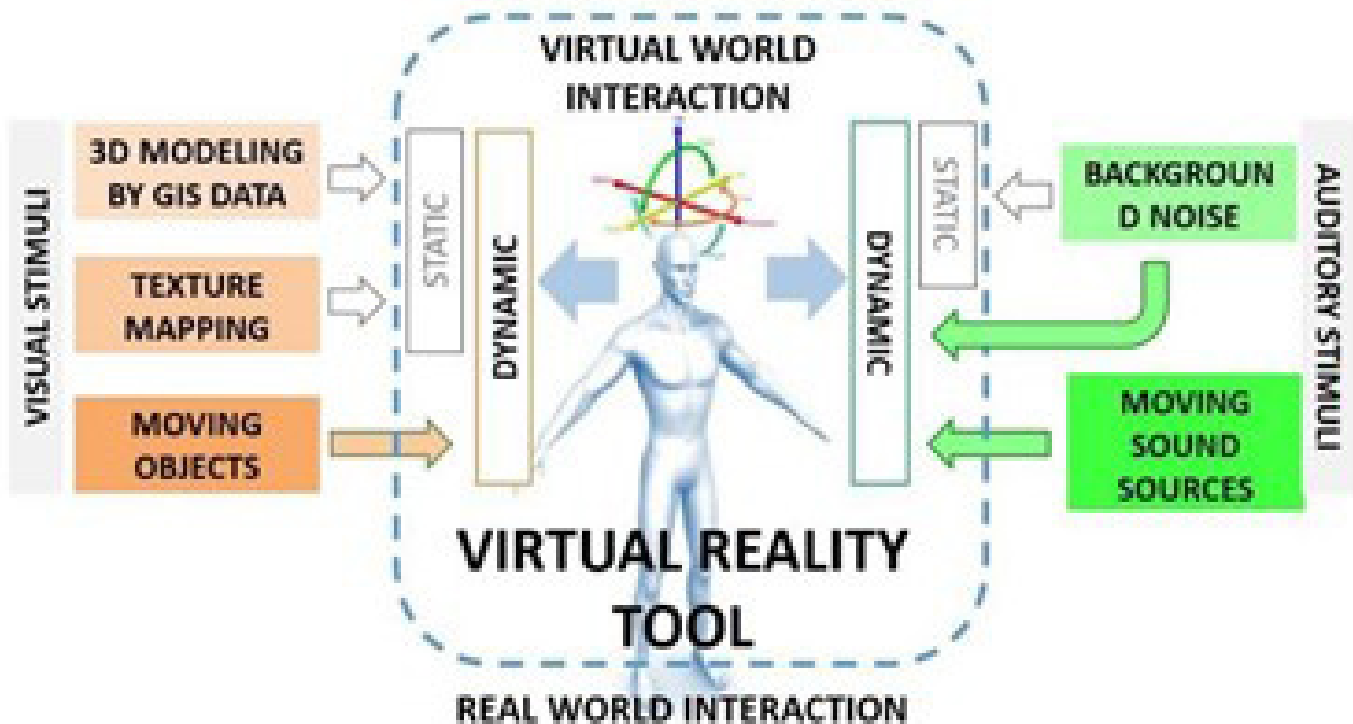


Figure 1. Main flowchart for Multi-sensory researches.



Furthermore, some studies have been conducted to validate the choice of different barriers for noise mitigation between rail traffic (Maffei, 2013). We also experimented with the use of virtual reality to study pedestrian safety with the advent of electric cars. For this experiment, samples of people were subjected to a behavioural test in which they had to decide the appropriate time to cross a road busy with electric cars. The variables consisted of different speeds associated with different signalling sounds emitted by cars. The results underlined important aspects regarding the sounds of new electric vehicles and pedestrian safety (Maffei, 2014).

Furthermore, preliminary studies were conducted to determine the elements that contribute to Restorativeness in urban parks in terms of environmental perception. The effectiveness of elements such as a stretch of water and a fountain, as well as their evocative reproduction, has been validated in a Virtual Reality environment (Masullo, 2017). Today, it is possible to affirm that Virtual Reality represents a validated ecological tool to conduct this type of researches due to the fact that it involves at least visual and auditory stimuli simultaneously, giving to the user an impressive sense of being inside the scene (Maffei, 2015, 2016).

All these studies have always shown encouraging results in pursuing the perception-oriented approach in the evaluation of the project, especially if they are community projects or large-scale products.

Today, increasingly advanced technologies allow recreating complex virtual environments with a high degree of photorealism and interaction. Thanks to the Game Engines and the diffusion of HMD devices in the mass market, this approach seems to be moving towards an increasingly consolidated path.

Furthermore, significant progress has also been made in the acquisition and reproduction techniques of the surrounding environmental sound; this allowed the researchers to recreate the sound field of an environment with an elevated degree of fidelity.

### **Human - Centred Design and new frontiers for the multisensory design**

The concept of Human-Centered Design itself provides interesting points of consideration on the future of multi-sensory studies. The standard (ISO 9241-210: 2010 (E)), indicated in 2010 that the "Human-centered design is an approach to interactive systems development that aims to make systems usable and useful by focusing on the users, their needs and requirements, and by applying human

factors/ergonomics, usability knowledge, and techniques. This approach enhances effectiveness, and efficiency improves human well being, user satisfaction, accessibility and sustainability; and counteracts possible adverse effects of use on human health, safety and performance". Despite the fact that the reference focus of the ISO standard is the development of hardware and software, it is worth to underline that the same concept is easily applicable to all design processes, both of the product and of the Architecture project. In fact, testing a product or testing a project to bring the final result as close as possible to what the users wanted, therefore meeting their expectations, and with the direct involvement of themselves, is a guideline to perform for the Human-Centered Design.

In this perspective, integrated systems are needed to be ready to conduct test campaigns in a serial way. The challenges for the future of the multi-sensory experimentation are therefore represented by (a) the implementation of technologies that allow for stimulating the greatest number of senses in combination so as to be able to make a clearer perception of simulated reality, (b) the collection of more data, feedback and sensation from users who undergo tests.

Technological advancement today offers cutting-edge tools that can cover these needs. For example, progress has been made in simulating haptic feedback. Haptic technology refers to everything a user touches or is touched by to control or interact with an entity controlled by a computer. Some of these interfaces are energetically passive (a button, a keyboard), whilst some are energetically active (force feedback devices, vibrotactile vests).

Another important aspect, which offers fertile research ground, concerns the interactions between the main stimuli (audio-visual) and the thermo-hygrometric conditions of the test environments. This is also a little addressed topic when it comes to multi-sensory stimulation. In the last decade, some manufacturers have experimented with wearable systems that allowed to reproduce the feeling of the wind by wearing masks or, more recently, with a suit-type full-body devices. However, for this aspect, there is no consolidated experimentation due to the lack of adequate devices.

Next to the simulation of reality, the collection of perceived sensations becomes increasingly important. In addition to measuring scales of perceived quality, this latter should also have tools to analyse the user's movements and bio-feedback. The new full-body tracking technologies allow today to monitor with extreme precision the movement of rigid and non-rigid bodies within a control volume, us-

ing optometric cameras and passive markers. Moreover, a frontier about the motion tracking of the user is represented today by the tracking of eye movement: analysing which parts of an environment have captured the user's attention the most. Today, in fact, there are several types of tracking systems that allow to carry out this analysis: (a) Desktop solutions that, positioned at the base of screens, allow you to track the movement of the eyes when the user is watching projected content; (b) VR solutions integrated within the HMD viewers to monitor eye movement when the user is exploring virtual environments. In order to complete the description of the possible investigations during a test, there are the different types of systems available today for monitoring Biofeedback: the main physiological parameters (ECG, Heart Rate, Skin Conductance) represent consolidated data in investigations on cognitive perception and, in general, on the sensations perceived. In this regard, wearable solutions that monitor the user's physiological parameters during the performance of complex actions are also interesting.

### The overall integrated simulation: The sens I-Lab

Thanks to the funding of the Valere Plus 2018 project, activated by the Università della Campania L. Vanvitelli for the enhancement of the equipment of the departments, and thanks to the decades of experience made by researchers from the Department of Architecture and Industrial Design on these issues, it was possible the design and build up the Sens i-Lab. Actually, this lab is a human-centered, multi-physical and multipurpose laboratory for the creation, development and prototyping of environments, products and systems, physical and virtual, based on the direct experience of individuals.

From a didactic point of view, the laboratory presents itself as an environment where demonstration scenarios can

be set up for the development of methodologies based on the concepts of learning by doing and action learning. SENSI-Lab includes an experimentation room with an adjoining control room and a modelling and calculation room. The experimental room (Test-Room), has been set up inside the experimentation room, where sensory experiences related to vision, microclimate, sound and light fields can be recreated, as well as kinesthetic ones deriving from interaction with the environment or with real/virtual objects.

The Test-Room (c.a.4mx4mx4m) consists of a structural frame to which modular light walls, Hydronic Modules (MID), Luminous Modules (MLU), Air Modules (MAE) and Acoustic Modules (MAC) are installed. The latter can reproduce different sound absorption configurations of the walls. Three sets of MAC modules are planned; with high (MACHIGH), medium (MACMED) and low (MACLOW) sound-absorbing properties. On one of the walls of the Test Room, a modular video wall is installed, consisting of LCD screens for viewing the scenarios prepared by modelling software or game engines (Fig.2a). The visualisation can also be achieved by using HMD devices for immersive virtual reality, such as Vive Pro, Oculus Rift-S.

A 3D sound reproduction system based on the Wave Field Synthesis reproduction technique has been set up in the Test Room. The system will allow accurate reproduction of any external sound field through the use of 25 speakers positioned along the walls of the room, managed via the Dante system (Fig. 2b).

Within the laboratory, an air handling unit allows controlling the temperature, relative humidity, velocity, and indoor air quality. The radiant floor and two radiant vertical walls of the test room allow controlling the mean radiant temperature (Fig. 3).

The indoor air a fan-coil can also adjust the temperature. Both the air handling unit and the radiant systems are powered by an air-to-water vapour compression electric

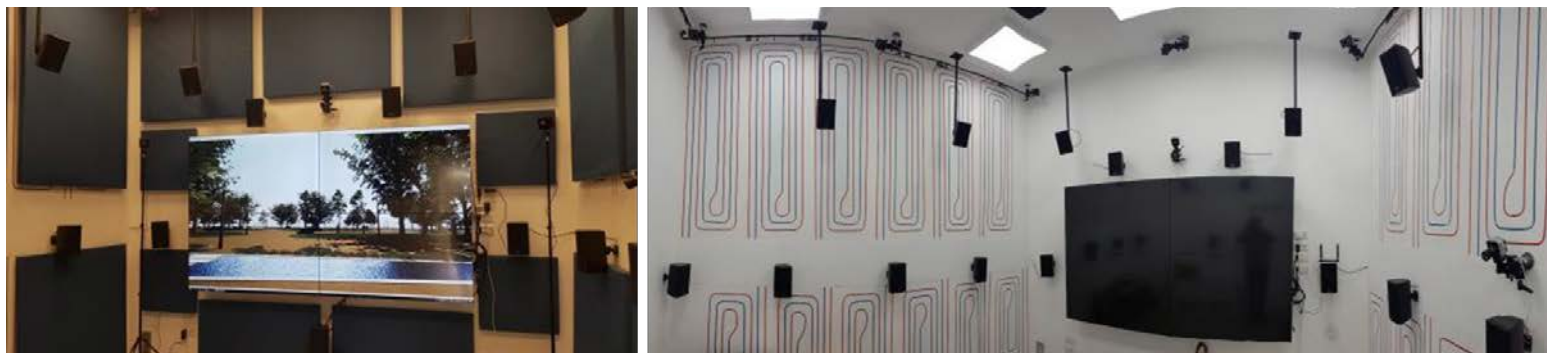


Figure 2. (a) The video-wall 4 screen based; (b) The array of 25 speakers system.

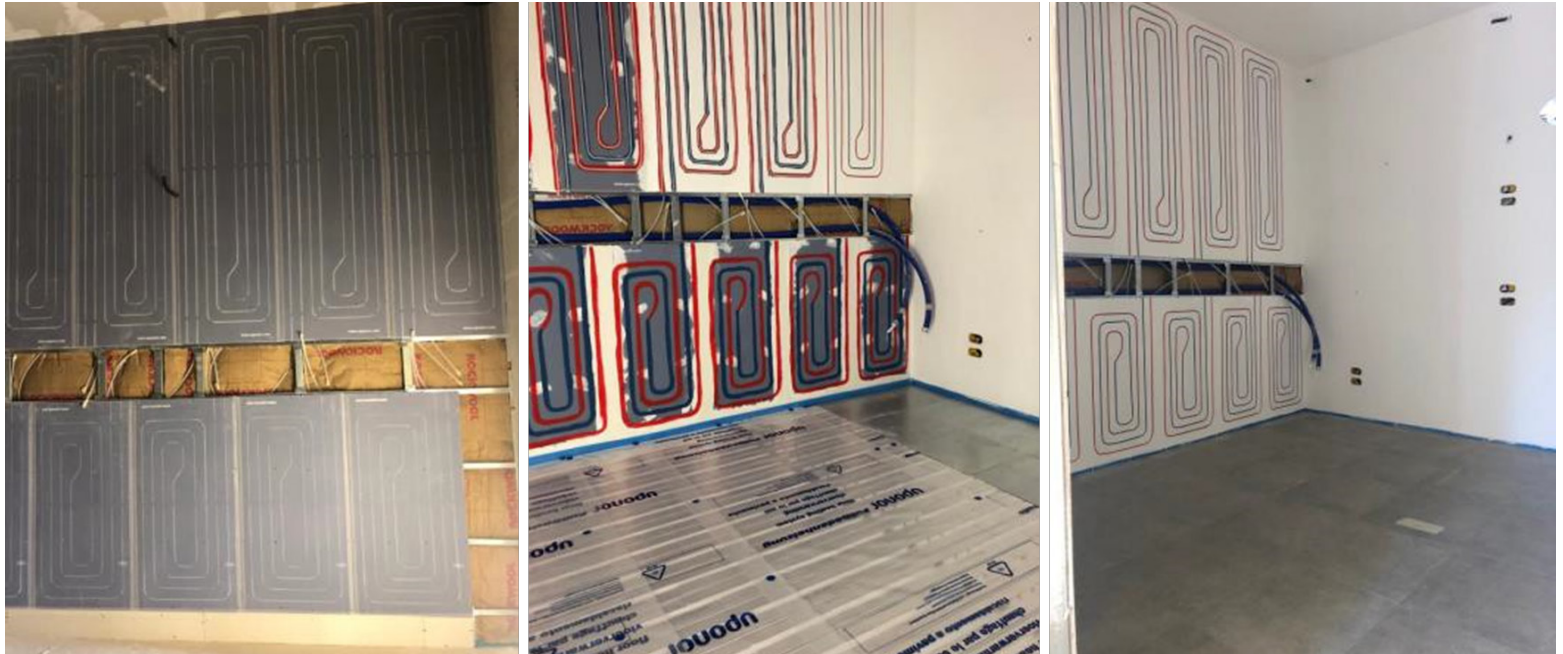


Figure 3. Construction sequence of radiant floor and walls.

heat pump and/or an air-to-water vapour compression electric refrigeration unit. The whole plant is integrated with two (hot and cold) thermal energy storage. For the needs of tracking the movements of the human body, rigid bodies or other objects in the chamber, the Test Room has been set up with a Vicon Motion Tracking System composed of high-resolution optoelectronic cameras with infrared illuminators. The tracking of the movements is carried out in combination with retro-reflective IR markers and synchronised with analogue measuring

instruments. All cameras are connected via the POE network to the control Workstation for calibration, creation of rigid bodies and real-time data tracking. Three different Eye tracking systems are available. The first system involves tracking eye movements from a fixed location (Fig.4b), the second system consists of binocular loupes that can be worn to follow the subject during real-world experiences, the third allows you to detect eye movements during virtual experiences from inside the VR viewers using specific adapters.

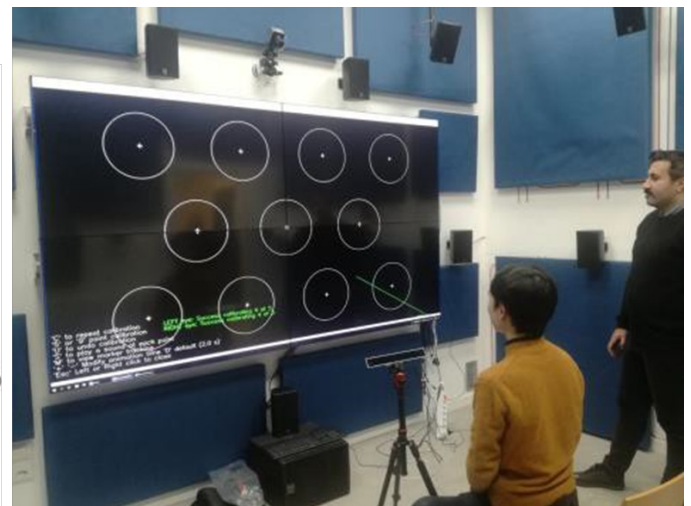
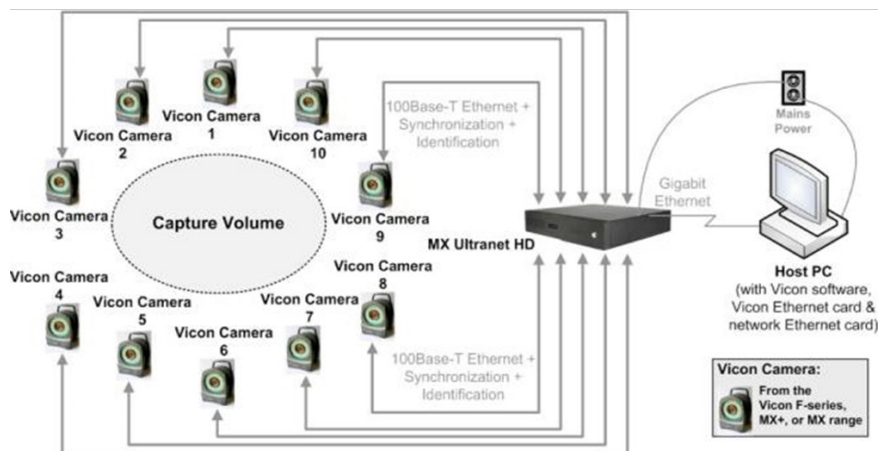


Figure 4: (a) Layout of the Motion Tracking System; (b) Eye Tracking recording from a fixed point.

## Conclusions

The perception oriented design is an important approach of the general human-centred design. It emphasises and analyses the reaction of the users under several stimuli in a virtual scenario, and therefore, it can help in the optimisation of the project and in the evaluation of the best alternative. However, it seems clear that, in order to conduct experiments on projects and products with such a complex degree of stimulation, it is necessary to set up laboratory environments able to integrate several technologies for the reproduction of physical stimuli and consequent acquisition of the results, explicit and implicit. These real testing rooms, such as the one realised at the Università della Campania Luigi Vanvitelli, to which companies and decision-makers can turn to conduct surveys in order to evaluate, support and improve development processes.

## References

Calvert, Spence, Stein. "The handbook of multi-sensory processes". 2004. The MIT Press. Cambridge, Massachusetts. ISBN 0-262-03321-6

Daniotti, Pavan, Spagnolo, Caffi, Pasini, Mirarchi. BIM-Based Collaborative Building Process Management (2020). Springer. ISBN 978-3-030-32888-7.

ED-ME LAB- Laboratory For Environmental Design And Multisensory Experiences. <https://www.polimi.it/en/scientific-research/research-at-the-politecnico/laboratories/interdepartmental-laboratories/ed-me-lab-laboratory-for-environmental-design-and-multisensory-experiences/MSP- Multisensory Perception Lab. http://catss.umn.edu/msp/index.html>

Integrated Multi-Sensory Research (IMSR) Laboratory. <http://www.wkwsci.ntu.edu.sg/Cove/aboutus/Pages/COVE-IMSR-Lab.aspx>

Sensi-Lab laboratory. [https://www.architettura.unicampania.it/images/ricerca/laboratori/EN/4-SENS-i\\_Lab\\_ENG\\_30042020.pdf](https://www.architettura.unicampania.it/images/ricerca/laboratori/EN/4-SENS-i_Lab_ENG_30042020.pdf)

(ISO 9241-210:2010(E). Ergonomics of human-system interaction-Part 210: Human-centred design for interactive systems. <https://www.iso.org/standard/52075.html>.

Maffei, Iachini, Masullo, Aletta, Sorrentino, Senese, Ruotolo (2013). "The Effects of Vision-Related Aspects on Noise Perception of Wind Turbines in Quiet Areas". *International Journal of Environmental Research and public health*, no. 10(5):1681-97.

Maffei, Masullo, Aletta, Di Gabriele (2013). "The influence of visual characteristics of barriers on railway noise per-

ception". *Science of The Total Environment*, 445-446:41-47.

Maffei, Masullo, Sorrentino, Di Gabriele (2014). "Preliminary studies on the relation between the audio-visual cues' perception and the approaching speed of electric vehicles". *Proceedings of meetings on acoustics Acoustical Society of America*, 20:1-9.

Masullo, Maffei, Pascale, Senese. "An alternative noise mitigation strategy in the urban green park: a laboratory experiment". (2017). *46th International Congress and Exposition of Noise Control Engineering, Internoise 2017, Hong Kong, 27-30 August 2017*.

Maffei, Masullo, Pascale, Ruggiero, Romero. "On the Validity of Immersive Virtual Reality as Tool for Multisensory Evaluation of Urban Spaces (2015). *Energy Procedia*, 78:471-476.

Maffei, Masullo, Pascale, Ruggiero, Romero. "Immersive virtual reality in community planning: Acoustic and visual congruence of simulated vs real world (2016): *Sustainable Cities and Society*, 27:338-345.

Moloney, Harvey. "Visualisation and 'Auralization' of Architectural Design in a Game Engine Based Collaborative Virtual Environment". (2004). *Proceedings of the VIII International Conference on Information Visualization (IV'04)*.

Zboinska. "Hybrid CAD/E platform supporting exploratory architectural design" (2015). *Computer-Aided Design*, 59:64-84.

*Federico Cinquepalmi, Sofia Agostinelli, Fabrizio Cumo*

## Introduction

One of the most interesting aspects of the evolution of contemporary cities is related to computational technologies, conveniently integrated into buildings. Despite being considered a consolidated process, the binomial building/electronics has developments deserving a deep reflection in recent years. Contemporary buildings design evolves using the best available technologies to face societal challenges and perform in an increasingly “smart” way, for the assurance of “human needs”. The initial steps were certainly the integration of the already existing and well-tested domestic technologies applied to domestic environments, but the real paradigm shift will be represented by the integration of artificial intelligence in its declination of machine learning. This would be a real Darwinian co-evolutionary process where housing units “learn” to adapt to human demands and needs, even if they are unclear or unexpressed. This leads to a huge variety of possibilities: buildings equipped with advanced sensors and able to perceive the internal and external conditions will optimise their energy consumption with strategic savings for single inhabitants, community and environment while respecting the residents’ needs house. Those “intelligent” systems will safeguard residents from unauthorised intrusion, interacting with them in an increasingly comfortable and smart way, contributing to ensuring to disadvantaged categories (like elderly people, children and disabled) substantial support to care. The so-called artificial intelligence is anyway, just an extra tool for analysing reality, elaborating different scenarios, exploiting the high capacities of modern computer systems using advanced statistical algorithms, simulating human capacities of choice.

The Sapienza University of Rome, in collaboration with ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development), proposed an innovative house design concept, developed for the Solar Decathlon Middle East 2018 competition, where the Sapienza Team designed and realised a prototype of a house entirely powered by solar energy. The engineer-

ing components, technology and management systems, matter of technological experimentations both in Italy and Dubai, are the “core” of the present project, revisited in order to fit the Mediterranean climate. The goal is to realise a building classified as a Zero Energy Building (ZEB), based on BAT together with the principles of Energy Efficiency, Home Automation and Smart System Management. This highly integrated domestic environment will be equipped with elements of artificial intelligence (AI), adapting the house both to the internal/surrounding environment and the user profile and needs.

## Design and realisation of the experimental prototype

The project’s main goal will be dealing with the new challenges of contemporary society, with a new integrated approach to buildings design, construction, and managing. The main objective is to create a Smart/intelligent Solar House able to ensure efficiency and effectiveness and provide an attractive, accessible, safe, comfortable built environment, competitive in terms of costs, and improve the quality of life.

Building on Italian tradition, it is introducing a new approach to Architecture, able to exploit all possibilities offered by using micro-generation renewable energy and highly innovative technology and construction solutions with low environmental impact. The project is focused: not only on energy and environmental efficiency, usually connected to Zero Energy and Green Buildings but also on intelligence and flexibility criteria through continuous interaction with internal/external natural and built environments. Gathered data and information will be used for building optimisation and quick adaptations to changes, even in the structure and size, meeting the family’s evolving needs, and adapting to existing buildings. According to the innovative model of Architecture 4.0, the project will apply and test the most advanced tools, materials and technologies available today in the building industry., Taking advantage of the huge and still partially unexplored potential offered by digital modelling (BIM), mixed reality (virtual reality and augmented reality) and 3D print-

ing, the project is taking into account all different aspects of the building design while focusing on innovative design and materials, renewable sources and the latest generation Home Automation Systems (machine learning, virtual assistant, intelligent app).

Therefore the objective of the project is at the same time at a typological level (smart shape), relating to the shape and orientation of the building, positioning and sizing the openings and the distribution of interior spaces, in order to promote natural lighting and ventilation, the use of renewable energy and the reduction of energy needs; at a technical-constructive level (smart envelope), concerning both the characteristics of the structure, in order to maximise its resilience and flexibility and reduce construction costs and times, and the thermo-hygrometric characteristics of the envelope in order to reduce energy requirements and maximise levels of thermal, acoustic and luminous comfort; at a technological level (smart systems), promoting the use of high-efficiency solutions, the integration of renewable energy sources and the use of advanced Building Automation and Internet of Things (IoT) systems in order to reduce the consumption of primary energy from non-renewable sources and maximise the levels of internal comfort; at a socio-cultural level (smart people) through training and directly involving users who will be able to manage energy consumption and comfort levels in the best possible way and in a conscious manner through the use of home automation systems.

The criteria underlying the design concept are those of bioclimatic architecture and sustainable design, based on a strategic approach that allows to fully exploit the climate and the context in which it is located, realising the construction through the rational use of climatic and energy resources in order to ensure environmental well-being. The object is the result of a study aimed at the environmental quality and the relationship/continuity between indoor and outdoor environments with particular focus on the following aspects:

Form and orientation: analysis and monitoring of climate parameters (use of ENEA climate station data); choice of materials and components of the building envelope: performance, comfort, standardisation, regenerable materials; internal distribution choices: comfort, functions; sustainability: use of natural resources and renewable energy sources; Standardisation/prefabrication: development of a reproducible model for the realisation of innovative components constituting the building envelope.

The components of the building/systems are designed and built with standardisation criteria using technologies

strongly oriented to prefabrication that allow a significant reduction in time and cost of construction and energy consumption, and environmental impact. Even the technological and system elements are mainly oriented to the concepts of standardisation, realised with “plug and play” assembly method and integrated with management and control systems that allow being updated and/or self-learn from the response to certain stimuli, optimising the management of the building-system throughout the useful life of the demonstrator.

The project is a prototype for a single-family home with a net area of 47 m<sup>2</sup> organised in four areas: living area with open space kitchen, double bedroom and bathroom, related to a private patio.



Figure 1. Solar House - Ground floor functional layout

The pitched roof is designed to integrate a photovoltaic system (32 modules) with an implemented automation system able to manage and control domestic consumption through the management of external envelope (opaque, transparent, shielding), ventilation, lighting, winter/summer air conditioning, hot water production, IAQ control, micro-climate parameters, home automation users and security systems.

The construction system proposed is the innovative XLAM wood technology, a new way to conceive load-bearing surfaces compared to framed or trellis wood systems, introducing the panel as a new basic element for wooden construction. The XLAM panel is an engineered wood product composed of at least three spruce boards crossed and glued together. This technology made possible load-bearing surfaces that can already be “cut-out”, depending on architectural requirements, for doors, windows and stairwells, relying on a high degree of prefabrication. The layers composing each panel are in the minimum resistance class C24 - S10 and are pre-fabricated, classified and joined by finger joints to ensure structural continuity between the lamellas that make up the single layer.

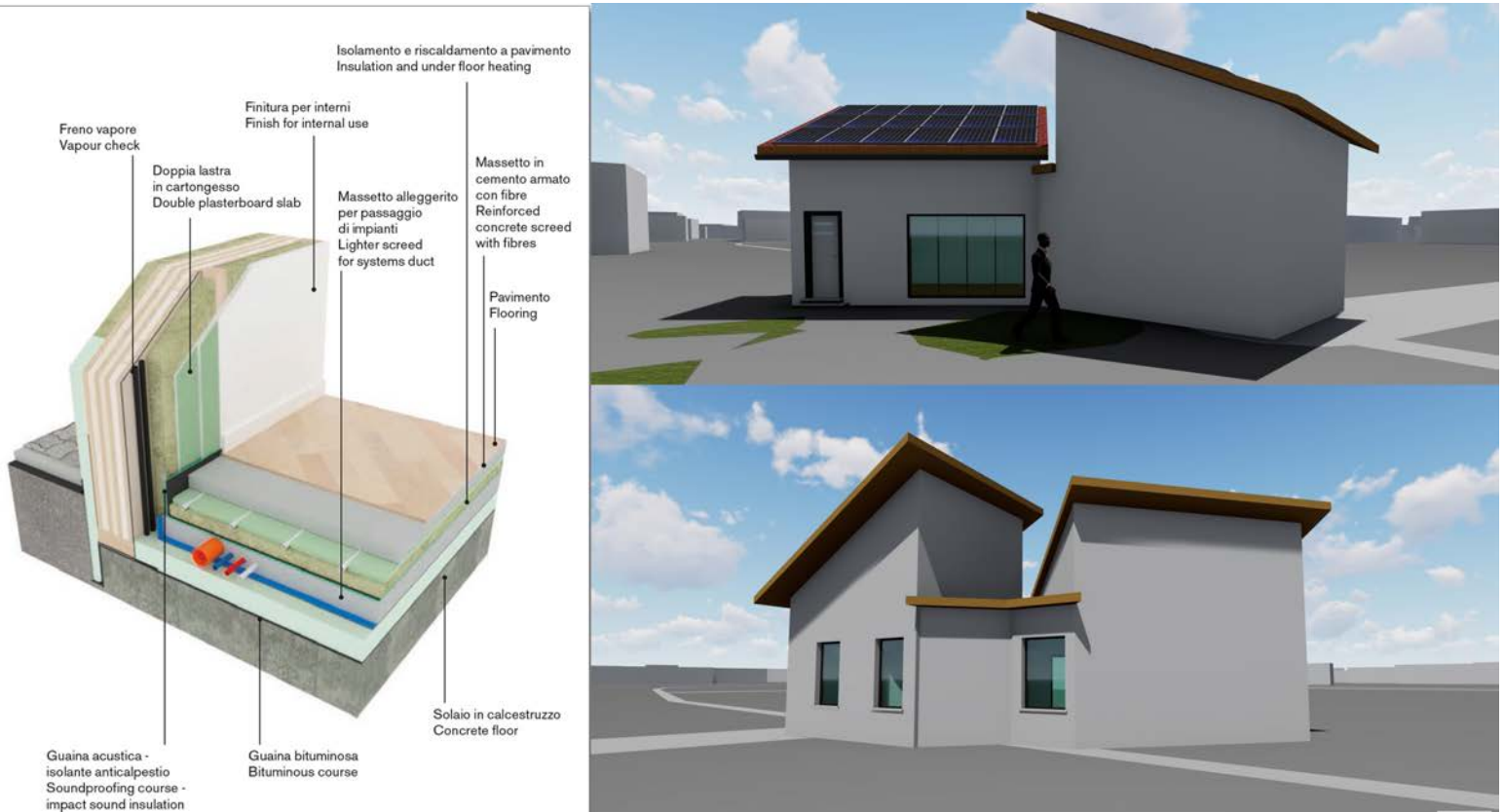


Figure 2. Xlam Dolomiti Production technological section: example of wall-raft foundation stratigraphy and render views.

The structures made of XLAM have characteristics of environmental sustainability, energy saving, seismic and fire resistance and are used to construct the load-bearing elements of the building, such as walls and floors.

### Measurement and Monitoring Protocol

After designing the experimental section, CITERA and ENEA have developed a Measurement and Monitoring protocol based on the requirements imposed by the Solar Decathlon competition in terms of energy efficiency, energy management and sustainability. As shown from the graph in figure 4, these three criteria were among the most important of the building presented for the competition, but unlike the communication, architectural design and sustainable transportation are likely to be further improved. So to evaluate the house's electrical energy self-sufficiency, management and reduction of energy consumption have been realised a monitoring and measurement system, collecting data of the different electric energy flows during the house functioning period. The main parameter

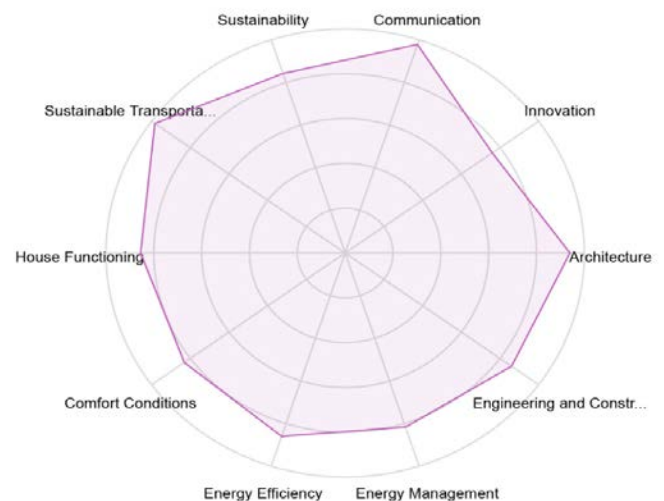


Figure 3. Quality requirements

monitored every ten minutes are the electricity consumed for heating, cooling, ventilation and lighting, the electricity consumed by other house loads, load consumption for surface area, net electrical balance and temporary generation consumption.

Moreover, the system will evaluate the functionality and efficiency of the house design, systems and components, in addition to their contribution in reducing energy consumption, demonstrating the higher level of functionality of the house structure, envelope, electricity, plumbing, HVAC, solar system, and their integration monitoring profile pattern correlation and efficiency of demand-response devices

Many sensors integrated into the *bacs* equipment will evaluate the capacity for providing interior comfort through the control of temperature, humidity, lighting, quality of interior air and acoustic performance.

As an example of the monitoring systems outputs in Figure 5 the net electrical balance in real-time of house energy production through PV system versus overall energy consumption is shown.

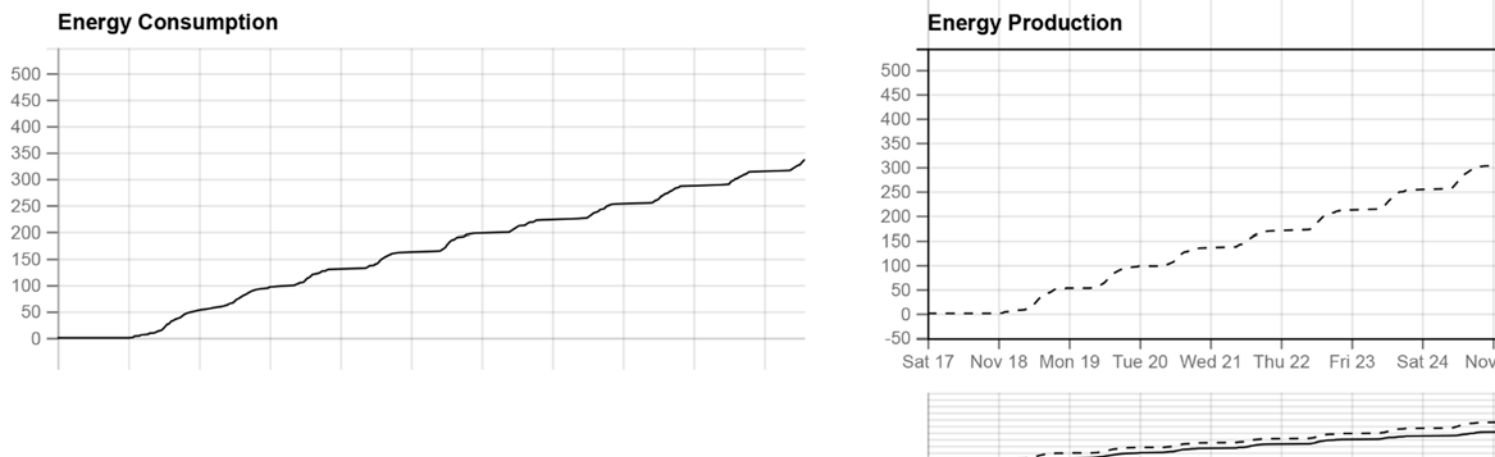


Figure 4. Overall energy consumption vs. energy production through PV system

### Ai systems for PV production systems

In order to further improve the performance of energy efficiency, energy management of the demonstrator, it was decided to integrate the AI and Machine Learning in the base system through the use of the so-called "neural networks", computational systems that are inspired by our nervous system. Therefore, the human being only has to monitor this learning process, correcting the program when it fails and providing positive feedback when it operates correctly. These computational learning techniques

based on artificial intelligence have recently begun to take hold in the energy sector. The International Energy Agency (IEA) predicts that even in the energy field, AI will be decisive in the years to come and will fundamentally transform global energy systems, making them more interconnected, reliable and sustainable. In the field of clean energy production and energy consumption in general, there are many complex problems to which AI can find solutions, and there are already many projects started based on this technology.

As far as the production of energy from renewable sources is concerned, it is well known that uncertainty about weather conditions is a major problem. Being heavily dependent on photovoltaic or wind power systems is risky because, in case of bad weather conditions, energy supply should be compensated by other sources, a very expensive and unsustainable operation. Therefore, it is reasonable to think of AI to deal with these problems and optimise the production, transmission, and storage of energy produced by photovoltaic or wind systems scattered throughout the territory. By integrating real-time meteoro-

logical data with those from satellites, artificial intelligence systems can identify recurring patterns, maximise efficiency, and minimise the risks for the supply of electricity. At the local level of microgrid domotics for reducing energy consumption and energy efficiency in buildings, the AI is perhaps having an even more decisive impact. IoT systems are based on a network of sensors that measure and communicate with each other via the Internet, providing a very large amount of data that is then processed and translated into efficient solutions. The domestic sector represents one of the sectors with the greatest



potential as it is estimated that by 2040 there will be one billion “Smart Homes” and 11 billion smart appliances in the world, the optimisation of which through artificial intelligence would allow a reduction of more than 10% of domestic energy consumption. In addition to the fact that these interconnected networks are already producing an enormous amount of data that utility companies can use, solutions aimed at consumers will also come shortly afterwards. Monitoring the use of household appliances, for example, can generate data that allow, with AI tools, to estimate the costs and project them on the hypothetical bill at the end of the month, helping the user to make the most sustainable choices. In practice, the built-in artificial intelligence software, in fact, records and interprets the energy needs of the family and then actively intervenes and eliminates all unnecessary consumption. If, for example, the solar energy reserves are about to run out, then the system can automatically turn off a television set or turn down the lights at home, or even reduce the volume of the stereo or the intensity of a fan. At the level of control and management of the photovoltaic energy production system with which the demonstrator is equipped then Artificial Intelligence (AI) techniques can be applied to three main areas: (1) Forecasting and modelling of meteorological data, (2) Basic modelling of solar cells and (3) Sizing of photovoltaic systems. Artificial intelligence (AI) can monitor multiple solar PV plants and their overall status by integrating various data such as power generation, maintenance needs, and power generation efficiency in real-time. In particular, the platform enables on-demand maintenance services by tracking and forecasting various factors crucial to solar power generation, such as hardware maintenance and partial component installations. Through real-time AI analysis, the system can notify users of potential power plant malfunctions, forecast power generation, and provide a comprehensive database for efficient operations of solar power plants.

### Conclusions and further development

Although this project is limited to applying AI systems to microgrid domotics, there is no doubt that there is a great potential for these technologies in the near future of other sectors at national and global levels related to the world of energy. It is, therefore, reasonable to take a close look at the various projects and applications of AI aimed at increasing the efficiency of renewable sources and making everyday consumption more sustainable. The future logic to reach the 2030 objectives is that it is not enough

to have systems for energy production from RES installed in homes according to the logic of distributed micro-generation and local smart grid.

In order to save and correctly manage the self-produced energy, there must be a control and management system capable of learning our consumption habits and, from time to time, programming the system according to our needs. The acquisition and management of Big data, managed by artificial intelligence, will make it possible to cross-check in real-time consumption data, self-production data, and data from the market, strategically deciding the best option without penalising the buildings’ environmental quality we live. This will be done, regardless of human intervention, while customising consumption profiles based on the real needs of users of a given environment.

### References

- Ghannam, Rami & Valente Klaine, Paulo & Imran, Muhammad (2019). Artificial Intelligence for Photovoltaic Systems. 10.1007/978-981-13-6151-7\_6.  
Journal article:
- Youssef, A. Zekry, M. El Sayed el Telbani (2017). “The role of artificial intelligence in photovoltaic systems design and control: A review” – Renewable and sustainable energy review 78: pp 72-79 – October 2017.
- Sadio, A. & Mbodji, S. & Fall, I. & Sow, P.L.T.. (2018). A comparative study based on the Genetic Algorithm (GA) method for the optimal sizing of the standalone photovoltaic system in the Ngoundiane site. EAI Endorsed Transactions on Energy Web. 19. 155642. 10.4108/eai.13-7-2018.155642.
- Zhu, Hong & Lu, Lingxing & Yao, Jianxi & Dai, Songyuan & Hu, Yang. (2018). Fault diagnosis approach for photovoltaic arrays based on unsupervised sample clustering and probabilistic neural network model. Solar Energy. 176. 395-405. 10.1016/j.solener.2018.10.054.
- Ahmad, Muhammad & Mourshed, Monjur & Rezgui, Yacine (2018). Tree-based ensemble methods for predicting PV power generation and their comparison with support vector regression. Energy. 164. 465-474. 10.1016/j.energy.2018.08.207.
- Kazem H.A., Yousif J.H. (2017). Comparison of prediction methods of photovoltaic power system production using a measured dataset. Energy Convers Managmebt 2017;148(Supplement C):1070e81. ISSN 0196-8904
- Google (2018). “Casini M. “Eco-edilizia 4.0 per la casa del futuro di ReStart4Smart” Rinnovabili.it ISSN 2284-4570 2018
- Google (2018). “Restart4smart” Accessed September 15,

Mirjana Devetaković, Florian Nepravishhta, Goran Radović, Milan Radojević

## Introduction

The modernisation of cities could happen in different ways and at different levels, but development could not happen without energy, and sustainable development could not happen without sustainable energy (Holliday & Yumkella, n.d.). Using the energy that comes from the sun is one of the earliest energy usages. However, modern solar systems offer the possibility of using solar energy in a wide area of urban and rural activities. Although present in every corner of the world (Kumar et al., 2016), solar energy usage is still under examination and constant technical improvement (El-Faouri et al., 2016).

Replacement of standard street lights with solar ones equipped with LED (Light Emitting Diode) lighting represents not only a technical improvement but also a significant energy savings step (Alkoholidi & Hamam, 2019), (Miskovic, 2013). Solar street lights are more expensive than standard ones but combined with the LED technology, and they are more economical in terms of energy consumption, reparation needs and maintenance (Spahiu et al., 2018).

In this study, we examine the modernisation of cityscapes of three Balkan cities – Cetinje (Montenegro), Tirana (Albania) and Belgrade (Serbia), through the introduction of photovoltaic (PV) street lighting. After giving the basic information on solar street lights, we present the solar street light systems in three Balkan cities and discuss these applications.

## Solar Street Lights

Solar street lights consist of several parts:

- Pole
- Lighting fixture
- Battery
- Solar panel

Solar panels could be fixed on each pole (Figure 1, left), or solar energy could be supplied from a solar plant nearby. Solar cells could also be integrated into the pole (Figure 1, right).



**Figure 1.** Solar street lights. The solar panel mounted and integrated into the pole

Solar street light is initially more expensive than usual street light and more exposed to theft since the components are expensive. It requires a change of batteries during the lifetime of the street light. The solar panel is also sensitive to snow, and when the solar panel is covered with snow, it does not produce electricity.

The advantages of solar street lights are, however, numerous. Electricity produced is non-pollutive, energy costs are reduced, maintenance requirements are lower and independent of the power grid.

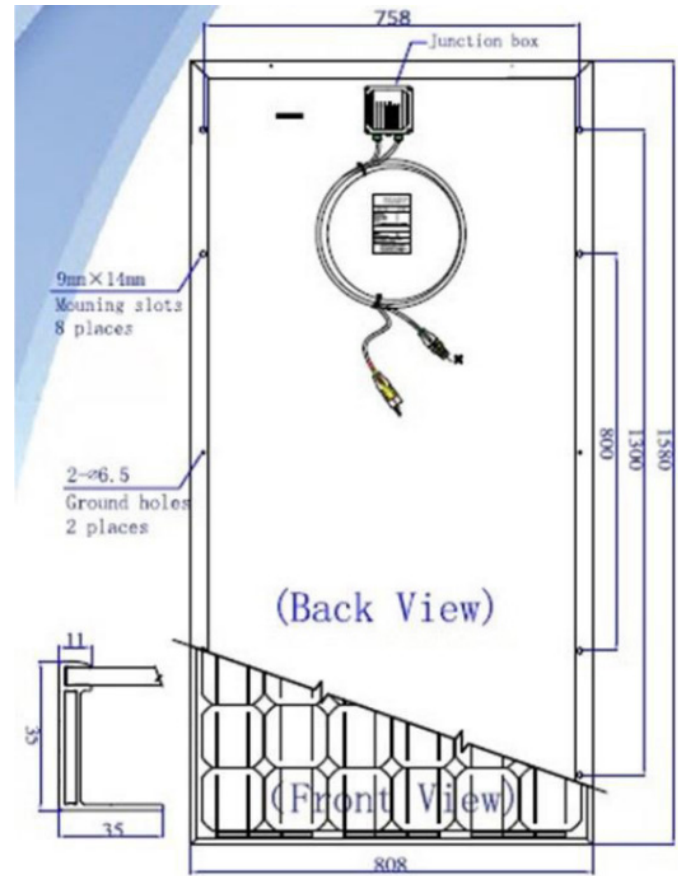
## Solar Street Lighting In Cetinje, Tirana And Belgrade

The cities of Cetinje, Tirana and Belgrade relatively recently have been equipped by pilot solar street lighting. The solar street lighting in Cetinje and Tirana are donations from the People Republic of China and German GIZ, respectively, while the solar street lighting in Belgrade is an investment of the City Council.

### Cetinje (Montenegro)

Solar street lighting in the city of Cetinje is a donation of the People Republic of China to the Republic of Montenegro. Although all components came from China, the system is designed in accordance with all relevant national standards.

Solar street lighting in Cetinje works in two regimes; one is an evening regime that lasts until 00.00h, and the other from 00.00h until insolation starts, when the traffic is lower. A controller installed with the system is responsible for the intensity of the light. The controller also controls the power available in the battery and switches the system to the grid if there is insufficient power in the battery. The following images (Figure 3) show a visible array of PV street lights in the Boulevard of Montenegrin Heroes (Bulevar Crnogorskih Junaka). Modernisation is evident compared to old power poles in the nearest proximity. The boulevard is 1200m long and 2x6m large. The poles (102 total) 10m high with 1.5m consoles have been placed 22m one from another, with the lights of 90W (Vučinić, 2015).



Slika 3. Izgled PV panela CLS -200P

Figure 2. Principle of solar street light function and front/back views of the panel

The existing lighting system needed to be removed, but the existing power grid has been retained for the purpose of supplying power in the case that the solar system production is lower than necessary. As a donation of German GIZ, the street lights in Skenderbej Street, also known as the Street of Embassies, in Tirana has been replaced with the LED ones. A photovoltaic plant has been installed nearby to supply the system with energy produced during the day. According to IRENA (2017), Albania just began to use its solar potential, and by 2015 there were no on-grid solar plants in the country.

Figure 4 shows the street illuminated with LED lights during the night-time (upper left), the equipment for operation of the system (upper right), the photovoltaic plant for power supply (lower left) and the power plant monitoring system (lower right) (Shkreli, 2018).





Figure 3. Solar street-lighting in the Boulevard of Montenegro Heroes, Cetinje, Montenegro (photo G. Radović) Tirana (Albania)

This modest but important example of lighting modernisation represents the contribution to the project of Green Tirana (EBRD Green Cities., 2018).

In the case of Belgrade, the capital of Serbia, solar street lighting was installed on the quay of Ada Huja in 2010/2011 (Figure 5) as one of three experimental sub-projects within the Project Renewable Energy Implementation (Pavlović,

2020). The installation has been done by the Belgrade Public Lighting Company (Ser. Javno Osvetljenje). It is the first installation of its kind in Serbia. The published sources considered this case are quite rare and are rather announcing the project in 2010 than promoting it in 2011 after installation (eKapija, 2010).

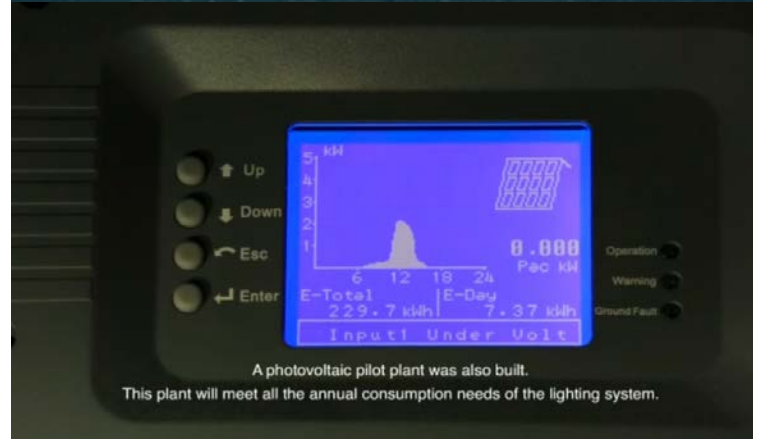


Figure 4. The light of LED lights in Tirana; Equipment; Solar power plant supplying the power and the monitor of the powerplant. Belgrade (Serbia)



*Figure 5. Solar street lighting at Ada Huja – Belgrade (Photo Filip Pavličić, www.kurir.rs)*

The installed system consists of a total of 40 poles with solar panels and LED lightings. It is intended to be environmentally friendly, reducing the use of fossil fuels, with easy installation, no electricity bills, minimal maintenance costs, and a considerable long lifetime. Since the installation has been done with outdated technology, it needed to be complemented by the usual lighting system, so in Figure 5 it is visible two systems, traditional and solar.

## **Discussion**

The introduction of solar street lights in Balkan cities is still a rare exception rather than a usual practice. Two of the presented three examples come from foreign donations,

so we could not talk about the wide use of this technology in SEE (South-East Europe). However, encouraging experiences of the installed systems could be a good example for other cities, towns, and even villages, some of them far from national power grid (Balkan Energy Foundation, 2017).

If we observe the installed capacities as experimental ones in their respective build environments, the effect of solar street light use could be considered moderately encouraging. It is affirmative not only as of the street lighting solution but also as the application of solar energy in general. The authors propose the introduction of public electronic panels showcasing the efficiency of the systems, energy savings reached, CO<sub>2</sub> emission reduced and similar data, approaching technology to ordinary citizens.

There is a critical question of integrating solar lighting in historic parts of the cities. The aesthetic appearance of poles with PV panels mounted does not meet the requirements of historic parts of the cities. Presenting and analysing the pilot projects from three Balkan cities, the case of Tirana indicates that solar street-light could even approach historic city centres under certain circumstances when the power comes from a well-positioned PV plant.

## Conclusions

The modernisation of cities through the application of PV technology is still in an infancy stage in the cities of the SEE region (IRENA, 2017). PV systems are most often mounted on the rooftops of buildings. Application of PV electricity production integrated with street lighting is present in three relatively modest yet important examples in the capitals of Albania and Serbia, as well as in the city of Cetinje in Montenegro. Two of the three examples are a donation of foreign countries, the People Republic of China donated the solar lighting to the city of Cetinje, and German GIZ donated LED lighting with a PV power supply to the city of Tirana, while Belgrade made an investment in its pilot project. All three examples are operative, and they might influence other implementations. No one of the examples presented is equipped with a public monitor showing citizens the power production and energy savings through using the systems, which is a recommendation of authors in terms of popularisation of the technology applied.

## References

Alkholidi, Abdulsalam & Hamam, Habib, (2019). "Solar Energy Potentials in Southeastern European Countries: A Case Study". *Smart Grid*, 3(2).  
Balkan Energy Foundation, (2017). *Balkan Energy Overview*. [Online]  
Available at: [http://balkangreenfoundation.org/file/repository/Balkan\\_Energy\\_Overview.pdf](http://balkangreenfoundation.org/file/repository/Balkan_Energy_Overview.pdf)  
EBRD GreenCities, (2018). *Green City Action Plan of Tirana*. [Online]  
Available at: <https://www.ebrdgreencities.com/assets/Uploads/PDF/64623f832d/Tirana-GCAP.pdf>  
[Accessed 2019 09 04].  
eKapija, (2010). "Implementation of public solar lighting pilot project on part of quay on Ada Huja". [Online]  
Available at: [\[part-of-quay-on\]\(#\) \[Accessed 17 09 2019\].  
El-Faouri, Fares; Sharaiha, Munther, Bargouth, Daoud & Faza, Ayman, \(2016\). "A smart street lighting system using solar energy". Ljubljana, IEEE.  
Holliday, Charles & Yumkella, Kandeh, \(2017\). \*Sustainable energy for all\*. \[Online\]  
Available at: <https://www.seforall.org/sites/default/files/gather-content/SEFA-Action-Agenda-Final.pdf>  
\[Accessed 09 09 2019\].  
IRENA, \(2017\). \*COST-COMPETITIVE RENEWABLE POWER GENERATION: Potential across South East Europe\*, s.l.: IRENA International Renewable Energy Agency.  
Kumar, Nallapaneni Manoy; Singh, Anup Kumar & Reddy, Vinay Kumar, \(2016\). "Fossil Fuel to Solar Power: A Sustainable Technical Design for Street Lighting in Fugar City", \*Nigeria. Proceedia Computer Science\*, Issue 93, pp. 956-966.  
Miskovic, M. et al., \(2013\). "LABVIEW MONITORING OF A SYSTEM FOR SOLAR POWERED STREET LIGHTS. Odessa", s.n., pp. 125-128.  
Pavlović, Tomislav. \(2020\). \*The Sun and Photovoltaic Technologies\*, Springer  
Shkreli, Artan, \(2018\). "Modernisation of public lighting in Squenderbej Street of Tirana". \[Online\]  
Available at: <https://www.facebook.com/100001899188856/videos/2560586967347918/>  
\[Accessed 19 09 2019\].  
Spahiu, Aida, Dhamo, Lindita & Zavalani, Orion, \(2018\). "LED Street Lighting Application in Municipality of Tirana". \*2018 International IEEE Conference and Workshop in Óbuda on Electrical and Power Engineering\*, IEEE.  
Aleksandar Vučinić \(2015\). "Master project of solar street-light for the Boulevard of Montenegrin Heroes", Municipality of Cetinje.](https://www.ekapija.com/en/news/345948/implementation-of-public-solar-lighting-pilot-project-on-</a></p></div><div data-bbox=)

*Gjergj Ruci, Bleona Dharmo*

### The functions of colour in urban setting

Colour, inseparable from light, is an integral part of our total sensory and perceptual experience. It not only grabs information about our surroundings but also has a great impact on our psychological reactions and well-being. The complexity of the phenomenon of colour is evident in the different meanings it has in disciplines such as psychology, linguistics, philosophy, physics, art, architecture.

Colour has been neglected and considered supplemental in the architect's education for being a matter of individual expression and taste. Through the centuries and history, the partnership between architects and painters in exploring colour and spatial effects is found. Various factors that influence a city's character are undoubtedly essential factors for creating a particular city. City form represents conceptual order, the plan of building volumes and spaces, city colour shapes perceptual experience.



Figure 1. Tirana colours.

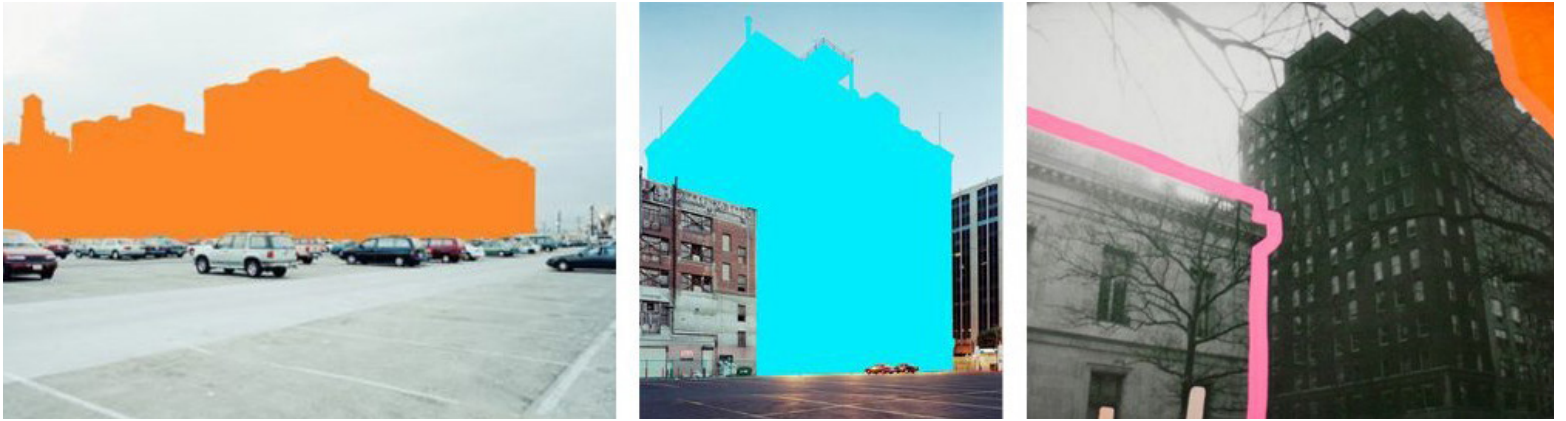


Figure 2. Exploration of colour and spatial effects



Figure 3. Guanajuato, Mexico



A sense of colour is the most direct visual signature. Preferences are evident in the vernacular. People select colours in their surroundings, exhibiting a taste for certain combinations and avoiding others. A collective eye seems to guide these choices rather than individual inclination. Urban colour scape directly reflects the urban history and overall design style of the town. It is an urban feature, an important component of urban charm, a symbol of urban character. It is not only related to the urban external image but also affects the environmental quality of public space. It influences urban life and reflects urban politics, economy and culture.

Considering the outstanding beauty of nature and colours of nature, continuing urban colour scape history as some clues that can help choose and apply the most proper colour scape. In proposing a colour plan for the city, planners and designers must first set their goals for urban colour scape, investigate the trends and be aware of the effects of colours.

### **Urban colour scape: the five cities of colours**

In the various factors that influence a city's character, colour with its "first sight" is undoubtedly a basic factor for creating a particular city. As city form represents conceptual order, the plan of building volumes and spaces, city colour shapes perceptual experience. A sense of colour, in fact, is the most direct visual signature.

"Colour is a direct expression and represents a response of the people to the characteristics of the natural environment, to its harshness or abundance, desolation or luxuriance, relative presence or absence of sunlight. Colour experience and colour sense appear to be the collective and vernacular expression".

### **Guanajuato, Mexico**

During the 300 years of the Spanish invasion, the cities of Mexico were built from the beginning following the trajectory of Spanish architecture: Gothic, Renaissance, Baroque and Neoclassical. However, local influences and variations such as light-coloured putty and pale pink stone fill the dominant Spanish architecture with a distinct regional flare.

### **Chefchaouen, Morocco**

Startlingly beautiful and simply unmissable, the Northwestern Moroccan town is painted in varying shades of blue. Founded in 1471, the tradition of painting the buildings stems from the Jewish community who settled there in the 15<sup>th</sup> century after being expelled from Spain. Nowadays, the city is inhabited by the Berber people and Muslims – in addition to descendants of the original Jews – all of who live in picturesque harmony.



*Figure 4. Chefchaouen, Morocco*



*Figure 4. Chefchaouen, Marocco*



*Figure 5. Havana Cuba*

## Havana, Cuba

Havana's colourful architecture is a product of its historical development. Havana of the sixteenth and seventeenth centuries was a highly coloured urban space. Chronicles written by Dutch, English, French and Spanish visitors provide an image of Havana as a city painted in blue and green. After all, this was the period in which the well-known "colonial blue" was born. These colours, of course, were highlighted by the highly elaborate roofs done in the Moorish style. All you have to do is gaze upon the old colonial house at the corner of Teniente Rey and Aguiar in the heart of Old Havana to see one of the best examples of Havana's colonial architecture.

## Cinque Terre, Italy

Cinque Terre is not a city but a series of five fishing villages: Monterosso, Vernazza, Cerniglia, Manarola and Riomaggiore, each connected with its own scenic footprints.



Figure 6. Cinque Terre, Italy

What distinguishes it is the architecture and the many uses of colours giving the facade of a city that will always be remembered as one of the most beautiful places.

According to a story, fishers painted their homes in different colours to easily spot their homes from the water as they returned home from the sea. One story claims that the reason the fishermen wanted to pick out their homes was so they could ensure that their wives were still in their houses. Who knows what the real truth is... but either way, it made for a beautiful collection of villages.

## Jaipur, India

Jaipur is known as the Pink City, and on arrival, visitors will immediately understand the reasoning behind the name.

Every building within the walled historic centre is painted a terracotta "pink" colour, and there are few exceptions to this uniformly colour scheme.



*Figure 7. Jaipur, India*

The historical reason for the uniform colour of central Jaipur lies with the absolute power of the Maharaja (Sawai Ram Singh) over his capital and his extreme strategy to impress Prince Albert during his 1876 tour of India.

The colour chosen was terracotta pink, as this colour historically represents welcoming and hospitality. The paint was produced from a calcium oxide compound and is extremely durable in the arid conditions of Jaipur.

Urban colour scape directly reflects the urban history and overall design style of the town. It is an urban feature and an important component of urban charm. It is also a symbol of urban character. Urban colour scape is not only related to the urban external image but also affects the environmental quality of public space. It fully reflects social civilization and development.

Colour is a significant part of urban beauty, and it is a factor that influences urban life quality. Colour itself is an urban historical heritage. Some kinds of colour reflect urban politics, economy and culture. With respect to all these aspects of colour in the urban setting, urban designers

and planners should attach more importance to the domain of urban colour scape. But doing so, they would encounter another challenge: there is no simple formula for using colour. Work done in analysing, codifying and developing colour systems provides no sure success for exciting and harmonious use of colour in the environment. Although some principles, if taken into account, might help us develop a more attractive and harmonious colour scape. Considering the outstanding beauty of nature and colours of nature, continuing urban colour scape history, and considering the functions of each district in the whole town are just some of these clues that can help us choose and apply the most proper colour scape. Planners and designers in proposing a colour plan for the city must first set their goals for urban colour scape and investigate the trends of colours while being aware of the effects and characteristics of colours. Finally, we have to remember that we cannot inject the same colour palette into all aspects and districts of current modern and multifunctional cities. In other words, there is no need to change the colour of every feature in urban settings.



Figure 8. Tirana 2000



Figure 9. Facade painting in Tirana

## Tirana in the 2000's – a brief of history

Tirana, which was still a small town just after the declaration of independence, turned into an epicentre of Albania's political and economic development. Transforma-

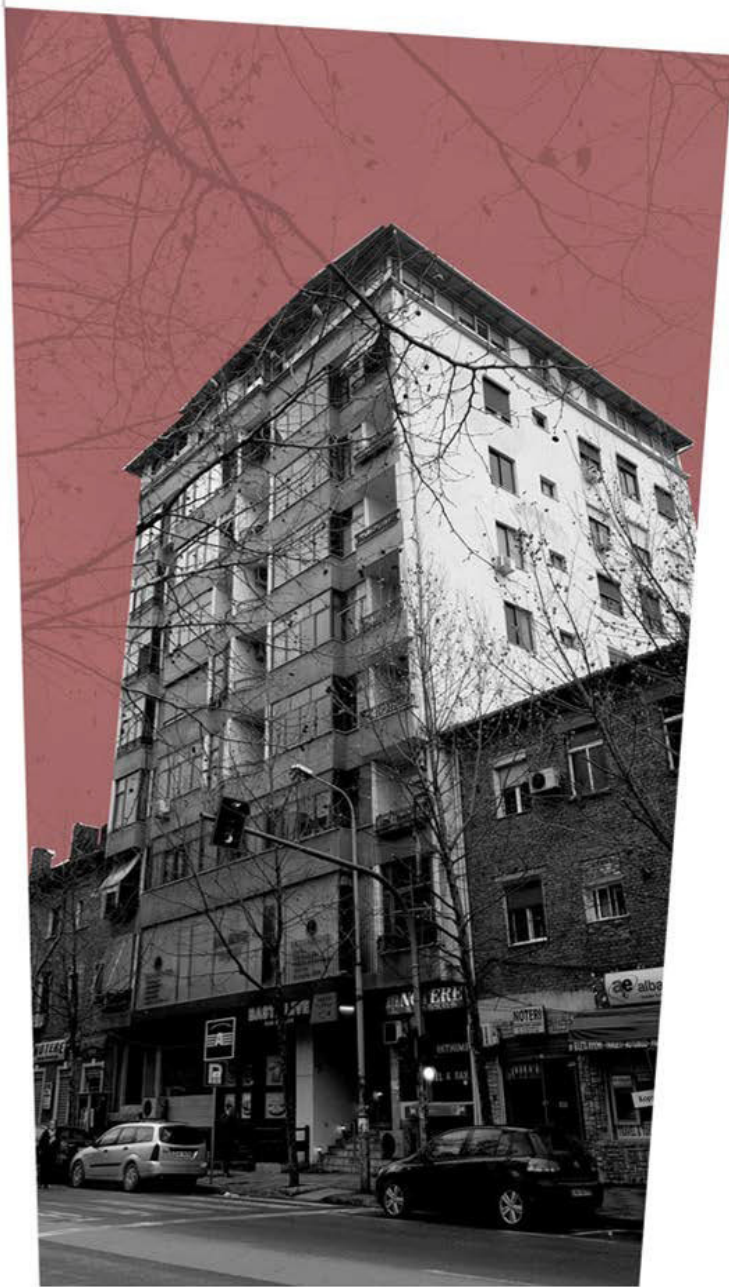


Figure 10. The grey residential block

tions have been ongoing for Tirana. There have been built numerous buildings based on different decisions over the years. There have been many proposals and strategies for the city enlargement over the years, apparently increasing the number of facilities and the number of inhabitants of the continuously and ever-growing Tirana.

After the communism in Albania collapsed, all that was left behind was a state of misery and monotony.

We had inherited a city without life, filled with grey cubes of pre-cast concrete, multiplied and distributed all over the town, without any name and identity.

These grey, rational volumetric defined urban boundaries (Fig. 10).

In the 2000s, Tirana's budget was squandered, rampant corruption and crime was the norm. Then an idea came out: A grey building was painted bright orange.

Later on, more of the city was painted; these interventions erased the rationalist identity and perception of the residential blocks built during the communist period. "Compromise in colours is grey" – so the city was massively painted in loud, bold, bright colours.

When colours came out everywhere, a mood of change started transforming the spirit of the people.

People started to drop less litter in the streets. They started to pay taxes. They started to feel something they had forgotten. Beauty was giving people a feeling of being protected. This was not a misplaced feeling — crime did fall.

Since then, the city has seen substantial changes in its appearance.

The dull communist-style apartment blocks have been painted over in bright colours with abstract patterns by an artist turned mayor (Edi Rama, the current prime minister). This is not only a quick fix but also an uplifting experience for inhabitants and visitors alike.

### Colour the city: artists vs architects

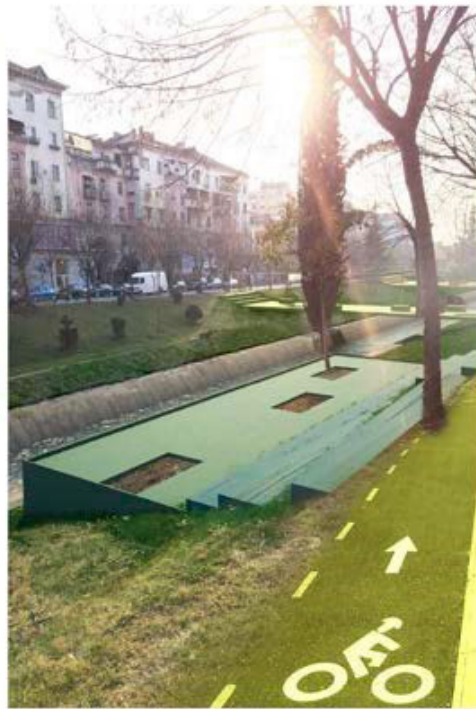
Modelling the city's image is a work for many people, but the architect's role is to be the coordinator of all. The building itself is a result of an agreement between the architect-designer, the owners-inhabitants and local municipality-administrator of the public space.

Every urban intervention must consider this agreement. Artistic intervention is mainly interested in the surface of the façade.

Doing so, we erase the definition of a building. We erase the perception of the volume, architectural details, history, function, and identity. We erased the building iden-



Figure 11. Residential block colour study



tity.

Even in advanced colour interventions like those of the artist Friedensreich Hundertwasser the building and his inhabitants were the centres of his ideas. He declares that he outlines the boundaries of every apartment in the building to give its inhabitant a sense of individuality and self-esteem.

Furthermore, the coloured outlines of the windows are a manifestation of the inner space in the outside world. Every person who lives in a specific room paints the outline of his window with a colour of choice and only the surface he or she can reach with the brush in their hands.

### The FAU Laboratory

In the period 2010 - 2020, a study experiment was conducted on a yearly basis with the 5th year students of the Faculty of Architecture and Urban Planning to analyse the above-mentioned residential blocks, the nature of the intervention carried out, the impact that this intervention has caused, focusing on the positive and negative as-

pects that this intervention brings, as well as bringing new conceptual proposals for intervention to the façades of these buildings, in the perspective of an architect.

The experiment follows two main directions: the first is based on existing colour interventions and analyses the reaction of the inhabitants towards them, during the second direction follows a virtual path; through a questionnaire analyses the influence of colours on the decision of possible buyers.

The method by which this experiment was developed is based on several steps of analytical research: the history of the building, function, site location, construction materials, original volume and additions, architectural details, the state of degradation, colours of the building, colours of the site, sidewalks, streets and urban furniture, window/ façade ratio, etc.

Other steps are:

1. SWOT analysis of the information gathered from the previous phase.
2. Intervention concepts and ideas: the colour intervention is used as the problem solver for the main issues observed during the analysis to preserve the building's

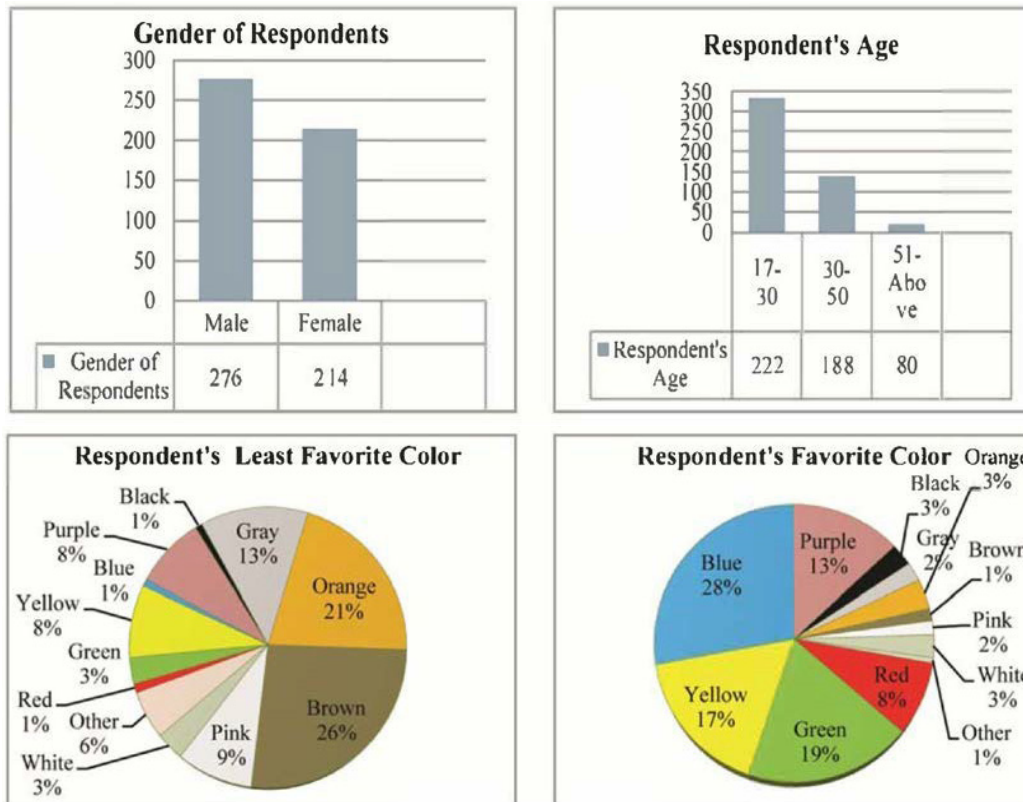
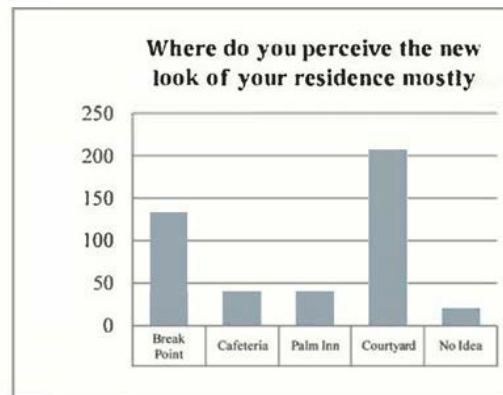
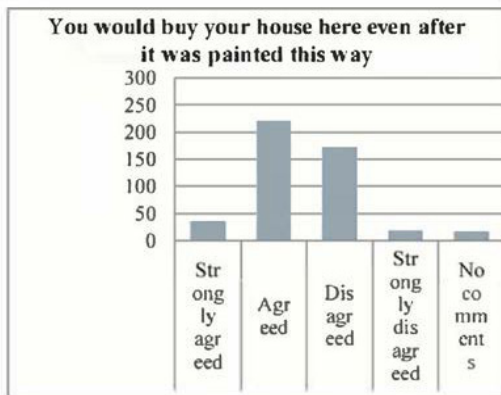
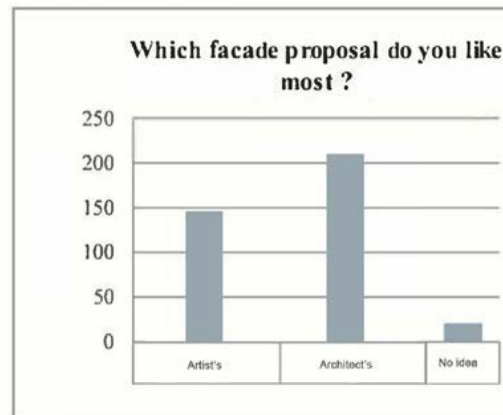
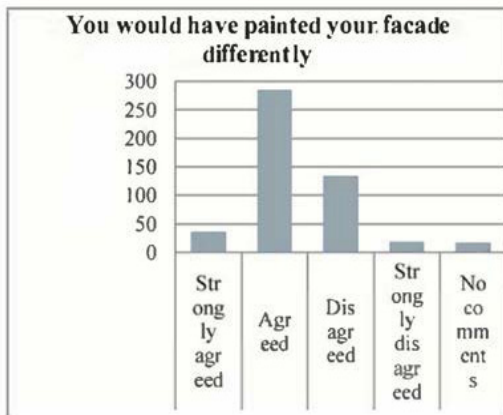
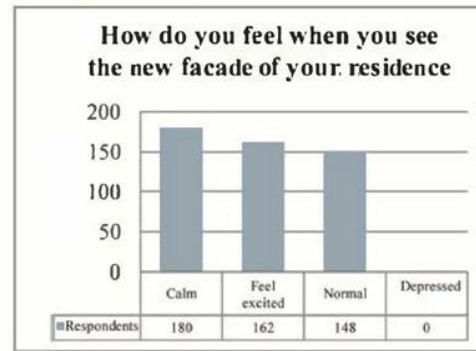
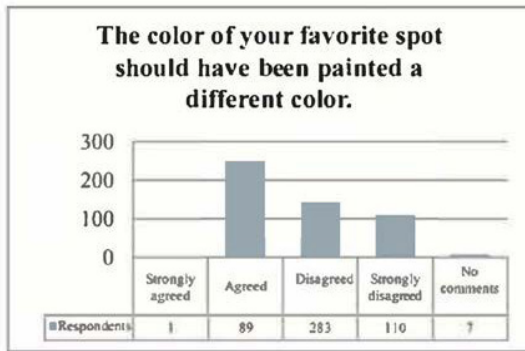
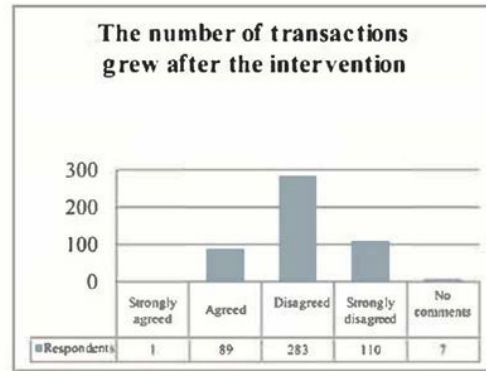
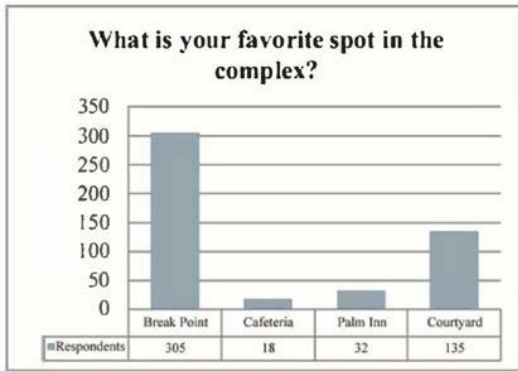


Figure 12. Different graphs, trying to understand the relationship between the three main actors of this action. The boyer, the owner and the architect



Results :



identity.

3. Testing of the ideas: different concepts of the colour intervention are discussed with the community of inhabitants of the building, trying to choose the best solution for physical and visual problems.
4. The research tends to produce a tool to help the architects and developers to design coloured façades based not only on their preferences but also on the people they build for.
5. As a result, different graphs have been produced, trying to understand the relationship between the three main actors of this action: the buyer, the owner, and the architect.

## Conclusions

In the last century, Albania experienced radical changes in her political and socio-economic systems. The last revolution we saw was an artistic one. Tirana, the capital of Albania, has been covered in rainbow dust, and its once grey buildings are now a full-colour palette.

- Urban colour scape directly reflects the urban history and overall design style of the town.
- Planners and designers in proposing colour plans for the city must first set their goals for urban colour scape, investigating the trends and being aware of the effects of colours.
- Colour experience and colour sense appear to be a collective and vernacular expression.
- Artistic interventions are erasing the visual architectural identity of the city.
- Artistic interventions do not resolve the physical degradation of the old housing buildings.
- Arising the elements that define the building identity will erase the visual image of the building itself.
- Albanian architects must reclaim their role in the process of reshaping the image of Tirana.
- Colour interventions impact the interaction between inhabitants and the urban space positively (tangible).
- Every colour intervention should consider the specific characteristics of the building.
- Inhabitants should have their voice during the process.
- There are tangible and intangible aspects of colour impact in the city life
- It is verified that buyers' interest is increased after the colour intervention in the existing façade of a building (intangible).
- The transformation of its inhabitants accompanies the

transformation of a city

- The transformation of an existing façade through colour intervention should be applied not only in the visual context, but it should include intervention that improves the energy performance of the building by adding systems ( intangible).
- Experts should implement the interventions in the field of architecture since tangible and intangible aspects of intervention need to be taken into consideration.

## References

- Albers, Joseph (2013). *Interaction of Colour*. 3<sup>a</sup> ed. New York City: Yale University, 2013.
- Kolevica, Petraq (1997). "Arkitektura dhe Diktatura," *Shtëpia Botuese MARIN BARLETI, Tirane* 1997, pp. 66-75.
- Newton, Isaac. (2004). *Colour and Meaning: Art Science and Symbolism*. London: Thames & Hudson; 1704 (Cited in Gage J, 2004).
- Crone, R. A. (1999). *A History of Colour: The Evolution of Theories of Light And Colour*. Norwell, MA: Luwer Academic; 1999.
- Goethe, J. W. (1970). *Zur Farbenlehre (Theory of Colours)*. Eastlake CL, translator. Cambridge: MIT Press; 1810/1970.
- DE HEER J., *The Architectonic Colour, Polychromy in the Purist architecture of Le Corbusier*, 010 Publishers, Rotterdam 2009
- Faja, E. (2008). "Institucioni I kryearkitektit te Tiranes," in "Kush e drejton urbanistikën Shqiptare". Përmbledhje artikujsh kritik, 1991-2008, UFO press, p.12.
- Faja, E. (2010). "Gjeneza e Arkitekturës moderne dhe e realizmit socialist në Shqipëri, në vitet 1945-1980," *Gazeta 55* date 16/12/2010. Available: <http://gazeta55.al/gjeneza-e-arkitektures-moderne-dhe-e-realizmit-socialist-ne-shqiperi-ne-vitet-1945-1980/>[accessed on 06/10/2015].
- Zacks S. (2005). "The Building as Canvas" *METROPOLIS MAGAZINE* /November 2005 Available: <http://www.metropolismag.com/November-2005/The-Building-as-Canvas/> [accessed on 20/10/2015].
- <http://archinect.com/features/article/53292622/colour-in-architecture-more-than-just-decoration>







Finished publishing from  
La scuola di Pitagora editrice  
Via Monte di Dio, 54  
80132 Napoli - Italia

October, 2021



This publication aims to bring together leading academic scientists, researchers, and research scholars to exchange and share their experiences and research results about all aspects of Architecture, Urbanism, Cultural Heritage within Modernization and Globalization trends of XXI century. It also provides the premier interdisciplinary forum for researchers, practitioners, and educators to present and discuss the most recent innovations, trends, and concerns, practical challenges encountered and the solutions adopted for the Modernization and Globalization in the Cities in Transition.

The third edition is expanding the horizon by introducing a series of overlapping visions spanning the recently institutionalised Adriatic - Ionian Euroregion, now extended to the Balkan and South East European region. The book content will concentrate on Architecture, Urbanism, Cultural Heritage located in contexts and territories that reveal their tendencies to Modernization and Globalization.

- Global and local modernizations
- Modernisation and cultural heritage
- Phenomena of regeneration, revitalization, and adaptive re-use.
- Modernization of urban planning, design and landscapes
- Housing modernisation
- Future design and technologies

ISBN: 978-88-6542-814-6

ISBN: 978-88-6542-815-3 (e-book)