## Transitional morphologies in the Italian contemporary city

The case of Cavour, Rimini Compact urban fabric regeneration

Liqiuzi Guo





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Master Thesis// Transitional morphologies in the Italian contemporary city. The case of Cavour, Rimini: Compact urban fabric regeneration Architecture Construction City Politecnico di Torino Academic Year 2020/2021

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#### ABSTRACT

The thesis is divided into two parts. The first part is an introduction, overview and atlas about Rimini. Including development history, geographic change and current situation. The second part focus on how urban porosity and urban acupuncture theory can be applied to practice, especially the improvement and regeneration of the compact urban fabric in the city. Through the critical discourse analysis and design case of related theorists, analyzing the project from a theoretical perspective, integrating theory with practice, implemented in Rimini and the residential area Cavour in the center of Rimini. The third chapter explores a series of important theories of scholars, especially on urban morphology, urban environment, urban porosity and urban acupuncture. The forth chapter analyzes several architectural and urban references, referring to the concept of urban porosity and urban acupuncture. In the fifth chapter, the design project takes four blocks in Cavour as the main case study. The theory of urban porosity and acupuncture are used as the method of the compact urban fabric regeneration, and the continuous renewal of the city is promoted through small, precise, and multi-dimensional urban intervention. The final chapter is attempting to draw a wider view on the other parts of the city Rimini which has the same characters, compact urban fabric, as Cavour area, and even more on the other any places out of Rimini.

**Key words:** Urban porosity, urban acupuncture, compact urban fabric regeneration, urban intervention, permeable border, module, public participation.

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# PART.1

TRANSITIONAL MORPHOLOGIES IN THE ITALIAN COMTEMPORTARY CITY. THE CASE OF RIMINI

PART.1

# 00 INTRO-DUCTION

Through the diachronic study of the form and rules that order the built and the cartographic reworking, it is possible to create a catalogue of operational guidelines.

#### FIELD OF INTEREST

The study investigates the links between form and urban rule in the contemporary Italian city, concerning the case of Rimini. The study consists of analysing the historical settlement system to form the cognitive framework of the General Urban Plan of Rimini. The analysis is conducted in a morphological-transitional manner or formulate guidelines for urban transformation.

The city understood as a complex evolutionary system that changes continuously over time. As Stephen Marshall (2008) argues, "the plan of a city - like the plan of an ongoing chess game - is a snapshot of an ever-changing process. Two cities - or two games of chess - may have different distributions of pieces. Still, these distributions often have a systematic local relationship, which gives them a recognisable order". This concept denotes the changing character of the city over time. It introduces a distributive and formal structure that organises the elements that make up the urbanised space (Caniggia, 1979). The deepening of the relationships between elements, especially in urban sectors capable of documenting important seasons for the city's evolution, makes it possible to develop scenarios for future development. Thus, the participation of the present in the spaces of the existing city makes the civic and design value of the historical heritage understandable and accessible.

In this context, Rimini assumes a paradigmatic role in observing the evolutionary cycles of the existing city. Therefore, through the diachronic study of the form and rules that order the built and the cartographic reworking, it is possible to create a catalogue of operational guidelines (codes). The operating procedures allow the triggering of urban regeneration mechanisms. They respond to local needs with a view to exporting and generalising design practices.

This Thesis presents a collection of documents. Starting from the global analysis of the urban fabric of the city of Rimini, four specific areas have been identified in which to simulate a series of urban projects. The design project is carried out in educational and academic settings to show possible actions in specific contexts. Thus, the simulations allow generalising the detailed reasoning and extending them to the rest of the urban fabric with the same morpho-typological characteristics.



Fig.1-4, Map of Study Areas in Rimini Google Earth (2021)



#### ONGOING RESEARCH AND METHODOLOGY

In the last ten years, the significance of urban codes has been placed in the foreground, both for their use to reform buildings and their value as new tools to shape the future *(Talen, 2012)*. Urban codes, or the governance tools for administrations that allow cities to be generated and regenerated, reveal a profound relationship with the urban form, which can be studied thanks to the paradigm of transition morphologies. Investigating transition means looking at urban morphologies as a process.

Transitional urban morphologies are an operational conceptual tool for analysing the urban form of contemporary cities in their historical development, up to their present reality, and also looking at their possible future configurations of urban planning and design *(Trisciuoglio et al., 2021)*.

The development of a new generation of urban planning rules requires a deep and critical understanding of the mechanisms of evolution of form and the analysis of the effects of the regulations on the built environment. Evolution is the lens through which city development can and must be understood *(Marshall, 2008)*.

This page presents the first analysis of the historic core of the city of Rimini. Through the redesign of the Roman structure, of the Renaissance elements and the Gregorian Cadastre of 1811, it is possible to understand the permanences and the permutations of the urban morphology of Rimini. Numerous in-depth studies and considerations can be conducted by superimposing the different layers obtained from interpreting the maps and historical documents. Therefore, the aim is to understand the formal mechanisms of origin and modification of the urban fabric to build project reasoning consistent with the context.



Fig.5-8, Superposition of Roman matrix on Gregorian Cadastre of 1811, Rimini, Martina Crapolicchio (2020)

This sub- chapter showcases the urban fabric of the historic center and the distribution of different typologies in the city Rimini.

#### General Plan: Morphological Homogenous Catagories

The collection of original maps and reworkings documents the main elements that combine to define the character and structure of four emblematic areas, chosen as representative archetypes of morphotypological ensembles.

This operation helps to study the city based on the elements that compose it and define intervention strategies in a localised manner to trigger regeneration mechanisms of the entire urban fabric. This approach allows collecting the evidence of the analysis to formulate generalisable principles. Furthermore, it is possible to elaborate other questions relating to urban morphology in the planning, design and conservation of Rimini's historical centre.

The four morphologically homogeneous areas (1 Cavour, 2 Tiberio, 3 Mazzini, and 4 San Giovanni) are presented here. Each region corresponds to a graphic pattern and a precise urban morphological characteristic.

The diagram on the next page represents the constructed surface of each morphological category. A diagram illustrating the framing of the regulatory guidelines is presented on the next page.



Fig.9-13, Typological Map of Historic Center Rimini, Liqiuzi Guo (2021)

STUDY AREA	ICON	IF	YOU CAN	ADVANTAGES
CAVOUR Acupuncture		There are condition of: <b>compact bu-</b> <b>ilding fabric</b> <b>with stratifi-</b> <b>cations.</b>	Rethink urban space to allow po- rosity through: - Interventions on voids system - Interventions on facades' surface (Echo) - Interventions on roofs' surface (Echo) <b>Promoters: pri- vate OWNERS.</b>	Discount on environmen- tal taxes; Adding volu- mes or/and surfaces in percentage.
TIBERIO Up & Down strategy		There are condition of: <b>compact</b> <b>margin tis-</b> <b>sue, com-</b> <b>pared with</b> <b>canal port or</b> <b>different</b> <b>heights</b>	Recover cubage through: - Augmenting sur- faces or volumes (even served by footbridges and aerial walk paths) - Allowing tempo- rary (years) occu- pation of private open spaces by the municipality to realise public spa- ces and gardens <b>Promoters: pri- vate OWNERS.</b>	Adding volu- mes or/and surfaces in percentage.
MAZZINI Dynamic growth		There are condition of: <b>building</b> <b>fabric of the</b> <b>outer village</b> <b>attested on</b> <b>roads</b>	Recover cubage through: - Augmenting sur- faces or volumes partially or entirely involving the buildings' shape in plan. <b>Promoters: pri- vate OWNERS.</b>	Adding volu- mes or/and surfaces in percentage.
SAN GIOVANNI Air-Rights		There are condition of: <b>ribbon di-</b> <b>sposition in</b> <b>urban fabric</b> <b>along the</b> <b>Flaminia.</b>	Recover cubage through: - Augmenting sur- faces or volumes partially or entirely involving the sides of the buildings according to sta- keholders. <b>Promoters: pri- vate OWNERS</b> <b>agreement.</b>	Adding volu- mes or/and surfaces in percentage.

# 01 OVER-VIEW

**RIMINI BETWEEN FORM AND NORM** 

## UNDERSTANDING RIMINI

This chapter showcases a collection of articles about the history, monuments, city development and the current regulations of RImini. Rimini, which can be described as the split town, owning to its geographic, cultural, economic and politic reasons.

#### THE SPLIT TOWN / by Wu Hongye

#### I. Beach resort, a great turning point of city development

One of the most essential turning points in the history of Rimini was that the seaside resort gradually developed, since then, people's attention shifted from the original core of the city which centered on piazza Tre Martiri to the coastal area to the east of the city.

In 1843, precisely under the Papal Government, Rimini officially inaugurated its first beach resort that became the Riviera Romagnola afterwards. The geographical boundaries of Rimini's beach resort extend from the mouth of the Rhine River up to the promontory of San Bartolo, but most of all, Rimini develops the tourist vocation along the Adriatic coast. The development of the first beach resort in Rimini was followed by the construction of the Kursaal and the hydrotherapy resort, in response to a new trend among the aristocracy and the upper middle class, who appreciated sea-bathing for its therapeutic properties. After the Second World War, many beach resorts arise in the area from Riccione to Milano Marittima and since the '50s, the seaside is full of areas devoted to bathing. Along with Milano Marittima, Rimini became famous throughout Europe as major tourist destination. In the '60s, Rimini and the Riviera Romagnola were finally recognized as leading touristic locations. Nowadays, people has already been associated with Rimini's bathing history since the first bathing establishment was founded in 1843.

In recently ten years, Rimini has made an excellent effort in terms of environmental renewal and restoration. Devoting to promote a more enjoyable and sustainable city, Rimini municipality built many leisure green parks, especially the new **Sea Park**: 16 kilometers of waterfronts, from Torre Pedrera to Miramare,



Fig.14, Beach resort in Rimini, Rimini, Wen Yee Tan (2021)



Fig.15, Beach resort in Rimini, Rimini, Wen Yee Tan (2021)

Ma ecco: non riesco a considerare Rimini un fatto oggettivo... E' piuttosto, e soltanto, una dimensione della memoria. Rimini: cos'è? E' una dimensione della memoria (una memoria, tra l'altro, inventata, adulterata, manomessa) su cui ho speculato tanto che è nato in me una sorta di imbarazzo (Fellini, 1971).

completely free of metal sheet and asphalt and transformed into islands and roads dedicated to greenery, nature and the quality of the sea.

In Rimini, tourists from Europe and all around the world would like to flock to the **seaside** for vacation, especially during the summer vacation, while the original historic center of the city is gradually forgotten. In fact, the historic center is full of important **memories** of the past, the memories of the people and the memories of stone (e.g. architecture, city walls, arches, etc). Cinemas, theaters, castles, cafes, museums, piazza, streets, and alleys, all of them, have both tangible and intangible memories which deserve to be preserved and continued in their own special forms.

#### II. To be continue, a city of memory

Federico Fellini once wrote, "I can not consider Rimini as an objective fact. It is rather, a dimension of my memory... What is Rimini? It is a dimension of memory (a memory that in any case has been invented, adulterated, violated) on which I have speculated so much that I developed a kind of embarrassment *(Fellini, 1971)*."

Rimini, thus, for Federico Fellini, is not an objective fact, but primarily a facet of his **memory**. Although Fellini never shot a film in Rimini, Rimini as his memory is always existing in his films, recreated and memorized in some ways. The town of Rimini



Fig.16, Fellini is Everywhere, Rimini, Hongye Wu (2021)



Fig.17, Park in Castel Sismondo, Rimini, Hongye Wu (2021)



Fig.18, Park in Castel Sismondo, Rimini, Hongye Wu (2021)

Pensare a Rimini. Rimini: una parola fatta di aste, di soldatini in fila. Non riesco a oggettivare. Rimini è un pastrocchio, confuso, pauroso, tenero, con questo grande respiro, questo vuoto aperto del mare; lì la nostalgia si fa più limpida, specie il mare d'inverno, le creste bianche, il gran vento, come l'ho visto la prima volta... Infatti, quando mi trovo a Rimini, vengo sempre aggredito da fantasmi già archiviati, sistemati (Fellini, 1971).

truly becomes an island, in Fellini's idiosyncratic recreation, which represents a private place, protected by the see, and where the individual can freely keep his or her most secret dreams *(Gieri, 1995)*. Ostia, Rome, where Fellini shot "I Vitelloni", as Fellini describes, is more Rimini than the real Rimini. The place reproposes Rimini in a theatrical, scenographic and, therefore, harmless way *(Fellini, 1971)*. In the movie "I Vitelloni", Rimini truly becomes an island, that is, a total universe where each one of the five protagonists progressively undergoes gradual unmasking so as to expose his empty inner life, which is metaphorically paralleled by a vacuous social existence *(Gieri, 1995)*.

"It looks like an American city. But who wants the American city?", the Rimini people said while they were watching the model of the future Rimini which proposed by the Americans after the WWII. Rimini was almost destroyed entirely by horrible bombs during the WWII. After the war, the Americans had promised to rebuild everything at their own expense. Then, Rimini becomes a word which is made up of auctions, of toy soldiers lined up. For Fellini, he can not objectify Rimini. Rimini is a mess, confused, fearful, tender, with its great breath, its open emptiness of the sea; nostalgia becomes clearer there, especially the sea in winter, the white crests, the great wind, as he saw it the first time... In fact, when he is in



Fig.19, Newly Piazza Malatesta Under Construction, Rimini, Hongye Wu (2021)



Fig.20, Newly Piazza Malatesta Under Construction, Rimini, Hongye Wu (2021)

Ricordo che ebbi una reazione infantile. Quello spettacolo mi pareva un oltraggio sproporzionato. Ma come, non c'è più il Politeama, non c'è più quell'albero, la casa, il quartiere, il caffè, la scuola! Mi pareva che avesse dovuto frenarli il rispetto per certe cose. Sta bene, è la guerra: ma perché distruggere proprio tutto? (Fellini, 1971)

Rimini, he is always attacked by ghosts already archived, settled *(Fellini, 1971)*. Again, the Rimini which from Fellini's childhood did not exist anymore, but Fellini recreates and invents it in his films in his own way.

In recent years, local municipality has been working hard to enhance historical urban places with a **strong identity** starting with the redevelopment of the historic centre with the renovation and reopening of the Fulgor cinema, which is perhaps the most famous cinema in the world, the reconstruction of the Amintore Galli Theatre linked to the unitary redesign and reorganization of Piazza Malatesta up to the Malatesta Castle, the inauguration of the new PART Museum of Contemporary Art. The creation of new public spaces, street furniture, green areas, as part of a coordinated and organic design, in close connection with the other ongoing contracts aimed at creating new cultural engines, such as a series of exhibition of Fellini will be inaugurated on August of 2021, including the Fellini Museum which located in the recent renovated Castle and some open-air exhibitions which will be showed in the newly organized Piazza Malatesta in front of the Fellini Museum. Obviously, Fellini has already became a symbol, an icon of Rimini.

A city of memory or a memory of someone? So what is Rimini for you? And, how the city Rimini will be in the future?



Fig.21, Piazza Sull'Acqua, Rimini, Hongye Wu (2021)



Fig.22, Piazza Sull'Acqua, Rimini, Hongye Wu (2021)

A city of memory or a memory of someone? So what is Rimini for you? And, how the city Rimini will be in the future?

#### III. Multiple identities, today's Rimini

It is not necessary to redefine the identity of historic city center of Rimini but what has to be done is that to grow the original identities and in the meantime to dig out profound ingredients such as disappearing tradition, demands of residents which not only have been deeply hiding in the history, during the fast urban development but also which are going to be increasingly needed in nowadays' constantly changed world such as post-pandemic era which is being faced by the individual, groups, cities, countries and the whole world (\*different dimensions of needs). Different dimensions of needs, for example, the individual considers only a single house, the group may consider how a community could be, the city takes a bigger view into account, and so on.

Overall, Rimini is an attractive city with rich culture, profound history, great artificial green parks, and stunning natural landscape from hills and sea, however, all these characters as if they are separate fragments floating on the water island. In this sense, Rimini as a **spilt town** has being seen today. One of the main influence factors is the location of **the railway**. The railway exactly right splits the city into two parts, the new town along the seaside with thousands of villa, hotels, hostels, B&B on the northeast side, while the other, the city historic center, is isolated totally on the other side. At the beginning, one of the main purposes of the planning of the railway is to bring convenience to the tourists who want to go the beach. However, it is also the main factor that weakens tourists' attention to the meaningful city center. Furthermore, apart from those important buildings for the city itself, most the residential buildings are being neglected. For example, residents renovated their house themselves in an interesting informal way or in a creative and adaptive way.

Therefore, although there is no perfect city, regenerations in several aspects will give benefits to transform the city of Rimini into a more completive, coherent, livable place and to promote its sustainable development.



Fig.23, Self-renovated Residential Building, Rimini, Hongye Wu (2021)



Fig.24, Self-renovated Residential Building, Rimini, Hongye Wu (2021)

Rimini was founded by the Romans in 268 BC. Throughout Roman times, Rimini was a key communications link between the north and south of the peninsula.

#### THE CORE OF THE TOWN / by Guo Liqiuzi

#### I. The historical center\_Cardo-decumanic\_Rome

The historic center of Rimini is surrounded by walls built by Malatesta and bounded by **the Marecchia and Ausa rivers**. The center has a unique regular urban structure of Roman origins, based on a typical Roman square mesh. Each town has two main roads, **cardus maximus** and **decumanus maximus**. One faces north-south and the other faces east-west. The town is divided into four areas by two orthogonal roads, which is based on colonial needs. The intersection of the roads is a large Piazza in the center of the town, called the **Forum**. It is used for markets and conferences. It has shops and offices on three sides, and government offices on the other.

In Adimario Adimari's plan for Rimini, a square mesh plan was adopted, with military barriers on the north and south sides coincident with the two bridges on the Ausa river. The city is surrounded by a moat and city wall, showing its strategic significance. This reflects the urban structure of the Roman period.

The urban layout, of the **Cardo-decumanic** type, is oriented from north-west to south-east and from north-east to southwest, unlike what happens for the territorial network. not only of orientation but of connection, [...], that characterizes the practicalempirical attitude of the Roman urban planners in the organization of inhabited centers. The reference to a predetermined model, the quadripartite orthogonal city, is conducted and applied, here as elsewhere, without any rigidity, historicized in relation to human and geographical pre-existences, corrected from time to time according to certain objectives. (RIMINI. Laterza. 1982).



Fig.25, Drawing for the restructuring, regularization and expansion of Rimini, Rimini, Gobbi, G., Sica, P. (1982)

During the Renaissance, Rimini benefited from the the house of Malatesta.

In rimini, the city walls surround the urban space orthogonal to the street grid. At the intersection of cardus maximus and decumanus maximus, corresponding to the current Piazza Tre Martiri, was the Forum, the core of public life and commercial transactions. Roman emperors erected monuments such as the Arch of Augustus and the Tiberius Bridge to mark the beginning and the end of the Decumanus of Rimini.

#### II. The historical center\_House of Malatesta\_Renaissance

Malatesta Temple, which is the most important site in Rimini, first example of the Italian Renaissance; designed by Leon Battista Alberti. Castel Sismondo, designed by Filippo Brunelleschi, is the symbol of Sigismondo Pandolfo Malatesta strength and power. Piazza Cavour (Piazza Della Fontana) is the main medieval square. Piazza Malatesta, formerly joined to Piazza Cavour, overlooked by the cathedral and the castle. Piazza Malatesta takes its name from the castle of Sigismondo Pandolfo Malatesta, lord of Rimini from 1432 to 1468, which combines the celebratory intent with the defensive need. The fortress stood out for the might of its towers and walls with escarpments, for the wide moat, for the grandeur of the keep.

The early medieval city was organised as a dense knot of functions and activities contracted around a square (Piazza Della Fontana) (Fig.4.) where the religious and civil powers had their headquarters. During the municipal age of Rimini, it did not undergo significant morphological changes. Punctual interventions are carried out on prestigious ecclesiastical and political buildings. Unlike other municipal city-states, Rimini does not present expansion in multiple phases since the complete circle of the **Aurelian walls**, and the cardo-decumanic layout dictate the morphological development and function as an urban generating structure. (Crapolicchio, 2020)



Fig.26, Map of Roman Rimini, Rimini, Gobbi, G., Sica, P.(1982) 1.Porta Montanara; 2.Arch of Augustus; 3.Bridge of Tiberius; 4. Bridge over the Ausa; 5. Theater; 6. Amphitheater; 7. Remains of the road pavement; 8. Aurelian walls (findings and presumed route); 9, Significant findings of masonry, mossic structures, etc; 10.Percorso della Fossa Patara



Fig.27, Piazza Tre Martiri, Rimini, Gobbi, G., Sica, P. (1982)



Fig.28, Piazza Cavour(Piazza Della Fontana), Rimini, Gobbi, G., Sica, P. (1982)

In the 19th century, Rimini was one of the most active cities on the revolutionary front. During the World War II, the city was the scene of numerous clashes and bombings.

#### III. The historical center\_19th Century

By the end of the 19th century, Rimini left the enclosure of the city wall and began to expand to the northeast. **North-East Town Plan (1906)** (Fig.5.) is the first expansion plan of the city in the area between the old center and the Marina. a large checkerboard layout, completed in two stages between 1907 and 1929.

#### IV. The historical center\_current status

In ancient times, city walls were used by builders to protect themselves. In modern times, people need more connectivity. Therefore, the city wall is slowly disappearing from people's sight. After several explosions and wars, many ancient city walls and monuments have been completely destroyed or only left some relics. Some of this relics has been integrated with people's lives.

A Roman theatre was built in the first block east of the Forum. This building represents a pivotal point in the observation of Rimini's urban stratification as it remained incorporated into the residential fabric in the early medieval phase of decay and rebuilding of the city. To the south of the Theater is the Lettimi Palace, whose history can be traced back to the Renaissance period. It was destroyed during World War II, and the remains are still preserved, with some broken walls, doors and windows. The ground and walls have been occupied by plants. Seen from the street, it looks like a green wall, blending with the city. (Fig.6.)

The building fabric is defaced and undone in many places with the degradation of some monumental buildings. The latter are stripped of their materials and erased from the visible shape of the city. The amphitheatre is part of these ruins, of which only a few ruined arches covered with plants remain, more similar to natural cavities than to architectural works. As a result, the countryside returned to take possession of the urban space through areas that were wild or planted with vegetable gardens. (Fig.7.)



Fig.29, Piaro Regulator Northeast (1906), Rimini, Gobbi, G., Sica, P. (1982)

#### IV. The historic center\_debate\_1965~1975

De Carlo argues that "the ancient center has value only if its constructions and forms can still be used (including, of course, the contemplative / aesthetic use) by a contemporary community: otherwise it has no value"; consequently, "the purpose of an urban intervention on the historic center cannot be that of its block in its present state nor that of its reintegration to a pre-existing state, but it can only be its revitalization".

According to De Carlo, first of all it is necessary to verify the contemporary use of the historic city, to involve citizens in interpreting the needs of the community, to intervene to adapt the historic city to the social, economic and cultural needs of the community; it is therefore necessary to have the ability to listen, but also the ability to choose.

Rimini clearly bears the signs of the events that have profoundly altered it in the last 50 years, and currently does not present a unitary historical fabric: there are important monuments, some shreds of minor connective tissue, but also parts that are decidedly and definitively upset and irrecoverable. De Carlo has noticed that citizens intensely use the historical environment, appropriating and manipulating it to adapt it to current needs; what guarantees this link between the community and the historical environment are not the fabrics or the rare monuments, but the scale, the spatial relationships between the building plot and the city community: the conservation of this scale, and the intensity of the relationships that is related to it, will be the problem that the Plan will have to solve and guarantee, together with the preservation of the surviving historical values.





Rimini – where margin (border & edge) of the old city still remains and visible in most parts of the city and it plays an important role even in the current days.

#### ON THE MARGIN / by Tan Wen Yee

#### I. River & Monument

Rimini is a city that sprawls along the Adriatic Sea, on the coast between the **rivers Marecchia** (the ancient Ariminus) and **Ausa** (ancient Aprusa). The Marecchia river runs through its valley and the plain in a very large riverbed and, after confluence with the Ausa, it flows into the Adriatic sea through a deviator between San Giuliano Mare and Rivabella, while the ancient riverbed is used in its last section as the city's harbour. The Marecchia, usually with little water flow, was subjected to periodic, destructive floods near its mouth, where the riverbed became narrow after various bends: for this reason it was deviated north. Ausa creek, which was the eastern limit of Rimini for many centuries, was deviated as well after World War II, and its original riverbed was filled and turned into an urban park.

Ponte di Tiberio is one of the important monuments in Rimini, situated on river Marecchia, the construction begun under Emperor Augustus in 14 AD, as the inscription on the internal parapets recalls, and completed under Tiberius in 21. Built in Istria stone, the bridge consists of five arches that rest on massive pillars with breakwater spurs set at an oblique angle with respect to the bridge's axis in order to follow the current. The bridge's structure on the other hand, rests on a practical system of wooden poles. Until today, it still connects the city centre to Borgo San Giulianowhich was once a humble neighbourhood inhabited by fishermen and offers an exciting glimpse into the past. It is a village with total immersion in Fellini's Rimini where murals with characters and scenes from the most important Fellini films are reproduced on the walls of the village, it then leads to the consular roads - Via Emilia and Via Popilia that lead north, and it is currently opens only for pedestrian and light vehicular circulation.



Fig.32, From Ponte di Tiberio to Borgo San Giuliano, Rimini, Wen Yee Tan (2021)

#### II. Rimini Riverside Development

The current Rimini has an extensive parks system that includes a series of **large urban parks**, created along the old riverbeds of Marecchia and Ausa. Neighbourhood parks, gardens and treelined boulevards were largely incorporated in the recent city development.

Being Rimini's largest and most spectacular park-Marecchia Park that also known as XXV Aprile Park is located right in the heart of the city centre and is perfect for a stroll or some relaxation on the edge of the beautiful town square overlooking the water Piazza sull'Acqua. Built at the foot of the Ponte di Tiberio, where the ancient Marecchia River once flowed (before being diverted in the 1930s), Piazza Sull'acqua is the public place redeveloped in 2017-2018 that surrounds it. It is the terminal part towards the sea of the Marecchia Park and the ideal place for the realization of cultural and spectacular events in a frame of absolutely unique naturalistic and architectural beauty. Many activities and few markets were held in the new piazza since its opening, the spacious venue and well-designed public area helped to attract the citizens to utilize this place. From Piazza Sull'Acquathat overlooks the reservoir of the old river Marecchia, the Ponte di Tiberio, stands immobile and steady, showing the city all its beauty. A new floating walkway connects the left and right docks of the ancient port facing the bridge, is considered one of the most beautiful in the world.

Nearby, the **Archaeological Park "Le pietre raccontano"** offers the chance to discover the long history of the bridge with a long walk on foot just an inch from the water and offers a panoramic terrace towards the Marecchia park that will leave the users breathless.



Fig.33, Piazza Sull'Acqua, Rimini, Wen Yee Tan (2021)



Fig.34, Flower market on Piazza Sull'Acqua, Rimini, Wen Yee Tan (2021)

#### III. Past and Present of the City Wall System

Rimini's city walls were built by Malatesta, it was divided since the Middle Ages in four districts (Rioni): Cittadella, Clodio, Pomposo and Montecavallo. The boundaries of these districts are not known, but it is assumed that they followed the current Corso d'Augusto, Via Garibaldi, and Via Gambalunga. Additionally, the ancient coastline was situated much farther inland than today's, it gradually shifted outward over centuries and the new land was developed throughout the 20th century.

The **city walls**, with its towers and gates, and the castle constituted for centuries as an **important defensive system** for city life under many aspects, such as the protection from external dangers, an essential element of the urban planning and control over trade with the surrounding area.

Rimini had a city wall since its foundation (268 BC). In the third century AD, a new fortified system was built which remained operational for a long time, until the Middle Ages, when new military requirements required the construction of a **new fortified circle**.

**Castel Sismondo**, wanted by Sigismondo Pandolfo Malatesta as a noble residence and fortress at the same time, crowned the Malatesta defensive system by connecting to the city walls.

As military techniques and political conditions changed, between the end of the eighteenth century and the mid- nineteenth century, almost all the city gates were **demolished and replaced** by customs barriers, further destruction occurred in the twentieth century, when the urban expansion crossed the ancient and now obsolete limit of the walls. There are a total of 4 city gates of old Rimini which still exist today and outside of the city walls, there are four boroughs (Borghi)- Borgo San Giuliano, Borgo San Giovanni, Borgo Sant'Andrea (or Borgo Mazzini) and Borgo Marina, which were entirely incorporated to the city by the urban sprawl in early 20th century.



Fig.35, Rimini with ancient city wall system, Arimini Caput Viarum



Fig.36, Rimini with ancient city wall system, Arimini Caput Viarum

#### City Gate 1 - Arco di Augusto

The triumphal Arch of Augusto (Arco di Augusto) is the **oldest** preserved arch in northern Italy, and it is also one of the main attractions in the old town of Rimini. It marks the entrance to the city for those coming from the Flaminia, the route traced by the consul Flaminio in 220 B.C. to connect Rome to Rimini. Being a city gate and honorary arch, Arco di Augusto was erected in 27 B.C. by the will of the Senate in celebration of Octavianus Augustus, as manifested by the inscription placed above the arch. The Arch is located on the South side of the old town, then it was a **city gate** and was built into the defensive walls of the city, marking a main road in Rimini. Sitting just outside the largest entrance to the city where the majestic Arco d'Augusto stands, there is Borgo San Giovanni. This neighbourhood historically developed around the end stretch of the Via Flaminia, and reminants of its past remain to this day, such as its lively and welcoming streets packed with bars and quaint shops.

#### City Gate 2 - Porta Galliana

Porta Galliana is a city gate that was built in the thirteenth century to **connect the city with the port area** along the Marecchia river. It was part of the defensive walls due to the enlargement of the city in the Frederick era (13th century). It replaced another door **moved slightly further** into the city. Currently, the area is undergoing construction for the recovery and redevelopment of the area, that aims to enhance the city gate and the fact that the historical-archaeological area that can be visited and accessible to all visitors and the desire to restore an ancient artefact as it is the only medieval - Renaissance city gate that is still usable, and largely recoverable, existing in Rimini.

#### City Gate 3- Porta di Sant'Andrea

The Montanara Gate, also called the "Porta di Sant'Andrea", is the only example in northern Italy of an **urban gate** of the **Sellian age**. Dates back to the first century BC, it was also part of a general reorganization of the city's defensive walls attributed to Sulla. From 1400 to 1809, it was the only access point to the



Fig.37, View of Arco di Augusto from San Giovanni, Rimini, Hongye Wu (2021)



Fig.38, Porta Galliana, Municipality of Rimini

city of Rimini from the mountain. The rounded arch, in blocks of sandstone, was one of the two entrances of the door that allowed access to the city for those coming from via Arezzo, along the Marecchia valley. The double archway facilitated traffic, channeling the path out of Ariminum, through the cardo maximus, and the one in entrance, in parallel passages. In the first centuries AD, the arch facing north was buffered and the door, thus resized to a single arch, continued to mark the entrance to the city until the Second World War. It is the **Roman monument** that suffered the greatest damage during the bombings of the Second World War, despite having been protected with sandbags. In 1949, when the war was over, the ministry established that the gate had no monumental value and ordered its dismantling. It was rebuilt in the courtyard of the Diocese of Rimini. However, in 2003, it was then relocated to its original position, at the extremity of the Cardine Massimo of the old Roman city.

Outside the city walls (near Porta Montanara) is where Borgo Sant'Andrea (Borgo Mazzini) located, this district was once home to the Foro Boario and is now a beautiful neighbourhood lined with beautiful green parks. The long road to Covignano also begins here and runs from the old town into the hills, offering splendid views of the Adriatic along the way.

#### City Gate 4- Porta Gervasona

The Porta Gervasona or Portello belonged to the **defensive** system of the Malatesta Walls, which flank it and surround the whole village of S. Giuliano and date back to the 15th century. It can be reached from the promenade that winds from the Ponte dei Mille to the small church entitled 'Madonna della Scala'. Continuing along via Madonna della Scala, the remains of the walls and towers with the passages still accessible.

#### IV. The Current Status

In recent years, this **dynamic city** has seen the completion of a participatory **urban regeneration plan** that has radically and permanently innovated the city. Rimini's city council has been investing and planning a lot of redevelopment activities for the riverside urban parks and even to rebuild the ancient wall or integrating them into the new functionality of space today. It helps not only to promote tourism but at the same time, to bring the **balance between the old and new** memories that is still intact in the city.



Fig.39, Porta di Sant'Andrea, Rimini Turismo



Fig.40, Porta di Gervasona, Rimini Turismo

The presence of the tall building in a compact inline urban fabric, reasons and relations with the urban fabric.

### ALIENS IN THE URBAN FABRIC OUTSIDE OF THE WALL / by Dai Wanping

#### I. The urban fabric outside the wall

Outside the historical center surrounded by city walls, which is another mark of history, connecting the new and the old urban fabric. The main streets of the ancient urban structure of Rome extend to the land beyond the city walls and become the main roads outside the historical center, the Cardo and decumanic. Among them, the main street of San Givanni originates from the Flaminia and connects the city and Rome. The urban fabric of the city center is full of voids and arranged compactly. Even though the city wall separates the center from the periphery, the traditional urban fabric does not totaly disappear and it continues with the buildings that grew along the central axis. The unique thing is that several buildings with completely different ratios of length, height and width that suddenly appear on the periphery is particularly eve-catching and the high-rise building is even ten meters away from the neighbouring building. At the same time, the side of the tall building is exposing. Some buildings are even without any decoration and windows, which show a blank façade. Those independent huge buildings occupy the blocks and become the protagonist. Most of them seem to be abandoned by history and are out of place, and some of them are connected with the surrounding historical buildings to form a strong contrast. The skyline of the whole street is like jagged teeth. Why do buildings here take on a unique shape? They seem to be the last struggle in the process of urban transformation. Leaving this area to the south, the texture of the historic center is completely broken. People no longer gather in an apartment and share a courtyard.



Fig.41, The Historical Center and Outside, Wanping Dai (2021)

The density of buildings begins to decline. Instead, they choose to own their villas and build fences to divide their domain. There are more high-rise buildings by the sea, and the distance between the buildings is gradually widening.

It can be observed from the figure 2 that the fabric of the city center and its exterior has changed. The periphery area has become a transitional area connecting the historic center and the new fabric. Besides, the historical fabric and the geometric form of the sites make the urban fabric more complex nowadays. Places like San Giovanni and Mazzini have a more substantial historical mark, and all thanks to the preservation of the church and the historical urban fabric for centuries, it becomes its unshakable element.

#### II. The formation of the aliens

There were several attempts to trace the appearance of these **alien buildings**. From the 19th-century city plan, the main road leading to the waterfront marks its opening to the sea. Before that, around the historic center, the urban fabric of the old city continues. However, in 1912, Rimini began to focus on coastal planning, ushered in the most crucial turning point, and began to develop into the tourism industry, providing cost-effective villas and rental houses for the nobility and middle class. Also, due to the Second World War, some historical buildings were destroyed, which accelerated the construction of the urban image based on mass tourism(*Grazia Gobbi*, *Paolo Sica*, *1982*). Thus, the periphery historical center became a testimony of a turning point.

Figure 3 shows Rimini's plan in 1882. The coastal area was planned to be developed. The empty space was divided into a chessboard layout, since then, the city's development has moved in this direction. The substantial opening of the ancient city indicated on the map is towards the sea, with the establishment of the railway station. Above all, with the connecting axis to the bathing establishment, at a scale hitherto unknown to the



Fig.42, Changing of the Urban Fabric Along the Main Road, Wanping Dai (2021)

intramural city. The same field depicted on the map, in which the ancient city is no longer the center of gravity of the representation, clearly denounces the different involvement of the territory in the city's life. The new weight was assumed by the "Marina," albeit documented at the beginning of urbanization, but felt like a pole of convergence of new urban interests *(Grazia Gobbi, Paolo Sica, 1982)*.

There is no way to judge from the vertical direction when these high-rise buildings appeared. However, it could be speculated that under this unsaturated expansion, the periphery of the historic center is transforming. The evolution of the city urgently needs more housing space and population to support Rimini's industry. This rapid demand has led people to seek more space outside the historic center. Coupled with the impact of post-disaster reconstruction factors, the target is locked in partially destroyed residential buildings. These buildings have been rebuilt and integrated with the characteristics of modern architecture, aiming to provide people with more economical housing. Therefore, the city we see today continues the old texture but with few appearances of high rising buildings. From the plans of those alien buildings today, it appears that they are of the same type as the neighboring buildings. However, Rimini divided the blank area with a checkerboard layout (Crapolicchio, 2021). Many villas in the remaining regions aim to provide the middle class with the private territory for vacation and leisure differences in the urban texture. These alien buildings are the energy supply in this process. The fabric of the historic center continues, but the height presents differently.

This phenomenon is considered as the degradation of traditional urban centers. For instance, since Rimini began to expand outward with the development model of the historical center, the buildings' plan remains the traditional Italian typologies: The ground floor is for shops, and the rest are for residences, sharing a public area as a transportation connection. A building



Fig.43, Plan in 1882, retrive from Grazia Gobbi, Paolo Sica, 1982, redraw by Dai Wanping (2021)

usually comprises four households with one staircase, so the aspect ratio often does not deviate from the average. In the periphery of the historical center, the ground level has not changed much. Still, there are usually more or fewer differences in building facades and heights, which is proof of the transitional phase of the historical center in the process of degradation. What's more, the degradation of the city is not only manifested in the characteristics of the building, it could cause a series of influences, reflected in the economy, culture, population, urban form, etc., and these factors, in turn, affect the city's construction. For example, with the expansion of the coast, the population is constantly migrating from the old historical center, leading to the disintegration of the social structure of the historical center. In addition, due to insufficient capacity and financial support, there has been a transformation for purely commercial purposes or a lack of precise positioning to solve the current dilemma. The characteristics of these alien buildings in Rimini reflect in the density and the facade (high buildings with blank walls).

#### III. About future

Interventions will be carried out at this node connecting the historic center. When the need to restore the historic center arise, following questions should be considered :

1. Since there are many blank walls in Rimini, to repair the defects in the urban texture, what intervention should be implemented to integrate these buildings into the urban texture better?

2. How to deal with environmental problems, streets, and courtyards?

3. How to re-attract people to the city center by intervening in the plot?

These issues play a crucial role in urban regeneration. In future interventions, Rimini aspires to take on a new look and provide people with a new development idea through the intervention of these aliens. Therefore, by studying the reasons for the emergence of these aliens buildings, can clear understand of the responsibilities on urban regeneration and tracing the roots. It aims to provide people with an ideal utopia and restore their cherished historic center.



Fig.44, Building Outside the Wall, Wanping Dai (2021)
Rimini, and urban regeneration. From the Regional Law n.20 of 24/03/2000 to the Regional Law n. 24 of 21/12/2017 to refer to Urban Planning Building Regulations currently in force, pending the future Piano Urbanistico Generale PUG

Fig.45, Orthophoto map of Rimini,Google Earth Pro (2021)

#### PANORAMA ON THE CURRENT RULES / by Alessia Portigliatti Pomeri

Urban regeneration must guarantee a valid usability of public spaces and affirm the environmental sustainability of the transformations. Historic centers fall within these contexts as they can be affected by particular and widespread forms of decay as well as abandoned areas. To promote and combine their urban and energy adaptation, a system of rules, incentives and agreements between public and private actors is necessary.

On urban and energy regeneration at national and regional level, work is still in progress and the regulations are partial and not yet organically defined.

#### I. Regional Law of Emilia Romagna

With adoption of the Emilia-Romagna Regional Urban Planning Law no. 20 of 24/3/2000, the government of the territory is profoundly innovated in content and forms, regulating the relations between territorial and local authorities on urban planning according to the principles of subsidiarity and cooperation between bodies, environmental and territorial sustainability, simplification of procedures and planning tools.

The Piani Regolatori Comunali are modified in their characteristics and procedures, separating their contents into three new general planning tools:

Piani Strutturali Comunali (PSC), Piani Operativi Comunali (POC) and Regolamenti Urbanistici Edilizi (RUE). The contents of the municipal planning remain unchanged, but are organized separately and structured with three different degrees of definition of the choices and contents of the planning: each of the three municipal urban planning tools will be a necessary condition to define a complete planning discipline and the integration of their contents will in fact constitute a "Piano Urbanistico Comunale" with rules and forecasts for the planning of the municipal territory.



#### **General Planning Tools**

The RUE (Regolamento Urbanistico Edilizio) contains the related regulatory and regulatory aspects construction activity and health and hygiene aspects; it is configured as the union of the Building Regulations and a part of the Norme Tecniche di Attuazione of the past Regulatory Plans and regulates the interventions in the consolidated area and in the rural area.

The rules of the RUE apply to the entire municipal territory, are valid indefinitely and serve to clarify the urban planning and implementation terms of the PSC and the POC and the building terms and the typological and hygienic characteristics of direct building interventions. It brings together the municipal provisions relating to the urban and building profile: the Regulation is strictly connected to the provisions of the Structural Plan and in fact contains the discipline to carry out, through the authorization title alone, the transformation interventions permitted by the Structural Plan itself in the consolidated urban territory. and in the agricultural territory, interventions on heritage existing building, completion, maintenance and modernization interventions of technological systems and urbanization in existing production areas.

In the areas to be redeveloped, the interventions of new settlement, urban restructuring and environmental redevelopment are programmed by the POC (Piano Operativo Comunale), within the limits defined by the PSC (Piano Strutturale Comunale), which defines specific contents, methods and terms and implement upon approval of an Piano Urbanistico Attuativo extended to an entire sector defined by the POC, or to part of it as defined by the POC itself.

Fig.46, Sea park, Piazzale Kennedy, Alessia Portigliatti Pomeri (2021)



Fig.47, Piazza Cavour, Historical center, Alessia Portigliatti Pomeri (2021)

#### **II. Analysis of RUE Categories**

From the Regional Law n° 24/2017 to the formation process of the Piano Urbanistico Generale (PUG)

Following an initial phase of experimentation of the Regional Law n. 20 of 24/3/2000, LR 6/2009 'Government and solidarity redevelopment of the territory' has made further changes aimed at defining criteria for streamlining and simplifying procedures with objectives of reducing land consumption, urban redevelopment, incentives for inter-municipal planning in particular strengthens the objective of redeveloping the existing building heritage (also providing for appropriate urban planning incentives) and the role of the Provincial Territorial Coordination Plan (PTCP) "by explicitly assigning it the task of establishing the conditions and limits on the consumption of non-urbanized land as well as the requirements of territorial sustainability and municipal urban planning forecasts which entail significant effects that go beyond the administrative boundaries of each entity ".

LR 20/2000 and the subsequent LR 6/2009 were an opportunity to identify and evaluate "good practices" of transformation of the territory, unfortunately, perhaps traditional planning prevailed over the culture of urban design and the assessment of the sustainability of building transformations for the recovery of urban spaces.

With art. 7 ter added by art. 16 of the L.R. 6 July 2009 n. 6, later integrated with the addition of paragraphs 3 bis and 3 ter by art. 30 of the L.R. 18 July 2014 n. 17, the ways in which urban planning can pursue the objective of promoting the qualification and functional recovery of the heritage are identified existing building, in compliance with the regulations relating to buildings of historical-architectural, cultural and testimonial value

and in line with the historical, landscape, environmental and urbanistic characteristics of the areas where such buildings are located. The law provides that urban planning establishes "volumetric incentives for:

a) promote urban redevelopment, also through building interventions that qualify urban fabrics and, at the same time, discourage settlement spread and land consumption;

b) achieve a significant improvement in the energy efficiency of buildings, with the full application of the energy performance requirements of buildings and energy systems;

c) incentivize the implementation of seismic adaptation or improvement interventions, in application of the technical regulations for constructions;

d) promote the elimination of architectural barriers;

e) ensure compliance with the health and hygiene requirements of the inhabited areas and living and working rooms, as well as the requirements relating to plant safety, fire prevention and construction site safety;

f) carry out the simplification and speed of the authorization procedures, while ensuring that the necessary checks are carried out on projects and works in progress of work and on those made ".

This article is very interesting as it provides not only for the possibility of recognizing surface incentives outside the dimension of the Plan, but also exceptions to the distances provided for by Ministerial Decree 1444/1968. Any volumetric incentives recognized for the intervention can be realized with the raising of the original building, also notwithstanding Articles 7, 8 and 9 of Ministerial Decree no. 1444 of 1968, as well as with out-of-shape expansion of the original building where the minimum distances between buildings or those from pre-existing buildings in front, if smaller, are still respected.

Finally, it is specified, with paragraph 3, that these provisions "prevail over the various forecasts on building density, on the height of buildings and on the distances between buildings provided for by the municipal urban planning tools".

There are also some subsequent changes that were made to Regional Law 20/2000 by Regional Law 15/2013 in favor of a shared and integrated vision of the building regulations and respect for environmental constraints deriving from superordinate planning: for example, changes have been introduced to the Article 19 (Carta unica del territorio) of Regional Law 20/2000 with the introduction of Article 3-bis (and subsequent ones) which states that "in order to ensure the certainty of the urban and territorial regulations in force and of the constraints on the territory and, consequently, simplify the presentation and control of building permits and any other activity to verify the compliance of the planned transformation interventions, the Municipalities equip themselves with a specific cognitive tool, called "Table of constraints", in which all the constraints and prescriptions that preclude, limit or condition the use or transformation of the territory, deriving further that by the urban planning tools in force, by the laws, by the superordinate, general or sectoral plans, or by the administrative acts of affixing protection restrictions. This deed is accompanied by a specific document, called "Form of constraints", which reports for each constraint or prescription, a summary indication of its content and the deed from which it derives. "

On 1 January 2018, Regional Law no. 24 of 21 December 2017 entitled "Regional discipline on the protection and use of the territory", becomes the new urban planning law of Emilia-Romagna. It sees among its main objectives the reduction of urban planning forecasts and the introduction of the principle of land use with zero balance, new devices for urban regeneration and the redevelopment of buildings, the protection of the territory and respect for legality.

In particular, the regulation of land consumption provided for in the law, which establishes a ceiling on new settlement expansions, is set at an additional 3% compared to the current urbanization and to be saturated until 2050. It provides for the PUG (Piano Urbanistico Generale) Single Municipal Plan which replaces PSC RUE and POC. The Piano Urbanistico Comunale has the obligation to devote all the attention, choices and tools to the existing settlement system, to the rapidly evolving demographic and social structure, to the morphology and environment of the built city, and to the vast and complex scope of the portions of territory "compromised" by urbanization, to be completely rethought and redesigned. The new characteristics and requirements thus become those of resilience, that is, the ability of the urban organism to adapt to environmental and social challenges and also to react positively to traumatic emergencies; the study of urban metabolism, aimed at creating or strengthening virtuous circuits in the use of resources and in the growth of well-being (circular economy); of the transformability of urban fabrics, to make them participate in a new design in which the social dimension of public and private spaces represents the guideline for generating a condition of quality of life and sustainability of choices.

The formation of a Piano Urbanistico Generale is still in progress, therefore reference is made to the regulatory instrument in force. Below is an excerpt of the rules of the Rue concerning the area of the historic center. Articles 48, 49 and 50 regulate possible interventions on buildings located in the historic center. Below are the articles present in the RUE that regulate the historic center.

### TITOLO II – CLASSIFICAZIONE AMBITI E DISCIPLINA INTERVENTI EDILIZI DIRETTI

#### CAPO 9 – CITTA' STORICA ED EDIFICI TUTELATI ESTERNI

#### Art. 48 - Disposizioni generali

1. Le disposizioni del presente Capo disciplinano gli interventi ammissibili nella Città Storica (ambito ACS), nonché quelli effettuabili sugli edifici soggetti a tutela in quanto riconosciuti di interesse storico architettonico o di pregio storico-culturale e testimoniale, collocati in altri ambiti del territorio comunale.

2. Per gli edifici soggetti a tutela esterni alla Città Storica, le disposizioni riguardanti la categoria d'intervento del presente Capo prevalgono su quelle dell'ambito specifico in cui ricadono.

 Costituisce la Città Storica la porzione di territorio individuata dal PSC ai sensi dell'art. A-7, comma 1, della L.R. 20/2000 s.m.i..
 Le norme del presente Capo, in relazione al controllo qualitativo degli interventi sugli edifici e sugli spazi esterni, vanno integrate con le disposizioni dei successivi Capi 16 e 17, nonché con le prescrizioni di cui all'art. 9 comma 3 in relazione alla SP.

5. La disciplina particolareggiata riguardante la Città Storica è costituita:

• dalla Tav. 2-3 del RUE: "Città Storica: categorie di tutela e unità di intervento. Funzioni pubbliche e

di interesse pubblico";

• dalle norme del RUE;

• dalle Tavole dei Vincoli e dalle Schede allegate;

6. Le prescrizioni previste nei successivi articoli, si integrano con le modalità di intervento di cui al precedente Capo 4 richiamate in ogni categoria di tutela, ed in caso di contrasto prevalgono su di esse.

7. Qualora la rappresentazione planimetrica di un edificio non corrisponda a quella reale, dovrà essere applicata ugualmente la categoria di intervento indicata in cartografia.

Qualora nella particella catastale sussista unicamente un edificio non classificato, dovranno applicarsi le modalità MO, MS, RRC. 8. Nell'ambito della zona omogenea A gli interventi di RE seguono la disciplina del D.P.R. 38=710 s.m.i..

Nel suddetto ambito, in conformità all'art. 5.1, punto 8 del PSC, laddove consentita la modalità RE per gli edifici di categoria C1, C2 e D, non sottoposti a tutela di cui al D.Lgs. 42/2004 s.m.i., è consentita la demolizione e ricostruzione, qualificata RE, senza incrementare la sagoma planovolumetrica del fabbricato esistente, entro il limite del sedime originario con modifica dei prospetti e delle sue caratteristiche planivolumetriche e tipologiche. Negli edifici tutelati sparsi, laddove consentita la modalità RE per gli edifici di categoria C1 e C2, non sottoposti a tutela di cui al D.Lgs. 42/2004 s.m.i., è prescritto il mantenimento della sagoma e del sedime esistenti, fatta salva la sola deroga al sedime ai sensi dell'art. 8 comma 5.

Per gli edifici di categoria C2 inoltre, la ricostruzione delle porzioni mancanti dovrà rispettare quanto indicato al successivo art. 49. 9. Fatte salve le possibilità di ricostruzione, da valutarsi secondo i casi per i fabbricati individuati nelle unità di intervento speciali di cui all'art. 5.1 comma 13 del PSC con la categoria A e C2, nonché gli interventi ricostruttivi concessi dal precedente art.8 comma 4, con RE è inoltre ammessa la possibilità di ricostruzione del volume di edifici parzialmente crollati precedentemente alla data del 29/03/2011, ai sensi dell'Allegato all'art. 9, lettera f), della L.R. 15/2013 s.m.i., a condizione che l'intervento sia esteso e sottoscritto a tutti gli aventi titolo dell'intera UMI di appartenenza. 10. Per i corpi accessori individuati in cartografia con apposita simbologia, è consentito l'intervento RE nel rispetto delle seguenti condizioni:

• mantenimento della SU e/o della SA preesistenti;

• H max: ml. 2,50;

• distanze tra pareti finestrate: almeno ml. 3,00;

• distanze da strade e spazi pubblici: almeno ml. 3,00;

• distanze dai confini di proprietà: Codice Civile.

11. La tutela delle aperture esterne prevista nei successivi articoli non riguarda i lucernai posti sulle falde di copertura, per i quali si rimanda alle prescrizioni dei successivi artt. 91 e 122 secondo i casi. 12. Nei fabbricati esistenti a destinazione residenziale per almeno il 51% di SC, fermo restando le possibilità di deroga ai sensi dell'art. 7.5 del D.M. 236/1989 s.m.i., è consentita l'installazione di ascensori/piattaforme elevatrici interni, nel rispetto dell'art. 8.1.12 e 8.1.13 del citato D.M., contestualmente alla riduzione delle rampe scale esistenti, a condizione che la larghezza di tali rampe non sia inferiore a cm. 80 e che l'intervento complessivo non comporti la demolizione (anche parziale) del fabbricato. In caso di dimostrata impossibilità strutturale, l'ascensore potrà essere installato anche con dimensioni inferiori a quanto previsto dai menzionati art. 8.1.12 e 8.1.13.

Nei fabbricati di categoria A e B non è ammessa la riduzione delle rampe scale esistenti.

13. Nel territorio urbanizzato, oltre all'applicabilità dell'art. 9 L. 122/1989, compatibilmente con i criteri di tutela riportati nel presente Capo e per le destinazioni non residenziali, è consentita la realizzazione di un solo piano interrato ad uso parcheggi P3, anche parzialmente o totalmente fuori sedime, indipendentemente dalla categoria di tutela prevista, solo contestualmente ad interventi di tipo conservativo.

Alla fine dei lavori dovrà essere prodotto atto trascritto di asservimento all'uso a garage. Tali interventi sono soggetti a Permesso di Costruire.

14. In tutte le categorie di tutela è ammessa la realizzazione di soppalchi anche con aumento di C.U..

15. La coibentazione delle facciate esterne degli edifici ricadenti nella Città Storica (ambito ACS), nonché in quelli tutelati esterni, è consentita solo sugli edifici ricadenti nelle categorie di tutela C e D, per le quali è consentita la modalità di intervento RE alle seguenti prescrizioni:

• negli edifici ricadenti nella Città Storica non sarà consentito installare la coibentazione sulle facciate

poste a confine con gli spazi pubblici e su quelle che determinano una cortina edilizia continua;

• negli edifici esterni alla Città Storica non sarà consentito installare la coibentazione sulle facciate,

poste a confine con gli spazi pubblici, che determinano una cortina edilizia continua.

Art. 49 - Categorie di tutela

1. I tipi di intervento definiti al precedente Capo 4 da integrarsi con le DTA di cui all'art. 9 bis, sono applicabili nel rispetto delle finalità e delle modalità di intervento indicate per ciascuna categoria e sottocategoria di tutela. Gli interventi che non rispettino le prescrizioni di conservazione o il ripristino

degli elementi di cui all'art. 49 comma 3 lett e) e comma 4 lett e), saranno sottoposti alla valutazione della CQAP anche con richiesta preventiva.

2. Categoria A (ovvero "restauro scientifico"): comprende le unità edilizie che hanno assunto rilevante importanza nel contesto urbano territoriale per specifici pregi o caratteri architettonici o artistici.

Gli interventi su tali unità edilizie sono da qualificarsi come operazioni storico-critiche, condotte con metodo scientifico, nel rispetto degli elementi tipologici, formali e strutturali, e sono dirette alla conservazione e alla valorizzazione dell'unità edilizia, rendendone possibile un uso adeguato alle intrinseche caratteristiche.

All'interno di tale categoria sono comprese anche ville o palazzi storici con parco; per tali complessi la documentazione storica e l'analisi storico-critica dovrà essere effettuata non solo per le costruzioni ma anche per il parco e l'assetto vegetazionale.

Nel rispetto di quanto disciplinato dal successivo Capo 17 sono ammessi i seguenti interventi: RS, così come definito dal punto c) dell'Allegato all'art. 9 della L.R. 15/2013 s.m.i., da integrarsi con le DTA di cui all'art. 9 bis.

Gli interventi edilizi di RS, nel rispetto della ricostruzione filologica dell'intero fabbricato e/o unità immobiliare, devono mantenere invariato la dimensione e posizione delle aperture esterne, comprese le aperture di logge e portici; inoltre è consentito il ripristino delle aperture originarie e/o l'eliminazione di quelle incongrue, nonché, nei fronti non prospicienti gli spazi pubblici, la creazione di nuove aperture

o l'adeguamento di quelle esistenti per esigenze igienico-sanitarie e di accessibilità, purché non venga alterata l'unitarietà del prospetto e degli elementi di composizione architettonica. Per gli interventi riguardanti le facciate esterne, il rilievo ed il progetto dovranno essere estesi all'intera facciata interessata. 3. Categoria B: comprende le unità edilizie di interesse storico architettonico o di pregio storico culturale e testimoniale non già ricomprese nella categoria A, che hanno complessivamente o prevalentemente conservato i caratteri tipologici, strutturali e morfologici originari.

Gli interventi edilizi devono avere le finalità sotto riportate.

a) Valorizzazione degli aspetti architettonici originali, mediante:
il restauro finalizzato al recupero degli elementi significativi dei fronti; è prescritto inoltre il mantenimento delle aperture esistenti ed è comunque consentito il ripristino delle aperture originarie e/o l'eliminazione di quelle incongrue, nonché, nei fronti non prospicienti gli spazi pubblici, la creazione di nuove aperture o l'adeguamento di quelle esistenti per esigenze igienico-sanitarie e di accessibilità, purché non venga alterata l'unitarietà del prospetto e degli elementi di composizione architettonica;

• il restauro ed il ripristino degli ambienti interni qualora sussistano elementi di documentata importanza.

b) Il consolidamento strutturale ai fini del miglioramento/ adeguamento sismico, con eventuale sostituzione delle parti non recuperabili, senza modificare la posizione dei seguenti elementi: murature portanti sia interne che esterne, solai, volte, scale principali originarie, tetto con ripristino del manto di copertura;

c) Obbligo di demolizione delle superfetazioni qualora l'intervento sul fabbricato principale ecceda le opere di MS;

d) L'inserimento degli impianti tecnologici e igienico-sanitari essenziali nel rispetto dei criteri di cui ai commi precedenti;

e) La conservazione o il ripristino di elementi morfologici e di finitura congruenti con la tipologia originaria (colori, infissi e chiusure, rivestimenti, manto di copertura, comignoli, elementi decorativi, ecc.).

Nel rispetto di quanto disciplinato dal successivo Capo 17, da integrarsi con le condizioni di cui sopra,

sono ammessi i seguenti interventi: MO, MS, RRC.

4. Categoria C - Unità edilizie storiche parzialmente alterate e recuperabili

Sottocategoria C1: comprende le unità edilizie di pregio storico culturale o testimoniale in mediocre o cattivo stato di conservazione ovvero parzialmente alterate rispetto all'impianto e ai caratteri morfologici originari, che possono tuttavia essere recuperate come parte integrante del patrimonio edilizio storico.

Per gli edifici assoggettati a vincolo di cui al D.Lgs. 42/2004 s.m.i. e/o a RRC nelle Tavole dei Vincoli e Schede allegate, gli interventi edilizi, devono avere le finalità sotto riportate.

a) Valorizzazione degli aspetti architettonici mediante:

• il restauro finalizzato al recupero degli elementi significativi dei fronti o la loro modifica con caratteristiche coeve all'epoca dell'edificio; verso gli spazi pubblici è prescritto inoltre il mantenimento delle aperture esistenti; nei fronti non prospicienti gli spazi pubblici, è ammissibile la creazione di nuove aperture o l'adeguamento di quelle esistenti per esigenze igienico-sanitarie e di accessibilità, purché non venga alterata l'unitarietà del prospetto e degli elementi di composizione architettonica;

• la conservazione o ripristino degli ambienti interni qualora sussistano elementi di documentata importanza; sono consentiti adeguamenti delle altezze interne degli ambienti, con mantenimento delle quote delle finestre e della linea di gronda, fermo restando la conservazione in sito di eventuali solai voltati.

b) Il consolidamento strutturale ai fini del miglioramento/ adeguamento sismico, esteso a larghe parti

dell'edificio.

c) Obbligo di demolizione delle superfetazioni, per i soli fabbricati esclusi dalla modalità RE, qualora l'intervento sul fabbricato principale ecceda le opere di MS.

d) L'inserimento degli impianti tecnologici ed igienico-sanitari essenziali nel rispetto dei criteri di cui ai commi precedenti.

e) La conservazione o il ripristino di elementi morfologici e di finitura congruenti con la tipologia originaria (colori, infissi e chiusure, rivestimenti, manto di copertura, comignoli, elementi decorativi, ecc.).

Nel rispetto di quanto disciplinato dal successivo Capo 17 da integrarsi con le condizioni di cui sopra sono ammessi i seguenti interventi: MO, MS, RRC.

Per gli edifici non assoggettati a vincolo di cui al D.Lgs. 42/2004 s.m.i. e/o a RRC nelle Tavole dei Vincoli e Schede allegate denominate Vin 2.1 a), Vin 2.1 b) e Vin 2.1 c), è inoltre ammesso l'intervento RE con i limiti di cui all'art. 48 comma 8. Sottocategoria C2: riguarda le unità edilizie fatiscenti, totalmente o parzialmente demolite o fortemente alterate, di cui sia possibile reperire adeguata documentazione della loro organizzazione tipologica originaria.

Gli interventi edilizi devono avere la finalità di ripristinare, a seconda del contesto, l'omogeneità e continuità del tessuto edilizio storico o la compiutezza del complesso storico-architettonico di cui l'edificio faceva parte, ovvero l'assetto paesaggistico, attraverso una riedificazione congruente con i caratteri tipologici e morfologici originari.

Nel rispetto di quanto disciplinato dal successivo Capo 17 da integrarsi con le condizioni di cui sopra sono ammessi i seguenti interventi: MO, MS, RRC, RE.

Sottocategoria C3: comprende le unità fondiarie e gli spazi pubblici storicamente non edificati, che testimoniano l'assetto storico dell'insediamento e la sua evoluzione, da conservare o ripristinare. Comprende inoltre le aree nelle quali è prescritto il recupero e la valorizzazione delle risorse storico archeologiche.

Gli interventi devono avere la finalità di valorizzare gli spazi e i manufatti diversi che li arredano, di demolire gli eventuali edifici ovvero manufatti incongrui esistenti e realizzare opere capaci di concorrere alla riorganizzazione funzionale e formale delle aree e degli spazi liberi. L'intervento può comprendere la realizzazione di: costruzioni interrate; manufatti di servizio urbano o di arredo urbano (fontane, fioriere, lapidi, panchine, contenitori rifiuti, pavimentazioni, ecc.); infrastrutture tecnologiche a rete.

Negli spazi pubblici e nei percorsi non edificati di interesse storico si applicano le norme generali relative alla conservazione, recupero e valorizzazione degli spazi urbani storici di cui al successivo Capo 17.

Nel rispetto di quanto disciplinato dal medesimo Capo sono ammessi i seguenti interventi: RAL.

5. Categoria D - Unità edilizie fortemente trasformate o moderne nella città storica

Sottocategoria D1: riguarda le unità edilizie della città storica che, pur non presentando caratteristiche di pregio storico-architettonico, o essendo costruzioni e ricostruzioni moderne, sono tuttavia compatibili e congruenti con l'impianto urbanistico e con i caratteri morfologici del tessuto storico, e sono quindi da consolidare nel loro rapporto con il contesto.

Nel rispetto di quanto disciplinato dal successivo Capo 17 sono ammessi i seguenti interventi: MO, MS, RRC, RE.

Sottocategoria D2: riguarda unità edilizie, di epoca recente, la cui costruzione ha modificato l'impianto del tessuto storico in modo irreversibile, introducendovi un assetto planivolumetrico difforme, e che tuttavia sono da considerarsi consolidate nel loro assetto odierno.

Nel rispetto di quanto disciplinato dal successivo Capo 17 sono ammessi i seguenti interventi: MO, MS, RRC, RE.

Sottocategoria D3: riguarda immobili di norma di epoca recente, con caratteristiche planivolumetriche, tipologiche o morfologiche scarsamente compatibili o dequalificanti rispetto al contesto del centro storico, o la cui permanenza nelle forme attuali non consente la valorizzazione degli elementi di pregio storicoarchitettonico o testimoniale del contesto.

Nel rispetto di quanto disciplinato dal successivo Capo 17 sono ammessi i seguenti interventi: MO, MS, RRC, RE, DR a parità di volume e H max preesistente.

Sottocategoria D4: riguarda corpi di fabbrica o manufatti incongrui, di norma di epoca recente, la cui permanenza impedisce la valorizzazione di risorse storiche o archeologiche primarie.

Nel rispetto di quanto disciplinato dal successivo Capo 17 sono ammessi i seguenti interventi: MO, MS, demolizione.

6. Unità di intervento speciali attuabili tramite POC. Le unità di intervento speciali individuate nella tavola 2 del RUE con numeri progressivi riguardano immobili o complessi di immobili per i quali il PSC auspica una organica riprogettazione per perseguire la messa in valore di risorse storiche o archeologiche presenti, ovvero recuperare situazioni di disordine edilizio, anche attraverso interventi di ristrutturazione urbanistica di cui alla L.R. 15/2013 s.m.i., con la riconfigurazione o la demolizione di corpi edilizi di epoca recente che hanno modificato e degradato l'impianto storico, e la ridefinizione di un nuovo assetto degli spazi aperti.

Nelle more della previsione del POC, secondo gli obiettivi definiti dal PSC, sui singoli edifici esistenti, sono ammissibili i tipi di intervento secondo la categoria di tutela attribuita a ciascuno di essi nella tavola 2.

Sugli edifici esistenti classificati D2, ritenendo la loro riqualificazione un intervento di interesse pubblico, oltre alle modalità previste al precedente comma 5, è ammessa la sostituzione urbana attuabile con intervento di DR a parità di volume e H max preesistente, subordinata al rilascio di PdCC.

6 bis. Per la UMI 13 denominata "Resti del Convento di S.Francesco e Mercato Coperto", per la sola porzione del Mercato Coperto, fatto salvo il vincolo di cui al D.Lgs. 42/2004 e smi presente

sull'immobile, valgono le seguenti disposizioni:

• l'intervento di recupero dell'edificio può essere eseguito tramite RE o DR a parità di volume;

• H max quella preesistente;

• D1= 5,00 ml;

• mantenimento degli allineamenti esistenti su Via Michele Rosa; sono ammissibili eventuali modifiche rispetto al profilo del fabbricato esistente prospiciente Via Castelfidardo finalizzate alla creazione di aree e spazi pubblici;

• tipi d'uso ammissibili: centro commerciale di vicinato costituito dagli spazi adibiti all'uso mercato pubblico, unità ad uso b1.1 e una sola unità ad uso b1.2.a.

Le dotazioni standard pubblico, ai sensi dell'art. 5.1.2 lettera c) della D.C.R. 1253/1999 s.m.i., non sono dovute; le dotazioni di parcheggio pertinenziali sono dovute e monetizzabili con i criteri di riduzione previsti dalla D.C.C. 208/2011 per la sola funzione b1.2.a, ai sensi dell'art. 5.2.5 lettera b) della D.C.R. 1253/1999 s.m.i, mentre non sono dovute per le restanti porzioni di fabbricato. 7. Le specifiche descritte per gli interventi edilizi di RS e RRC riportate nei precedenti commi 2 e 3 non risultano prescrittive per gli edifici vincolati ai sensi dell'art. 10 comma 3 del D.Lgs. 42/2004 s.m.i., in quanto, ai sensi dell'art. 2.14 del PSC, il rilascio dell'autorizzazione della competente Soprintendenza è ritenuta integrativa della categoria d'intervento assegnata all'edificio riportata nella tavola 2-3 di RUE.

Le modalità di intervento dovranno comunque rispettare le disposizioni contenute nell'art. 3 comma 1 lettera c) del D.P.R. 380/2001 s.m.i. e quelle alle lettere c) e d) dell'allegato all'art. 9 comma 1 della L.R. 15/2013 s.m.i..

Art. 50 - Tipi d'uso ammessi e condizioni

1. Tipi d'uso ammessi: a1, a2, b1.1, b1.2, b3.1, b3.2, b4, b6, c1, c2, c3, c4, c5, c6, c7, e1, e2 (per i soli ostelli).

Gli edifici con uso in essere "e1" non possono mutare destinazione, salvo che attraverso interventi programmati nel POC.

È esclusa l'apertura di nuovi sportelli bancari; è sempre ammesso l'ampliamento degli sportelli bancari esistenti ai piani superiori al piano terra.

Sugli edifici individuati con apposito grafismo nella Tavola 2-3, corrispondenti al Polo Funzionale Universitario, indicato all'art. 5.6 del PSC, sono ammesse tutte le destinazioni d'uso coerenti e complementari con la funzione principale universitaria, quali ad esempio: attività culturali, formative, ricreative, sportive, convitti, studentati, collegi, seminari, mense.

 Nella Città Storica, le unità immobiliari poste al piano terreno in affaccio alle strade individuate come strade commerciali nella Tav.
 3 del RUE che abbiano destinazione d'uso in atto b1.1, b1.2, b4, sono ammesse variazioni esclusivamente fra questi tipi d'uso.

3. Nella Città Storica, i locali posti al piano seminterrato o interrato, qualora rispettino i requisiti igienico sanitari e di sicurezza, possono anche essere utilizzati come estensione di attività commerciali, artigianali, studi professionali e pubblici esercizi poste ai piani soprastanti.

4. Negli edifici tutelati esterni alla Città Storica, le destinazioni d'uso consentite sono quelle ammesse nell'ambito in cui l'edificio ricade, ai sensi del presente Titolo II.

With reference to the articles that regulate historic centers, we can also refer to CHAPTER 17 and CHAPTER 23..

The rules of Chapter 17 are specific for all buildings falling within the historic city and for all buildings falling within the remaining territory recognized as having historical-architectural value by the PSC or recognized as having historical-architectural and testimonial value by the RUE.

Art. 101 - Disposizioni generali
Art. 102 - Materiali ed elementi costruttivi
Art. 103 - Strutture portanti orizzontali
Art. 104 - Coperture
Art. 105 - Elementi decorativi e facciate
Art. 106 - Infissi esterni
Art. 107 - Manufatti tecnologici
Art. 108 - Recinzioni

The rules of Chapter 23 are made up of several articles, the one that interests us standard photovoltaic systems.

Art. 126 - Localizzazione degli impianti fotovoltaici

Another reference to consider is Article 6 bis in CHAPTER 1 which deals with energy redevelopment and improvement of the energy performance of buildings subject to building intervention.

#### CAPO 1 - DISPOSIZIONI GENERALI

Art. 6 bis - Interventi di qualificazione e sostenibilità

1. Al fine di migliorare le prestazioni energetiche degli edifici oggetto di intervento edilizio è necessario garantire il rispetto dei requisiti minimi di prestazione energetica, in funzione della tipologia d'intervento, in conformità alla D.G.R. 967/2015 s.m.i. e alla D.G.R. 1383/2020 s.m.i..

2. Per interventi volti ad incrementare i valori minimi obbligatori definiti al comma 1, in applicazione del 2 comma, lettera b) dell'art.
7 ter della L.R. 20/2000 s.m.i., il RUE definisce nel Titolo II, gli incrementi di volume e superficie in funzione del tipo d'intervento secondo disciplina d'ambito.

Ulteriori incentivi in termini di volume e superficie sono concessi nel Titolo II per interventi finalizzati al complessivo perseguimento degli obiettivi di interesse pubblico ai sensi del 2 comma, lettere c), d), e) dell'art. 7 ter della L.R. 20/2000 s.m.i.

Sono ammissibili, con l'obiettivo di favorire la qualificazione e il recupero funzionale del patrimonio edilizio esistente, le seguenti modalità di intervento:

- RE di demolizione e ricostruzione totale comprensiva dell'incentivo volumetrico, con deroghe alle

distanze D1, D2 e D3 in conformità alle condizioni di cui all'art. 2bis del D.P.R. 380/2001 s.m.i. e all'art. 10ter della L.R. 15/2013 s.m.i., nonché alle altezze ed alla SC secondo disciplina d'ambito;

- RE conservativa e contestuale intervento di AM con deroghe alle distanze D1 e D2, nonché alle altezze ed alla SC secondo disciplina d'ambito;

- DR con deroghe alle distanze D1, D2 e D3 in conformità alle condizioni di cui art. 2bis del D.P.R. 380/2001 s.m.i. e all'art. 10ter della L.R. 15/2013 s.m.i, nonché alle altezze ed alla SC secondo disciplina d'ambito.

Tali incentivi, come disciplinati nel Titolo II, sono a loro volta alternativi e non cumulabili con quelli concessi in applicazione dei commi 3 e 4 seguenti. 3. Per favorire interventi ecosostenibili e biocompatibili, inoltre, il "Regolamento delle misure volontarie di bioedilizia", come specificato dalle successive circolari applicative, prevede incentivi calibrati in base alla qualità progettuale. Tali incentivi, come indicato nel Titolo II, sono a loro volta alternativi e non

cumulabili con quelli concessi in applicazione del comma precedente e seguente.

4. Il medesimo Titolo II stabilisce forme diverse di incentivazione e deroghe ai sensi dell'art. 5, comma 3 della citata D.G.R. 1383/2020 s.m.i., da considerarsi alternative e non cumulabili con quanto previsto dai commi precedenti.

4 bis. Nel territorio urbanizzato e per i fabbricati con destinazione residenziale, con intervento RE conservativa è consentita la contestuale realizzazione di interrati ad uso parcheggio, nei limiti e alle condizioni di cui all'art. 9 della L. 122/1989 s.m.i..

Nel territorio urbanizzato negli interventi comportanti l'integrale demolizione e ricostruzione di fabbricati con destinazioni compatibili, è ammissibile l'incentivo volumetrico per la realizzazione di interrati ad uso parcheggio nei limiti e alle condizioni di cui all'art. 2 della L. 122/1989 s.m.i. e nelle

quantità prescritte al successivo art. 40, comma 1; tale incentivo, nelle more della formazione del P.U.G., ai sensi dell'art. 7 comma 4 lettere a) e b) della L.R. 24/2017 s.m.i. e allo scopo di promuovere l'attivazione dei processi di rigenerazione urbana, è cumulabile con quelli concessi in applicazione dei commi precedenti.

Lo stesso incentivo volumetrico è applicabile, con le modalità di intervento di RE ricostruttiva, nell'ambito del Centro Storico e sugli edifici tutelati sparsi in territorio urbanizzato.

5. In merito all'applicazione delle norme in materia di bioedilizia valgono le seguenti prescrizioni:

• i P.P. approvati e convenzionati in data precedente all'adozione del RUE, o durante il periodo di

salvaguardia, sono regolati dalle NTA dei rispettivi piani che hanno ancora come riferimento il P.R.G. previgente (parametri edilizi ed urbanistici compresi), in tal caso non sarà necessario

procedere ad una verifica delle dotazioni di standard urbanistici assentiti;

• i P.U.A. approvati e convenzionati in fase transitoria, in attesa del primo POC, potranno beneficiare degli incentivi edilizi previsti dal comma 2 dell'art. 1.3 del "Regolamento delle misure volontarie di bioedilizia", incrementando le quote di dotazioni di standard proporzionalmente alle maggiori quantità di superfici realizzate



Fig.48, Cavour district view, Google Earth Pro (2021)



SISTEMA TERRITORIALE Inquadramento storico archeologico Indice di spessore stratigrafico su quota romana Tavola C.1.3 Approvazione con delibera di C.C.n.15 del 15/03/2016



SISTEMA TERRITORIALE Carta dei vincoli Carta dei vincoli ministeriali Tavola C.1.5 Approvazione con delibera di C.C.n.15 del 15/03/2016



PIANO STRUTTURALE COMUNALE Strategie di qualificazione del territorio Tavola PSC.2 Approvazione con delibera di C.C.n.15 del 15/03/2016



PIANO STRUTTURALE COMUNALE Schema di assetto della mobilità e ambiti normativi Tavola PSC.3 Stesura dicembre 2019



SISTEMA TERRITORIALE Analisi evolutiva del centro storico Tavola C.1.1.1 Approvata con delibera di C.C n. 15 del 15/03/2016



SISTEMA TERRITORIALE Carta delle tipologie edilizie del centro storico Tavola C.1.1.2 Approvata con delibera di C.C n. 15 del 15/03/2016



SISTEMA TERRITORIALE Carta della tutela monumentale Tavola C.1.1.4 stesura novembre 2019



Città Storica: categorie di tutela e unità di intervento. Funzioni pubbliche e di interesse pubblico. Tavola RUE.2-3 stesura dicembre 2019

# 02 ICONO-GRAPHIC

**APPARATUS** 

## THE TRANSITIONAL FORM OF RIMINI

This chapter showcases different maps of Rimini, ranging from the years of 1800-1990. The analysis of maps are carried out to focus mainly on the changes of city from different times, ranging from road system, city walls, and zoning.



Fig.43, Historical Map 1811, Municipality of Rimini



Fig.44, Analysis of Transitional form of Rimini Historical Map 1811, Hongye Wu (2021)



Fig.45, Historical Map 1912, Municipality of Rimini



Fig. 46, Analysis of Transitional form of Rimini Historical Map 1912, Wanping Dai (2021)



Fig.47, Historical Map 1975, Municipality of Rimini



Fig.48, Analysis of Transitional form of Rimini Historical Map 1975, Liqiuzi Guo (2021)



Fig.49, Historical Map 1990, Municipality of Rimini



Fig.50, Analysis of Transitional form of Rimini Historical Map 1990, Wen Yee Tan (2021)

## THE ATLAS OF PICTURES OF RIMINI

This chapter is consists of a series of pictures taken on site Cavour, Tiberio, Mazzini, San Giovanni to showcase the atmosphere, street life and architecture of Rimini.

#### CAVOUR/ by Hongye Wu



#### CAVOUR/ by Hongye Wu



CAVOUR/ by Alessia Protigliatti Pomeri













CAVOUR/ by Alessia Protigliatti Pomeri

















#### CAVOUR/ by Hongye Wu































#### MAZZINI / by Hongye Wu



Fig. 41. Mazzini, Rmini, Hongye Wu (2021)








# MAZZINI / by Hongye Wu



# MAZZINI / by Hongye Wu





















# MAZZINI / by Hongye Wu



# SAN GIOVANNI/ by Wanping Dai



SAN GIOVANNI/ by Wanping Dai































# SAN GIOVANNI/ by Wanping Dai



# PART.2

TRANSITIONAL MORPHOLOGIES IN THE ITALIAN COMTEMPORTARY CITY. THE CASE OF RIMINI **CAVOUR** 

PART.2

# 03 PRE-FACE

COMPACT URBAN FABRIC REGENERATION

# URBAN Porosity

Starting from the urban porosity, this subchapter focuses on the exchangeability and sharing of the permeable borders and the necessity of public participation.



Fig.1. Introduction: The porous city. Haenni, S. (2020, February 17) Via Sanità, Napoli.

Walter Benjamin and Asja Lacis believe, in a city characterized by porosity, the house was not the building block of the city's architecture. Instead they called attention to its caves, courtyards, arcades, staircases, windows, gateways, and balconies, all of which nurtured the ephemeral and the theatrical.

The city's porosity thus allowed for "new, unforeseen constellations," it also defeated permanence and order. — Haenni, S. (2020,2)

# **URBAN POROSITY**

Porosity identifies qualities and adaptability of urban spaces. "Porosity is what allows the city to continually fashion and refashion itself" (Ash&Thrift, 2002.10).

In Walter Benjamin's Reflections there is a description of the urban porosity of the city of Naples. He observes porous architecture in which "Porosity is the inexhaustible law of the life of this city, reappearing everywhere."(*Benjamin, 2019*). Urban porosity can be regarded as a potential feature of spatial arrangements and spatial practices that constitute the experience of living shared space.

"Benjamin's article on pre-World War II Naples captures this inherent relationship between the urban form and its inhabitants' culture: 'As porous as this stone is the architecture. Building and action interpenetrate in the courtyards, arcades, and stairways.' (*Benjamin & Racis, 1925*). For Benjamin, porosity essentially refers to the so-called continuous exchange, space and time, between public and private realms and actions. If we hope to discover practices and spatial forms that penetrate barriers and create permeable spatial relationships, we can extend this porosity effect to today's urban space and time divisions." (*Stavrides,* 2018). The closed city is full of boundaries and walls; the open city possesses more borders and membranes. The closed city can be designed and operated top-down; it is a city which belongs to the masters. The open city is a bottomup place; it belongs to the people. — Sennett, R. (2020)



Fig.2. The Open City. Sennett, R. (2020,2) A city border in Caracas

## I. Borders

Urbanist Socrates Stratis gives a very vivid metaphor to reflect the importance of sharing and exchange. At the ecological boundary, the activity intensity is increased, while at the ecological boundary the opposite is true. At the ecological border, the activity intensity between different populations is more intense. Just like on the coast, where creatures come to get food, this is also the place where the evolution is fastest. At the ecological boundary, the scope of activities of different organisms is very strict. Tigers will mark their territories through excrement and other means. The boundaries between different areas are fixed and clear. On such an ecological boundary, there are fewer activities.

"On a city border in Caracas, it is divided by traffic. The only way to get from side to side is to cross the **bridge** (Fig.2) in the picture. The servants go from the left to the right and clean the houses. And those who live on the right, the so-called middle class, have never been to the slums on the other side. And this situation can be seen everywhere in emerging cities."*(Sennett, 2020)*. The establishment of physical distances and barriers between areas with potential conflicting uses is seen as a way to resolve urban conflicts. In a colonial city, an **open space** separates the colonists' residential area from the colonized local residents.

Although these and other motivations have disappeared from planning thinking, new boundaries have been established. For example, by building walls, and then separating different parts of the city from each other.

if we replace the production of emptiness and leftover spaces with processes that actively engage with the condition of (borders), is it not the in-between spaces that have the greatest urban potential in cities? — Wolfrum, S. (2020)

# II. Permeable and exchange

According to sociologist Helmuth Berking et al., "the struggle for control of urban spaces is an ambivalent mode of sociation, one that cuts systematically across the whole of everyday life: in and by producing themselves, groups produce exclusive spaces and then, in turn, **use the boundaries they have created to define themselves**" (*Berking et al. 2006, 9*). This kind of urban boundary creates a huge insurmountable gap. To bridge these gaps, urban design needs more borders and fewer boundaries, and more **permeable public spaces**. "Richard Goodwin sees current urban architecture as **failing humanity**. Cities shape social and political bureaucracies as well as each and every individual. He sees public space as the oxygen of the city and in Porosity"(*Audisho, 2013*).

Advocating public space and urban porosity does not mean completely removing the boundaries and protection of private areas within the city. "On the one hand, every boundary is malleable and vulnerable, insofar as it may be overcome by the media, by environmental influences, or by violation; on the other, there is a tendency to reinforcement. Even if the dwelling is understood as spatial immune system *(Sloterdijk 2004, 501–67)*, intended to provide complete isolation, it still has to allow for communication with the outside world. Establishing the necessary balance between isolation and integration, between protective measures and intentional transit, between closure and controlled opening is one of the tasks of architecture." *(Wolfrum, 2020)*. The transition between private space and public space can be called a buffer space. Can penetrate and exchange. Due to the existence of the buffer space, the moment of crossing can be used as a situational experience. When people leave, the movement will be slowed down, leaving other impressions that are different from entering; or they will raise their expectations of entering a space in advance. The passage between two different urban spaces becomes recognizable through its connection. The concept of open space and sharing is the core of porous space. They define internal and external, and have an impact on both areas. They can be seen as power for access and control of space, but also tools in the construction of identity and the organization of daily life. The border is a skin, a sharing interface, an intersection, through which communication can be enhanced. Treating the border as an active buffer space means that the inside and outside of the building can be exchanged and penetrated. "Porosity is frequently understood as providing solutions to the more oppressive aspects of contemporary urbanity as well as to social inequality more generally, and even to climate change."(Haenni, 2020).

"Rather than a preoccupation with solid, independent object-like forms, (porosity) is the experiential phenomena of spatial sequences with, around, and between which emotions are triggered. There is a scale of distances walked and seen and passages available in the area around rue du Bac in Paris which offers a gentle urban porosity of movement. The pedestrian can change direction in seconds; the pedestrian is not blocked by large urban constructions without entry or exit. This freedom of pedestrian movement, championed by Jane Jacobs as the ideal matrix, is based on the case of Greenwich Village in Manhattan and can be envisioned in different ways for the twenty-first century. " *(Holl, 2009)*. For Richard Sennett the porous border is not so much a line of demarcation but rather an interface and meeting zone, "an edge where different groups interact" *(Sennett 2007)*. The wall and porous border create "a liminal space; that is, space at the limits of control, limits which permit the appearance of things, acts, and persons unforeseen, yet focused and sited" *(Ibid.)*. Limiting the creativity and transformation rights of users will make sharing limited and unfair. Expansion of sharing is to shape the public space for common living and use, so that these spaces become unique and different due to the intervention of users. And these public spaces, as nodes, should be open. "We have argued that it is characteristic of porous spaces that they connect to multiple groups, that they generate different ideas of the urban, and that they are in a state of movement and change."*(Lefebvre, 1970)*.

"Parasite, operates at the scale of installation and the city. This is where architecture and public space is challenged with parasitic structures that cling onto existing buildings like leeches onto the skin; hence, questions around the facade or "skin" of architecture are raised. Porosity, is at the scale of the urban infrastructure. It is here where the boundaries between public and private space are blurred and redefined." (Goodwin, 2013). Porosity becomes a tease within the urban space; a meandering trail through anything from moments of transition and connection to endless empty foyers, back streets, toilets or sewer pipes. Goodwin believes there will be an explosion occurs at the opening of this circulating system. "The explosions are simply unused spaces, at a time that have gathered together, they are brothers and sisters of public space; they represent a patch which might become something else." (ibid.). The essence of these explosions is exchange and catalysis at the nodes of circulation, resulting in broader connectivity and possibilities.





Fig.4. Social housing, Iquique, Chile. Aravena, A. ELEMENTAL. (2003)

The freedom to make and remake ourselves and our cities is, I want to argue, one of the most precious yet most neglected of our human rights. — Harvey, D. (2012)

# III. Public participation

If we understand the right to the city as the right to collectively create a city, then urban porosity is a key part of this process. Based on Lefebvre's ideas, Amin and Thrift proposed that "cities are truly multiple" *(Amin&Thrift 2002)*. It is the prospect of continuous experimentation inherent in urban social forms to truly produce urban life that must surpass the power of institutionalized control. "Temporal and spatial porosity" essentially provide urban life with this potentiality *(Ibid.)*.

In Alejandro Aravena's Iquique project, people can fill in unfinished forms themselves. Even if we do not create these voids through architects, we can still find these unfinished forms in the city. Urban expansion is not carried out on empty farmland, but on filling abandoned spaces with residential buildings. Richard Sennett emphasized the value of space markers, especially in creating value through random markers where there is no value. Establishing urban porosities means increasing

the degree of coexistence in open spaces and the degree of sharing of infrastructures — Stratis, S. (2015)

# The series of photos show a shoe repair booth located at the entrance of a hutong in Beijing.

The owner used very simple tools to complete the transformation of work, leisure, and rest. His **chairs** are invitation and provide various identities. When he is not working, he stacks the chairs together to return the urban space to pedestrians. Unfortunately, such a scene has disappeared in Beijing. The government has canceled informal retail stores and "purified" the walls of residential buildings. This is an **overkill**. Unrestricted personal behavior may lead to private occupation of public spaces. But the total ban is too simple and rude, stifling these vivid and flexible street scenes. **(Zhu, 2018)** 

The city is related to the personal perception and participation of the public. Only by accurately analyzing and exploring places and the specific needs of residents can we create sensitive space restrictions to **allow and encourage** people to participate spontaneously. Enable them to create their own lives without causing private expansion in public spaces.



Fig.5. Porous Boundary Spaces in the Beijing Old City. Zhu, T.Y. (2018) The shoe repair booth, Beijing.

If pores are media, which absorb material, through which material passes, and which have a function in a larger organism, it is worth asking ourselves what specific organisms and what materials we are talking about. — Haenni, S. (2020)

"'Naples with closed doors would be like Berlin without roofs on the houses' (Sohn-Rethel, 1926). Porosity connotes intermingling, it allows the permeation and mediation of uses, visual and spatial transitions, interpenetrationsand superimposition, erosion of the city fabric to create social space." (Aquilar, 2018).

"Sophie Wolfrum notes that porosity inevitably reminds us of the two very different aspects of modernity: on the one hand it stands for 'efficiency and instrumentalization of reason' and on the other for 'open structures, connectivity, and transition.' Modernity as efficiency or as connectivity: the concept of the porous city more easily belongs to the latter, and resists the former. Indeed, it could potentially destroy the former, for, as Giorgia Aquilar writes, porosity may mean 'the erosion of the city fabric to create social space."'(Haenni, 2020)

The social space created by eroding the urban structure will make the social space disordered and chaotic. This is why Beijing began to completely rectify and eliminate these small businesses in 2017. Excessive privatization of public space has seriously affected public transportation and the image of the city. But is absolute prohibition desirable? Obviously not. This involves a question, how should we transform the city through pores, maybe **urban acupuncture** can tell us the answer.



Fig.6. Urbanisms Working with Doubt, Holl, S. (2020,2) The street under the clothes rack, a vivid metaphor.

# URBAN ACUPUNCTURE

Through the perspectives of three scholars, Manuel de Sola Morales, Jamie Lerner and Marco Casagrandeit. This subchapter trys to gives a way transform the city through pores, urban acupuncture, which is a small-scale, bottom-up and multi-point coordinated intervention method. To operate on the skin of the city is to be constantly attending to the way things are, and to questions about which things need adding, removing or modifying, or how better to rearrange them. — de Sola Morales, M. (2008)

# URBAN ACUPUNCTURE

Urban Acupuncture was proposed by **Manuel de Sola Morales**, the founder of the Barcelona Urban Laboratory, in the context of the implementation of the Barcelona Urban Restart Plan in the 1980s. Subsequently, the term "urban acupuncture" was quoted and developed by architects such as Jamie Lerner (Brazilian architect and urban planner), and Marco Casagrande (Finnish architect).

Manuel de Sola Morales consists, "The skin of cities is composed of constructions, textures and contrasts, of streets and empty spaces, of gardens and walls, of contours and voids[...] It is precisely the contact between our bodies and these forms of physical matter that constitutes the urban experience[...]This is why the ramps and staircases, the gateways and corners are so important, because in them we feel with our weight the shape and the size of the city." *(de Sola Morales, 2008).* For him, the location of the needles is important. His method of applying the acupuncture is: firstly, pay attention to the **urban reality**, secondly, to find out **the matters of the city**, and thirdly, **rearrange** them.

Among his many urban projects, Manuel de Sola Morales designed works for Barcelona to improve public spaces, a series of small renovation plans. One of the success example is **Moll de la Fusta** on the coast of Barcelona. Since the nineteenth century it was a barrier that separated the city from the sea due to port activity and continued maritime trade. de Sola Morales created a **platform** connecting the coast and residential areas. The platform provides the residence with a transition from urban life to waterfront views.



Fig.7. Moll de la Fusta. The platform connects the coast and residential areas

Fig.8. Urban Acupuncture, Lerner, J. (2014). Street artist at the Centre Pompidou

A plan by itself cannot bring about immediate transformation. It is a spark that sets off a current that begins to spread. This is what I call good acupuncture - true acupuncture. — Lerner, J.

Jaime Lerner emphasized the importance of continuity. He believes that the enhancement of the continuity of the city needs to fill in the gaps and add necessary new functions. As the mayor of Curitiba, Brazil, in the mid-1960s, Lerner transformed his city from a crowded dirty, and crime-ridden city into a world-renowned model of green life and social innovation. "Many major urban problems arise from a lack of continuity. Filling up these many urban "voids" can be the first step to sound acupuncture. An important step is to add elements that may be missing from a given area. If there is plenty of commerce or industry but no people, then housing development could be encouraged. If another district is all homes and apartment blocks, why not boost services? And if a building is crumbling or a shop closes its doors, something new must be built in its place even if it is only temporary." (Lerner, 2014).

"The Third Generation City is the organic ruin of the industrial city, an open form, organic machine tied with Local Knowledge and self-organized community actions. The community gardens of Taipei are fragments of third generation urbanism when they exist together with the industrial surroundings."(*Casagrande, 2015*). The Finnish architect and social theorist Marco Casagrande defined the third-generation city, led a research in Taipei, Taiwan, focusing on the vegetation in the city and the participation of citizens.

Through the summary of these theories, the principles of urban acupuncture can be derived: precision, small scale, rapidity, gradual, catalytic and public participation. The rapidity of urban acupuncture relies more on the small scale and low cost of the project, and the catalysis is mostly based on the common public space as the catalytic reaction site. The purpose of urban acupuncture is to form evaluation and feedback in time to make rapid and continuous adjustments to the follow-up plan.

# I. Small-scale

Regarding the scale of the project, Morales believes that the scale is relative and depends on the proportion of the project's scale and its scope of influence in the overall structure of the city. Lerner believes that large urban buildings such as the Louvre Glass Pyramid, Güell Park in Barcelona, and even pocket parks such as Paley Park in New York can be regarded as effective urban acupuncture. In Treasure Hill Village, Casagrande used acupuncture measures such as transforming lawns into vegetable gardens, introducing solar energy facilities and biological waste treatment technology, which effectively improved the quality of life of residents on the basis of preserving the true appearance of the settlement.

The "small scale" emphasized by urban acupuncture is based on the macro perspective of the city on the one hand, and is the relative "small" of the city and other systems; on the other hand, it contrasts the "large" produced by the "urban acupuncture". In terms of therapeutic effects, the intervention is "small".

The research object of urban acupuncture theory has gradually changed from large-scale art centers, museums, theaters, stations and other public buildings to small-scale convenience stores, street parks and art installations, etc. Measures such as the implantation of landscape greening, the improvement of urban furniture, the renovation of street facades, and the cleaning and rearrangement of public space are also included in the urban acupuncture. Urban acupuncture theory is more concerned about the **impact of small-scale physical interventions on public behavioral activities and psychological changes from the micro-scale such as neighborhoods and communities.** 

# II. Bottom up

Marco Casagrande defined urban acupuncture as "a bottom-

up tactical urbanism, which has the potential to **organize local resources to solve local problems**, and is seen as important to the traditional top-down large-scale development method. Coping strategies." Unlike top-down urban planning, urban acupuncture relies more on local resources than on municipal construction that requires a large amount of capital investment. These smallscale, bottom-up interventions have **fully mobilized the public to restore the urban environment and improve the urban landscape**. This process avoids the cumbersome processes and lags that may occur in the top-down planning model.

Urban acupuncture theory was conceived from top-down urban planning, it gradually moved towards down-top, and was endowed with the core principle of **public participation**, and was eventually used as an alternative to large-scale investment.

# III. Multi-point coordination and temporary

Urban acupuncture interventions can be either individual or systemic. "In present-day architecture, this approach is considered useful sometimes to respect the surroundings and sometimes to improve them through the smallest and tiniest actions. [...] or designing a **temporary project** intended to occupy it only for a limited period of time; or also carrying out a particularly small but permanent intervention. Depending on the circumstances, it is an approach that can help architecture protecting a place, reclaiming it or reactivating its latent qualities. This strategy can be implemented both through **a single intervention on a specific place**, or through **a network of coordinated projects in different locations.**" *(Enia, 2019)*.

Lerner's comprehensive urban management measures in Curitiba can be seen as continuous acupuncture for multi-point coordination in the region. The use of temporary installations and furniture in public spaces can produce precise catalytic reactions and will not affect the surrounding environment when removed.

# 04 REFE-RENCES

MODULE & INTERFACE

Paracity provides the skeleton, but the citizens create the flesh. Design should not replace reality, flesh is More. — Casagrande, M., 2015

# CASE STUDY 1: PARACITY

Architect: Marco Casagrande Location: Treasure Hill, Taopei Date: 2003 Type: Urban design

"Paracity has a lot of holes, gaps and nature in between houses. The system ventilates itself like a large scale beehive of post-industrial insects. The different temperatures of the roofs, gardens, bodies of water and shaded platforms will generate small winds between them, and the hot roofs will start sucking in breeze from the cooler river."(*Casagrande, 2015*).

Paracity is based on development contrary to typical urban growth. rather than existing in its finalized state upon initial occupation, the city gradually grows by infilling the open framework. the model utilizes design-build and 'do-it-yourself' approaches to architecture, where the users dictate their environments' functionality and makeup.

The architect made a part, and reserved the other part of life for the user to create. This is the user's right and the designer's wisdom.



Fig.9. Casagrande, M. (2014). Paracity.

# CASE STUDY 2: URBAN SPACE IN BARCELONA

Architect: MAIO Location: Barcelona, Spain Date: 2014 Type: Urban design

"MAIO's project aims not to build just a finished square, but the infrastructure that will allow its future development and completion/modification over time."

The grid is completed by a tensioned cable system that works as a temporary support intended for multiple applications, such as providing shadows by means of sunshades. Different functions can be set in each matrix unit. The unit can be replaced with changes in functional requirements and time.



# **CASE STUDY 3: GREEN CLOUD**

Architect: ZHUBO-AAO Location: Shenzhen, China Date: 2017 Type: Roof garden

Architects propose a tentative idea of Green Cloud, aiming to improve rainwater management ability as well as providing green and comfort common place for residents, from which the current living states of residents could be improved. 'Green Cloud' is **a low-technique required renovation method which can be copied easily**.

The project thickens the **un-utilized roof** and lists it into second land surface among which the rainwater is preserved and greening expanded (it could also be used as vegetables and plants planting). Such two dimensional land surface could change in Z axis according to space property. It creates pavilions for social activity beneath and upper space for people's walking and sitting.



FiFig11. ZHUBO-AAO. (2017). Green Cloud.

No wall, no barrier, no inside, no outside, no space, no building, no place, no institution, no art, no architecture, no Acconci, no Holl, no Storefront. -Park, K.

### CASE STUDY 4: STOREFRONT FOR ART AND ARCHITECTURE

Architect: Steven Holl Location: 97 Kenmare Street, New York Date: 1993 Type: Shop

"The Storefront for Art and Architecture (designed with Vito Acconci) is situated on the corner of a block that marks the intersection of three distinct neighborhoods: Chinatown, Little Italy and SoHo. The gallery itself is a limited, narrow wedge with a triangulated exhibition interior; the most dominant is the building's long facade.

Using a material comprised of concrete mixed with recycled newspapers, we inserted a series of hinged panels arranged in a puzzle-like configuration. When the panels are locked in their open position, the facade dissolves and the interior space of the gallery expands out on to the sidewalk." (Steven Holl, 2009).

If the function of the facade is to separate the interior and exterior spaces, then this new facade is an exchange interface with the outside world. It blurs the boundary between inside and outside.

"Rather than pure, minimal space, this space is crossbred. It can be exact and then suddenly change into dynamic combinative space. It can be severe or easygoing. When the facade is closed, it takes the typological form of a Manhattan triangular slice of a shop front. When it is open, it becomes drawn in to the city outside. The three dimensional volume can be disposed towards the four dimensional with changes in time. With this facade, the Storefront realized a new type of dynamic, urban interactive space" (Steven Holl, 2000).



Fig.12. Holl, S. (1993). Storefront for Art and Architecture
#### CASE STUDY 5: POCKET PARK

Architect: SHUISHI Location: Shanghai, China Date: 2020 Type: Lanscape

"We hope to create a natural and poetic space in urban concrete jungles. Through the power of space, people could release from the busy city life to a quiet natural garden, where people can take a walk, sit at leisure, enjoy the exhibition, and admire the beauty of flowers."*(SHUISHI, 2020)* 



# 05 LITTLE SPARK

MICRO-INTREVENTION

## CITY OBSERVATION: SITE ANALYSIS

This chapter showcases different site analysis carried out in Cavour during the design process with the assist of various diagrams and drawings, focusing on the current status of the block.

#### CITY OBSERVATION - SITE ANALYSIS : CAVOUR

#### Morphology : Compact building fabric with stratifications.

The location of Cavour beside the intersection of two main roads, corso d'Augusto, via IV Novembre, (the cardine and the decumanus maximus) in the historic center of Rinmin. Its development is strictly framed within the Roman cross network. Cavour is composed of four rectangular blocks, which are almost most of the blocks in the old historic city center. The shape, the boundary line of these blocks has been fixed since the Roman period, and then continuously expanded and superimposed inward with population density and functional differentiation, thus creating the current compact building fabric with stratification.

In addition to residential buildings and commercial stores along the street, there is also an old library, Biblioteca civica Gambalunga, which plays a leading role in the city's cultural life, and two ancient ruins, Resti del Teatro romano and Palazzo Lettimi. Unfortunately, with the passage of time, these ancient buildings only left some relics.

Two main city squares beside the Cavour, Piazza Cavour and Piazza Tre Martiri. Piazza Tre Martiri is the meeting point of the two main roads, while Piazza Cavour is the seat of the municipality, with many important historical buildings, Palazzo dell'Arengo and Teatro Amintore Galli. The squares not only gather Rimini citizens, but also attract many foreign tourists.







**Biblioteca civica Gambalunga & Municipal Cineteca di Rimini** The Gambalunga Library is one of the finest and most ancient public libraries in Italy. It is located in the Palazzo Gambalunga, which was built by Alessandro Gambalunga in 1610.



#### Palazzo Lettimi

The aristocratic Carlo de' Maschi built the palace in 1506. It is one of the most prestigious buildings of the Renaissance in Rimini, and its **ruins** represent a wound from the Second World War.



Fig.17. Resti del Teatro romano. Hongye Wu (2021) **Resti del Teatro romano** Of the imposing theater erected in the 1st century AD, only a few **ruins** remain today incorporated in more

recent buildings that trace the original

semi-circular shape of the steps (cavea).





#### Axonometry





Urban sprawl is not carried out on empty agricultural land, but rather to fill abandoned spaces with residential buildings. (Richard Sennett)

#### Different time phases of the shape of the Cavour

As can be seen from the map, the boundaries of these four blocks have hardly changed. The main change is the internal empty space, showing a trend of less and less, more and more fragmented. It can be seen from the figure that the density inside the block has increased. Block Plan 1:3000

Roof Plan with shadows 1:3000





#### Typological map of the Cavour



Abacus of the typologies in the Cavour



Elevations of the facades on the street 1:800 m Ī 

Corridor









## DESIGN Strategy

This chapter showcases SWOT analysis, flow chart and the design strategies implemented on Cavour according to the condition of the site.

#### **DESIGN STRATEGY - SITE ANALYSIS : CAVOUR**

#### **Operational Guidelines :**

Light - Urban acupuncture. Interstitial interventions with recovery of types and spaces within the blocks to improve urban porosity.

#### **Strategy**:

- in-depth study of the change in voids inside blocks and study of street facades;

- hypothesis of intervention within the courts and on the roofs and facades.

Proposal: Try to create a permeable borders. - interface

As a concept of urban life, architectural porosity accurately penetrates every participant in urban life. The interpenetration of urban interfaces can be seen in the large and small arches of cavour. They not only define the attributes of the space, but also complete The exchange of people's behavior and sight. Regarding public participation as the basic principle of urban design, the public has the right and the ability to transform their living space.

In order to increase the porosity of the building, urban acupuncture as a kind of micro-reconstruction is especially suitable for such a compact structure with private property rights. Different from major demolition and major changes, permanent retention, this is a small change, which can be temporary, internal, and aims to produce precise and rapid changes.



#### Flow Chart

#### SWOT Analysis

### S

Richness of historical, heritage & cultures
Located between two main squares
Easy accessible
Mostly residential area
Mainly courtyards

### W

Monotonous & obsolete facades along the street
Limited public space (not effectively used)
Lack of communication on the facade (limited balcony & gray space)
Courtyards are privately occupied
Limited green space

### 0

New function
Update facade & courtyards & roof
Increase public participation in community life
Improve greening
Enhance city image and tourism value

Too few internal roads
Lack of interest from local residents
Private property rights affect design updates
Heritage policies limit new development

#### **Micro-intervention**

Courtyard	Place the replaceable module and easy to update Encourage the public to participate in the design of community life	<ul> <li>Add vitality to community life</li> <li>Promote communication between neighbors</li> <li>Improve gereening quality</li> <li>Improve living environment quality</li> </ul>
Void	Add function Put in replaceable art installations Repair human effect to nature & Create new landscape	<ul> <li>Enhance the cultural and artistic atmosphere</li> <li>Add vitality to community life</li> <li>Improve the appearance of the city</li> <li>Improve environmental quality</li> </ul>
Facade	Prominent & Corner building Order the facade elements Both along the street and in the courtyard Permeable interface	<ul> <li>Improve the appearance of the city</li> <li>Improve living environment quality</li> <li>Improve gereening quality</li> <li>Improve urban porosity</li> </ul>
Green roof	Add function Place the greening module Encourage the public to participate in the design of community life	<ul> <li>Improve living environment quality</li> <li>Improve gereening quality</li> <li>Improve urban porosity</li> </ul>
Nodes	Add nodes Renovate the nods along the road Permeable interface	<ul> <li>Increase business opportunities</li> <li>Improve the appearance of the city</li> <li>Enhance the cultural and artistic atmosphere</li> <li>Improve urban porosity</li> </ul>

#### Interface





























Fig.25-32. Street observation. Google Earth Pro.(2021)

Open up edges as borders, to work with incomplete forms as found opportunities, and to impose arbitrarily value of transforming the city by design into an open system. (Richard Sennett)



#### PERMEABLE BORDER

#### Interface

The interface is moulded inside and outside, and functions can be added by inverting the panel.

#### Function

Attract the outside crowd to activate the block. Improve the quality of life of the internal crowd.

#### Roof

The stepped roof garden is built along the original roof shape.

#### City furniture

The elements of the new building façade are selected and copied from the surrounding environment, and repeated elements make them appear more orderly.

Roof



Wall

Floor













Fig.33-39. Street observation. Google Earth Pro.(2021)

The freedom to make and remake ourselves and our cities is, I want to argue, one of the most precious yet most neglected of our human rights. (Harvey 2012, 4)



#### MODULE

#### Courtyard

Add an installation garden in the inner courtyard. By placing modules to define the public properties of the space, one is free to add functionality and form.

## LITTLE Spark: The Micro-Intervention

This chapter dives into the complete design project to regenerate the Cavour block, with different drawings and visual representation.

#### Axonometry of Cavour after intervention



Perspective view of Cavour after intervention



#### Perspective view of Cavour after intervention













Vertical sections 1:800





# 06 CON-Clusion

**BEYOND RIMINI CAVOUR** 

#### **BEYOND RIMINI CAVOUR**

There are many compact urban fabrics in the historic center of Rimini. The purpose of the thesis is to improve and regenerate these fabrics. Therefore, the design is not limited to improving the living quality of Cavour's community, but is based on urban acupuncture to improve the filling of urban voids, enhance the continuity and porosity of the city, and thus improve the quality of the city. The modules and interfaces can be easily applied to all corners of the city, and are connected to each other through multipoint coordination, forming a permeable network of the city.

This thesis divides the intervention into two parts. One part is aimed at the urban voids, using modules to standardize the spatial organization and fill in the missing functions. These modules are used to define the public attributes of the space, encourage public participation, and allow personalized customization functions. The other part is aimed at the permeable border with the city. The permeable border is used to provide more blurred edge between private and public space for art display, dining, leisure, greening, etc. These borders can be spanned or stayed. The main purpose of the intervention is to create new functions and decorations through simple and removable facilities without affecting the existing architectural landscape and private property rights. Both interventions are multi-level and can be implemented on the ground, facade and roof to form an all-round urban image enhancement.

The following page shows fabrics with similar morphologies to cavour, through same intervention methods, reflecting the universal applicability, reproducibility and ease of implementation of the intervention.



Compact urban fabrics in the historic center of Rimini



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#### Acknowledgments

Throughout the working of this thesis I have received a great deal of support and assistance.

I would first like to thank my supervisors, Marco Triciuoglio and Maritina Crapolocchio. Thank you for your professional guidance and valuable knowledge sharing, detailed explanation of the history and current situation of Rimini and architectural typology, as well as the points of urban acupuncture and urban porosity, which helped me to clarify the design direction. In addition, thank you for your meticulous and complete planningchu, so that my collaborators and my work can be completed in an orderly manner. And a lot of patience and care given during our work.

I would particularly like to acknowledge my collaborators, Hongye Wu, Wen Yee Tan, Wanping Dai and Alessia Portigliatti Pomeri, Your excellent cooperation and patient support helped me speed up the progress of my work and enriched the content of my thesis. In addition, special thanks to Hongye Wu and Alessia Portigliatti Pomeri for helping me to complete the survey of Cavour.

Finally, I want to thank my parents for your help and support. Without you, I would not be able to complete this thesis.