

## Between City and Nature Grammars for the Urban Form

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### ABSTRACT

This abstract refers to theoretical and application research on the grammars of urban form that the author is carrying on into Urban and Architecture Design courses in dICAR Department of the Polytechnic of Bari and other design experience as the International Workshop Erasmus Intensive Programme "Re\_Build The Urban Form" held in Monopoli (Bari) in 2013. The crisis of the contemporary city represents the occasion to redefine its form beginning from an idea of the city in which the relationship between the form of the land and form of urban settlements is recognized as a fundamental value. Disused urban areas have a central role in the process of "re-generation" of the form of the city for re-founding potentialities that these empty, wide and central space may have in the process of *renovatio urbis*. Compared to this problematic field, our disciplinary contribution is developed in terms of "form", both theoretical, individualizing in the idea of "city-territory" the field of application of the research, then from a design point of view, assuming an *episteme* able to recognize in distinguished way the morphological value of landscape and urban settlements. Case study cities are represented by Gravina and Monopoli, medium-size cities in South of Bari (Apulia-Italy). Identified project sites are crisis areas of urban form, connoted by the presence of abandoned buildings and empty unresolved spaces; they have a great value for the proximity to the ancient "compact" city and for the strong relation with natural excellence elements such as ravin and natural harbour on the coast-line. The aim of this work, both theoretical then didactic, is defining and new settlement/dwelling models as paradigms of a new idea of city-territory, using formal grammars of exemplary methodological value, able to express a meaningful relationship between the form of the land and the urban form.

**KEYWORDS:** urban design, urban form, dismantled areas, morphology, settlement principles, city and nature, landscape.

### 1 REBUILD THE URBAN FORM

The content of this paper refers to theoretical research on settlement/dwelling principles for the contemporary city that the author is carrying on into the Faculty of Architecture of Bari and to results of applied research on the grammars of urban form, developed in the courses of Architecture and Urban design and in the International Workshop Erasmus Intensive Programme "Re\_build the urban form" held in Monopoli, Bari, Italy, on September 9th to 22rd, 2013, organized by dICAR Department of the Polytechnic of Bari and coordinated by prof. Carlo Moccia. Adopting the idea of city-territory as settlement principle of the contemporary city, the content of this research is oriented to experimentation

of renewed grammars of the urban form which are issue of a synthesis between inside city spaces and wide open country spaces.

In this sense is necessary that form of the city recovers its own direct relation with the form of the ground. The city, built respecting natural and geographical characters, builds a tradition as product of the specific material and dwelling culture, from which the form of the landscape as city-territory derives. Urban abandoned or disused areas in Gravina and Monopoli, strongly linked to ravine and coast, offered the opportunity to develop these thoughts and to define new grammars of the urban form capable to express a renewed relationship between city and nature. The aim of this research is both theoretical and didactic: theoretical aim concerns the possibility of defining new paradigms for city-territory idea, using formal grammars of exemplary methodological value, based on a meaningful relationship between the form of the land and the urban form; didactic aim concerns the possibility to introduce students, through an analytical reasoning and experimental applied designing to these identified themes and to knowledge of working methodology enforceable to similar cities and situations. (Defilippis F. and Montemurro M., 2012)

## **2 CITY-TERRITORY SETTLEMENT PRINCIPLE. THEORETICAL REFERENCES**

Contemporary city is the expression of not-resolved rapport between city form and nature form: the crisis of its form offers the opportunity to develop new thinking about the "ideas of the city" and trying out grammars of urban form, based on the belief that contemporary city can be built of buildings of urban value. Disciplinary level of research is the form of buildings and their correspondence at an idea of city. This line of research lay in continuity with plural theoretical and design Italian tradition of the last century (from S. Muratori to F. Purini). The Italian territory ( whole of cities, country and places in nature) raise an important issue to reaffirming its identity: the acknowledgement of re-founding value of land form compared to urban settlements form. This issue refers to relation between natural spaces and urban spaces forms or to adequacy of the building forms to natural places characters. Compared to these themes the discipline of urban design could represent a good option to that epistemology without form that characterizes environmentalist theory of the "third landscape" (Clement G., 2010) and the indifference to natural land form value of the "generic city"(Koolhaas R., 2006). Why do it make this, it needs to start from an idea of the city founded on a new strong relation between architecture and nature. Architectural permanence in the city are urban places having a strong link with geography that leaves its imprinting in the form that urban public spaces get, as it happens in Siena. Geographical elements constitute etymological root of urban characters. (Martì Aris C., 2007). The idea of the city-region is witnessing a reverse topological of background-figure relation between country and city, based on their settlement reciprocity (Koetter F. and Rowe C., 1977), in which country becomes one of the elements of metropolitan structure. This settlement model, composed by urban nucleuses of finished form (Ungers O.M., 1977), spread settlements, country, factories, shopping malls, uncultivated nature, all linked by triangulation of the infrastructural system, was introduced by two theoretical urban model in the first half of XX century: one is based on territory triangulations in which there are nature, dwellings, services, activities (Le Corbusier, 1945); the second on a *centuriatio*-like structure of territory that adapts itself to geographical shape of the site (Hilberseimer L.,1949). They are two variations of the same urban model, considered as a third way then precedent opposite two, one is the city-territory as a continuous "megalopolis", the second as continuous urban sprawl of Garden city (Howard E., 1898, 1962).

## **3 RESEARCH OF A METHODOLOGY**

Architectural design is considered as a knowledge process that, starting from theme's values individuation, statement of the relation between physical form and tradition of the place, drives to definition of settlement/dwelling models. Urban analysis, led according to comparative method allows to describe in a different way "urban facts" (Rossi A., 1967) and catch their inner sense; in this way

knowledge process applied already contains every transformation that project introduces at each design scale, avoiding to follow a mechanically determined morphogenetic process.

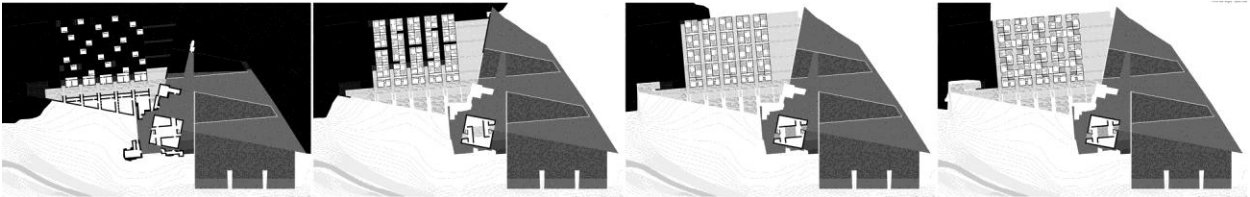
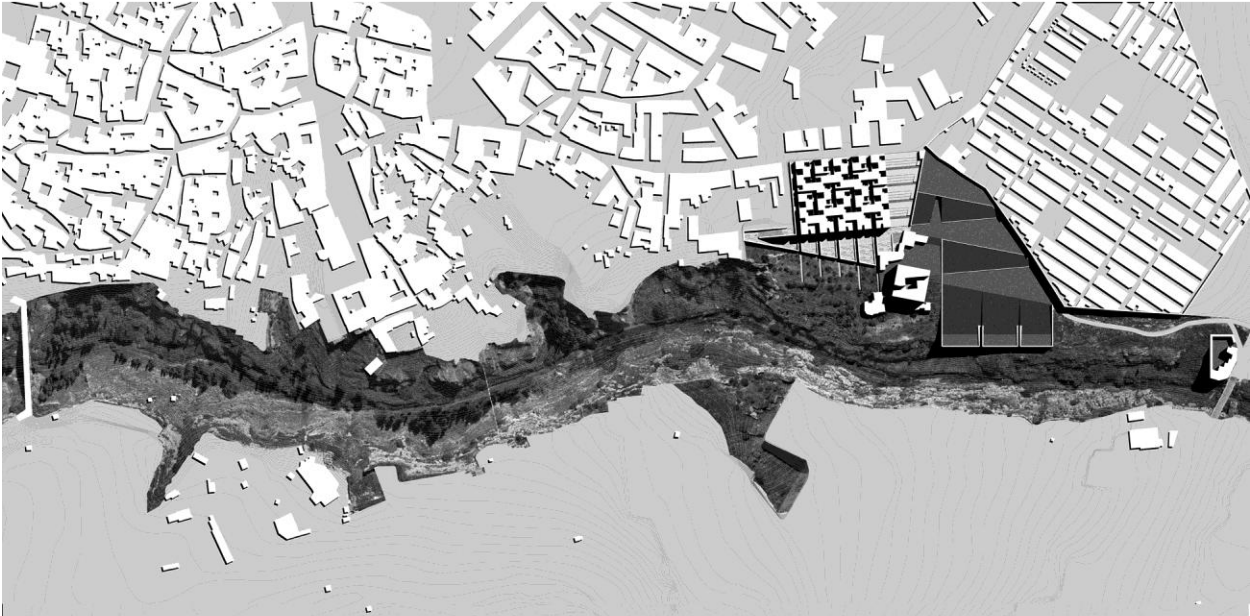
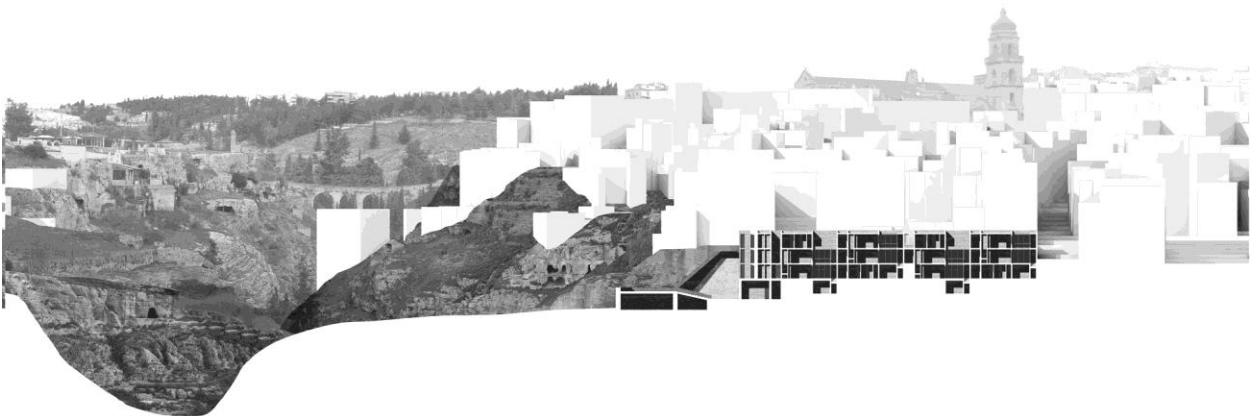


Figure 1: (from the top) 1. Section of the project facing ancient city and ravine; 2. Master Plan; 3. Relation between project and ravine; 4. Plans at four level

These transformations can be considered the expression into permanent form of those values based on typological renewal and building forms individuation (Grassi G., 1980). Design process develops itself into two phases: first, is the analytical phase focused on knowledge of nature and form of the cities (Gravina and Monopoli), on study of the relationship between urban form and physical form of land, on relation between urban form and building type (Monestiroli A., 1999). Second is the experimental design phase applied on three different sites, one in Gravina and two others in Monopoli, placed on the limit between dense city and natural outstanding elements as harbors coasts and ravines.

#### **4 GRAMMARS OF URBAN FORM. THE EDGE BETWEEN CITY AND NATURE**

Theme of experimental urban design was definition of the form of public spaces and settlement/dwelling unit model in the disused urban areas starting from an aware relationship with nature. Areas, considered as waste spaces of the city, have a central role in the process of "re-generation" of the "form" of the city for the potential "re-founding" role that "urban spaces" may take in the process of *renovatio urbis*. Identified project areas coincide with limit conditions between city and nature: the edge of the city on ravine, the end of the city towards country, the waterfront of the city. Projects assume these conditions as general theme declined into three kind of space: limit as space, urban space projected itself in nature and nature as urban space enclosed in the architectures. Edge is considered as threshold between spaces inside the city and spaces outside in nature, in country, on the sea. It Assumes its own formal identity as place of both geographic then urban value: the edge of ravine, port and old city walls, garrisons on walls, gates, viewpoints, are all interpretational forms of being in-between inside and outside. They are all threshold place, elements of junction/connection, between city and geographic excellence of the land. In these places, projects face the problem of scale and characters of architecture: it's necessary that the grammar of urban form defines form and dimension of settlement unit capable to interpret the comparison between natural open space and city.

The ravines inside territory and creek-lama system on the coast are two connotative geographical forms of central Apulia. Urban form, in these places, must interpret two different themes of the edge condition: urban internity and lean out. In the case of Monopoli, the edge, between the earth and the sea individualizes in the horizon its reference and orientation. The spaces extend to rise and to push over the limit of the coast, in the sea, to conquer that condition of earth over the earth, separated from the context but in spatial relationship with it, typical of the islands. The void of the ravin in Gravina is instead a defined internal space of the Hearth, defined by two borders in spatial relationship among them but without physical continuity. The spaces on the border identify specific places and try to define the oneness of their form in relationship with exceptional geographic elements of the landscape that characterize the identity of the places. Then, internal spaces into another geological space as ravines in which take place the duplicity of one inhabited edge along which are disposed the single urban spaces oriented towards landscape as theatrical *frons scenae*.

##### **4.1 Dwell the edge. Public space in the ravine**

The city of Gravina derives its name from ravine, that is a geological formation made up of tectonic fractures, with a depth of 100-150 meters, in which a river or a torrent flows downside, that characterize territories of Matera, Gravina and Jonic bow. City shape coincide with natural edge of ravine empty space: formal structure and spaces of the city include and adapt themselves to topographic form of ravine. Site chosen for experimental design is a peripheral area constituted by a disused tuff quarry, a transition threshold space extended from upper road to edge of ravine. It has uneven quarry ground that open itself towards landscape as a natural terrace, lower and far from ancient city. The site belongs both to the space of ravine then to urban structure. It has a physical continuity with natural and built places of the ravine

through halfway routes that connect it with cathedral and a visual continuity with conspicuous places in and around the ravine. Project theme is the construction of a urban space in-between city and ravine, built

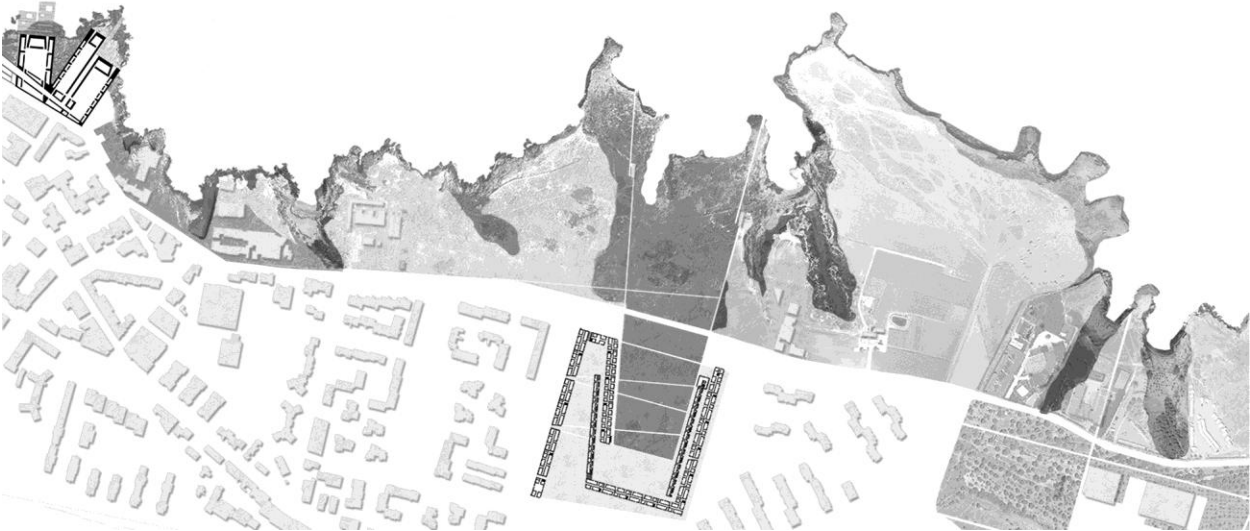


Figure 2: (from the top) 1. Master plan; 2. Belvedere; 3. Settlement/Dwelling unit

by individual parts of specific form constituted by dwelling unit to complete urban fabric, the public space as viewpoint open on landscape and old city, in which, the tuff volumes waste of quarry are used as natural monument, terraced gardens on the edge of ravine and connections between city and the parts of the project.

The project face two problems: on one side, the necessity to define a grammar of form capable to build an inside urban space; on the other side, the necessity to establish a relation of formal and space continuity between settlement unit and geographic form of the site in which the project is located (Martì Aris, C. 2007). It has the value of a new polarity that try to build a unitary place that unify nature and architecture. Project is included in the system of visual and space triangulation of ravine space that we can recognize as territorial room (Purini F., 2009). In the grammar of the project form, construction is considered as continuation in the sense of a strong relation between conditions that the project finds and the transformation that it leads (Rogers E.N., 1958-1997). This idea of continuity shows itself into the composition principle "for parts" (Rossi, A., 1967), built according to the forms of additive and massive architectures that interpret the figurative sense of the place.

#### **4.2 Over / behind the edge. Public spaces in nature ( terrace) and nature in public spaces (court).**

Monopoli, is a medium-size coastal city in South of Bari (Apulia-Italy). The identified project areas are sites "of crisis" of the urban form along the Southern coast of Monopoli. Connoted by the presence of abandoned buildings and empty unresolved spaces, they have a value of limit, one as "gate" of ancient city, the second as edge of the city towards "natural" open spaces of great landscape value (sea and countryside). Coast has an embattled shape, a continuous system of recesses and protrusions of the coast-line, produced by alternation of rocky coast and lower sand creeks, placed at the end of *lame*, deep incisions of karst landscape with a flat bottom and semi-vertical walls, not very deep, that rises from reliefs. Creeks are inside places of rocky cliff that extends perpendicularly to the coast-line, dug out by erosive processes that put in evidence cliff parts between two following creeks.

Project areas chosen are two urban waste places that have landscape value, one occupied by a disused school in front of old city walls near Porta Vecchia creek; the other is a *terrain vague* in the peripheral urban fabric, along an anonymous waterfront indifferent to natural form of coast-line characters, directly under lee of a remarkable dimensions creek. We have two themes linked to the form of the land: one is that of terrace as public places in nature and coast-line garrisons, in analogy with S. Stefano fortified abbey and coincident with a protrusion of the coast-line shape towards the sea; the second is an inside natural space built putting in relation settlement/dwelling unit form with system lama-creek form and orientation, in opposition to the outside space of country. In the first case the excellence of the place, the cliff leaned out forward the sea is exalted by project that is an articulated and oriented open terrace towards the city and the sea. Its belvedere nature that from a logically belongs to the space system of walls-promenade, complete and exalt coast-line shape, building a urban collective place as interpretative form of a geographic excellence. The project is constituted of an inhabited podium, unitary but articulated into three connected bodies, oriented towards old city and Porta Vecchia creek, open sea and southern broken coast-line. Under open superior spaces of terrace there are inside chthonic spaces, similar to those at ground level of castle Carlo V that oppose their protective inside spaces to natural forces of the sea, of which any loop-holes ensure visual and sound perceptions. In the second case, project area has the role of threshold between contemporary city and country, which structure, made of dry stone walls enclosures and gardens extended to just above the rocky cliff, enclosed farms called *masserie* or fortified abbeys, is expression of a wonderful symbiosis with sea as distinctive character of territory. The area, although set back from the shoreline, correspond to a double deep system lama-creek, natural inside space as well as interruption of the coastline. Therefore, the project assumes the scale of the big unitary architecture as *masserie*, abbeys and express, through perfection of settlement and morphologic unit, the

value of urban fact (Rossi, a., 1967): the project has elaborated inside collective spaces, defined by dwellings and public buildings.

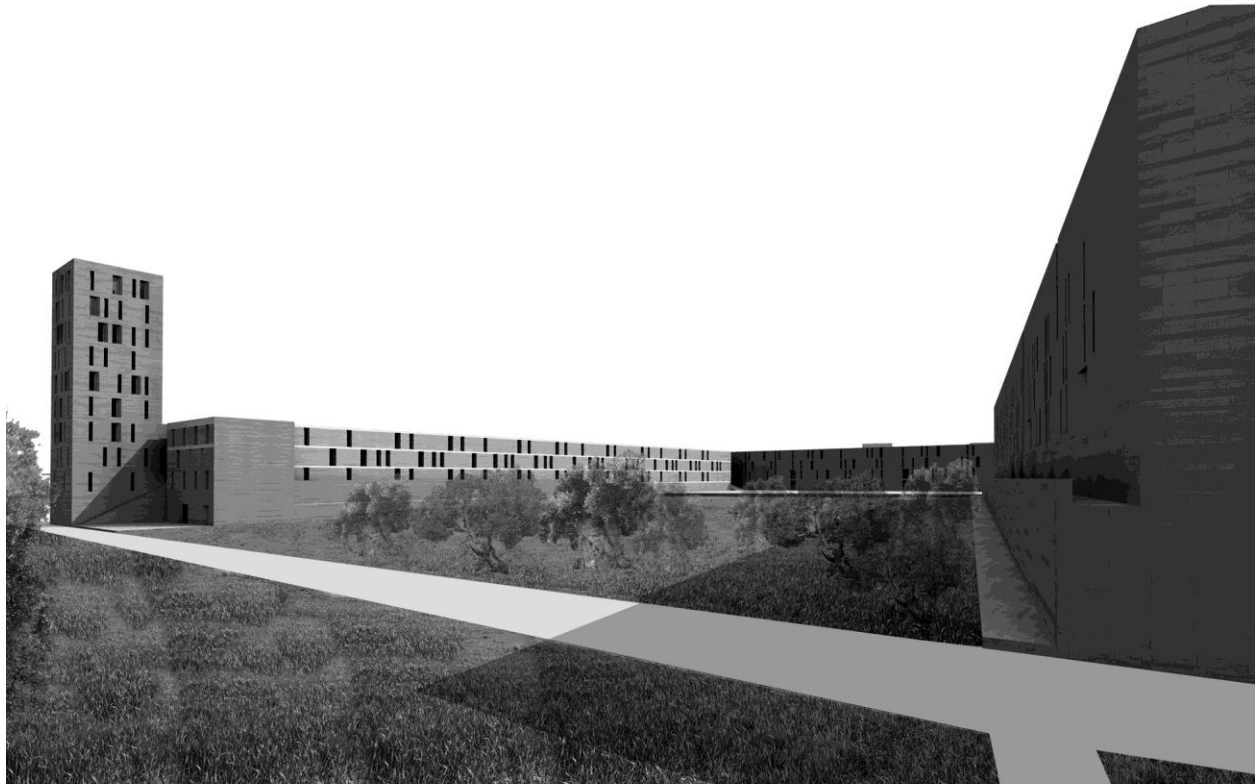


Figure 3:(from the top) 1. Projects and ancient city saw from shore-line; 2. Projects facing ancient city; 3. Settlement/dwelling unit; 4. Ancient city saw from Belvedere the shoreline,

Project interpret in analogic way the grammar of the form (Monestiroli, A., 1999) that ancient city assume in correspondence of natural creeks as Portovecchio and Batterie to build “water rooms”, inside spaces of the creeks, in which community represent itself. Project acquires existent urban structure to define scale and relations with the city, but at the same time, it founds the fundamental reasons of its own form and orientation on identification of natural values of the site.

The form define the space starting from interpretation of lama-creek system topography: the project is oriented towards this natural excellence using the form of the ground to build visual and space continuity with coastal-line. The space of the project is composed by a system of two deep open courts, opposite one another: the smaller looks at urban fabric, the bigger includes a natural space that extends itself towards creek.

## **5 CONCLUSIONS**

To rebuild the urban form, inside re-generation urban processes, is necessary to restart from an idea of the city that could be the expression of a re-founding relation between architecture form and land form. On these basis we must define new settlement/dwelling models which forms are defined by a grammar capable to express this relation.

City-territory settlement principle, based on settlement units disposition in nature is in contrast to the consumption of the territory of the contemporary city, constitutes a research theme on contemporary city form with lasting tradition but is moreover a settlement principle able to ensure the correct balance between city and country.

Experimental designs are the only scientific tools to define new settlement/dwelling models considered as evolution of a specific culture in continuity with tradition, given that they are coherent in their general principles and evocative of forms belonging to the collective memory.

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## **REFERENCES**

- Clement, G. 2005. *Manifesto del terzo paesaggio*, Quodlibet, Macerata
- Defilippis, F. and Montemurro, M. 2012. *Messapia*, collana Archinauti n°50, Artigrafiche Favia, Bari
- Grassi, G. 1980. *L'architettura come mestiere ed altri scritti*, Franco Angeli, Milano
- Hilberseimer, L. 1949. *The new Regional Pattern*
- Howard, E. 1962. *La città giardino del futuro*, Bologna
- Koolhaas, R. 2006. *Junkspace. Per un ripensamento radicale dello spazio urbano*, Quodlibet, Macerata
- Le Corbusier 1972. *Maniera di pensare l'urbanistica*, Laterza, Bari
- Marti Aris C. 2007. *La centina e l'arco*, Marinotti, Milano
- Monestiroli A. 1999. *L'architettura della realtà*, Allemandi, Torino, pp.69 e segg.
- Purini F. *La misura italiana dell'architettura*, Laterza Roma-Bari, pp.99-100
- Rogers E.N. 1997. *Esperienza dell'Architettura*, Skira, Milano
- Rossi A. 1981. *L'architettura della città*, (1967), Milano
- Ungers O.M. 1978. *Città nella città*, Proposte della Sommer Akademie per Berlino, in Lotus International n°19, Electa, Milano, pp.82 e segg.