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AGOSTINO RENNA

From territorial forms to urban project

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KEYWORDS

Geography, urban design, forms of the territory, forms of the city.

ABSTRACT

The current large-scale expansion of modern cities and their progressive dispersion over a large territory reveal a critical moment in the relationship between natural and human environments. This crisis could also provide a chance to ponder, and modern cities could benefit from the challenges brought by its structural, dimensional and spatial implications. For this reason, the relationship between architecture and physical geography is the central core of the problems assumed by my research. The proposed paper would focus on the figure of Agostino Renna, one of the protagonists of the theoretical debate about the disciplinary renewal between Sixties and Seventies in Italy (Capozzi et al. 2016). He tried to invent a method based on the description and interpretation of the territorial shapes. As (Gregotti 1974) says, it was "a new design method for all the dimensional scales, [...] - able to - bring up the real physicality and historicity of concept of nature as material of architecture". The aim of the paper is to pinpoint this method, principally through the analysis of some case studies - his work on Neapolitan area and the project for Monteruscello - in order to understand if it can be of use in contemporary urban projects.

NEW FORMS OF CITY-TERRITORY: BETWEEN ARCHITECTURE AND PHYSICAL GEOGRAPHY

Driving along the ring roads of the major European metropolises, crossing the conurbations of smaller settlements, or even wandering around the majority of our immense suburbs, it feels like being in the city, yet at the same time it seems like not being there at all.

Expanding along infrastructural routes, man-made settlements have absorbed sectors of uncontaminated nature and cultivated fields, making it difficult to distinguish what is urban from what is rural, or natural. Cities have multiplied through the processes of dismantling, delocalization and re-localization to the point of 'exploding' into many scattered fragments throughout the territory.

In the last one hundred and fifty years, the expansion of human settlements has reached extremely high rates, hence strongly affecting the validity of the conception of the city itself (in the traditional way it has been interpreted until now), and also of its cognitive and design paradigms.

The change in the scale of human settlements (modification of quantitative nature) has, in fact, coincided with a wider and more profound transformation that has affected both the structural organization of urbanized territories and the spatial conditions that identify the characters of urbanization (modification of qualitative nature).

In light of recognizing these changes, new paradigms urgently need to be identified in order to investigate the present condition of urban phenomena from a qualitative point of view; in other words, we need to recognize in these new phenomena the possible values on which rebuild the sense of the contemporary human habitat.

Therefore, in this historical condition, the discipline of urban design has, first of all, the task of questioning the territorial planning issues as formal and spatial problems.

"The forms are the most important landscape factors" already declared Granö in 1929.

In the forms of landscape, it is possible to read and recognize the historical processes because, since the earliest origins, the passing of time and events has deposited visible and tangible signs in everything, in every place, in every architecture, in every landscape. Through the analysis and the interpretation of these forms, it is possible to understand how the dialectic between culture and nature has historically been configured into the phenomenon of territorial morphologies (Renna and Bisogni 1966).

Moreover, it is also possible to interpret the territory itself as an organic form and therefore as a semantic system endowed with its own morphological laws and principles (Renna and Bisogni 1966). From this perspective, the

landscape can be understood in its dual essence of 'background' and 'set of formal structures'.

It can be regarded as a 'background' due to the continuity of the earth's surface, from which, in fact, architectures, aggregates and human settlements always emerge as individuals. From the formal point of view, the man's work becomes 'figure' and it is definable and recognizable thanks to the dialectic with the continuous background of the landscape.

It can be regarded as a 'set of formal structures' since, although it is not possible to identify a continuous structure of the forms of the territory, it is possible to distinguish some definite territorial portions, within which specific relations between shapes and elements (both anthropic and geographic) are already present (Schulz 1966).

Finally, as (Gregotti 1966) wrote, "*our perception of landscape is always historically conditioned and with a perception of such kind the geography becomes continuously re-formed in the light of our cultural knowledge of those who have utilized it.*"

Therefore, in order to take on the new and complex phenomena that affect the contemporary urban, agricultural and natural areas, the urban design discipline has the task of building our specific way of representing the world in which we live. To do this, it is necessary to address a formal description of the landscape, to develop new knowledge models of the territories, new cognitive categories and new interpretative paradigms, new methods of representation of the anthropogeographical landscape understood as a whole, namely of the *city-territory*, aware of its tension to coincide with the whole *oecumene*.

THE FORMS OF TERRITORY AND THE DISCIPLINE OF URBAN DESIGN

In Italy, as far back as the late 1950s, these themes have been the object of interest and therefore have produced a field of numerous investigative researches within differing disciplines (such as architecture, urbanism and geography).

Furthermore, it is possible to see a common *leitmotiv* that runs through the theoretical research and the design experiences, over a thirty-year period, conducted by a large number of architects (from Muratori to Renna, Daneri to Gregotti, passing onto De Carlo, Gabetti e Isola), geographers (Turri, Lanzani, Dematteis, Farinelli), as well as some urbanists (Secchi, Viganò), This represents a great value recognized in the relationship between the forms of orography and urban forms, between physical geography, spatial planning and urban design.

In particular, the Italian architectural culture dealt on several occasions with

the theme of the relationship between territorial and urban forms, declining it in different ways and recognizing its centrality compared to the principal problems of the contemporary urban project.

At the beginning of the second half of the Twentieth Century, Italy was the birthplace of the school of urban morphology and building typology. This school produced some categories and analytical-interpretive instruments, which enables us to investigate the complex phenomenon of the city and to deal with its transformations thanks to the discipline of urban design.

The relationship with the territory has marked the origins of the Italian school of urban morphology and building typology: Saverio Muratori and his students (Gianfranco Caniggia, Paolo Maretto, the Bollati brothers, Alessandro Giannini, etc.) tried to deal with the objective of defining a new syntax of urban construction, which is elaborated in respect of the form of physical natural substratum.

However, in this period, after the second world war, the historical city was the main object of these analytical studies: the analysis of building typologies, their repetition to conform the parts of the city, their variations and stratifications allowed to identify some general rules of its construction.

In the meantime, at the end of the 60s, the passage from the condition of the *European historical city* to the contemporary *city-territory* was beginning to be real and tangible. So, these theories turned out to be partially inadequate if related to the destinies of the cities, which began to expand rapidly and to change their structural configuration.

In the twenty years following the crisis of the 60s, a new generation tried to draw close to the studies conducted by the discipline of urban design. Among these, in particular, the group that grew up around some figures like Aldo Rossi, Giorgio Grassi, Antonio Monestiroli, Agostino Renna. These architects faced with the phenomenon of the *city in extension* (Samonà 1980), probably more than the previous generation. In their research, they assumed the structural, dimensional and spatial problems of the newborn *city-territory*, the problems of the suburbs and of the controversial relationship of these new districts with the vast peri-urban territories (and, thus, the great scale of the landscape).

Therefore, this second generation - probably anticipated only by the territorial studies drawn up by Muratori in the last years of his life (Muratori 1959; Muratori et al. 1963) - focused more closely on the methods concerning the interpretation of the territorial forms intended as a total anthropogeographic organism; they tried to elaborate methods of representation able to put together the two formal worlds of Architecture and of Physical Geography, to 'shape' the landscape as a whole (Norberg-Schulz 1966).

Agostino Renna was one of the protagonists of the debate on disciplinary

renewal that affected the period between the sixties and the eighties (Capozzi et al. 2016). He recognized the possible generative value of Earth's shapes in relation to the urban project; the main objective of all his research seems to have been the elaboration of a method for representing these forms, in such a way as to reveal their spatial qualities and to express the structural bonds between them, and in order to assume them as founding principles for the urban project.

Agostino Renna and the problems about the urban design of Neapolitan area: the invention of a method of representation



Figure 1: Graphic interpretation and model of the orographic characters of Neapolitan area. Drawings and model by (Bisogni and Renna 1966).

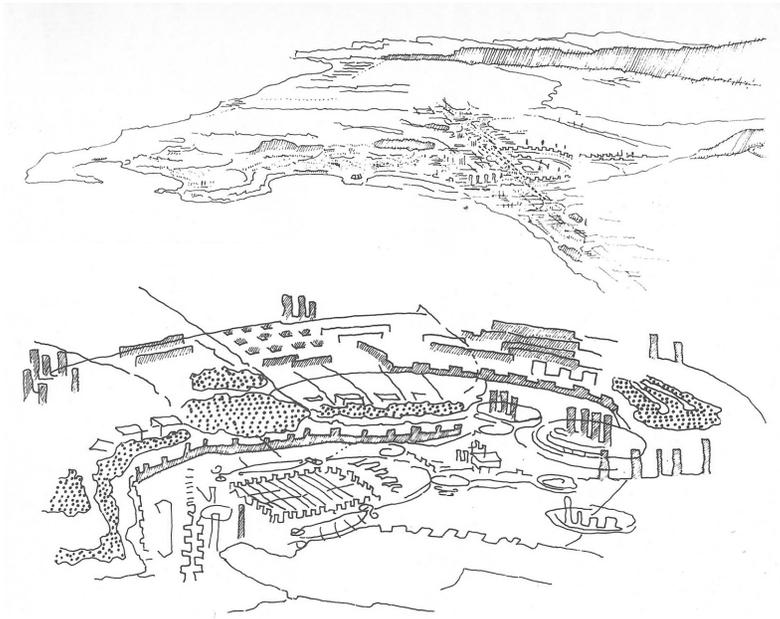


Figure 2: Napoli. General view and view of the urban centre with the elevation profile of the significant settlements. Drawings by (Bisogni and Renna 1966).

“We have steadily gained the consciousness that we are inside the reality and its conflicts, and that the reality around us is part of our own definition and we are part of that. For this reason, we explore in the same manner the reality and ourselves as one thing.” (Agostino Renna 1980)

Agostino Renna’s master dissertation, elaborated together with Salvatore Bisogni in 1965 and entitled *“Introduction to the problems of urban design in the Neapolitan area”*, represents the initial insight of the topics that will become the topics of all his life.

In the text that presents their research (Bisogni and Renna 1966), the authors immediately express an important assumption, a hypothesis that is the basis of all research: they define the landscape as the formal structure of the territory (ibid., p.116).

Starting from this statement, the goal pursued by Renna and Bisogni through the study of the Neapolitan area has been the search for an analytical and interpretative method (which will also become a design method) capable of dealing *“with unitary criteria”* the problems that characterize *“both the built and un-built territories”*: the cities, the countryside and the natural territories (ibid., p.116).

Only through the development of a method of representation able to clearly reveal the morphological features of the territory is it possible to recognize the 'invitation' that the orographic forms offer to men and women and to their transforming thought.

The purpose of the critical and interpretative redrawing operations of the Neapolitan territory is to find a way to express and represent the forms of territory and especially is the relations between them. This representation is constituted as "*anticipation and law of the compositional acts about the architecture of the city*" (ibid., p.129).

Therefore, the description-interpretation of the territory coincides with the discovery of its formal and spatial potentials and so with the prefiguration of the ways of living in a specific place. Subsequently, it makes it possible to deploy the compositional principles, in such a way that they are able to recognize and assume these models as their own 'fields of action', and to conceive the construction of the territory as a single and total 'architectural project'.

Agostino Renna and the project for the new town of Monteruscello: the settlement as element of territorial organism

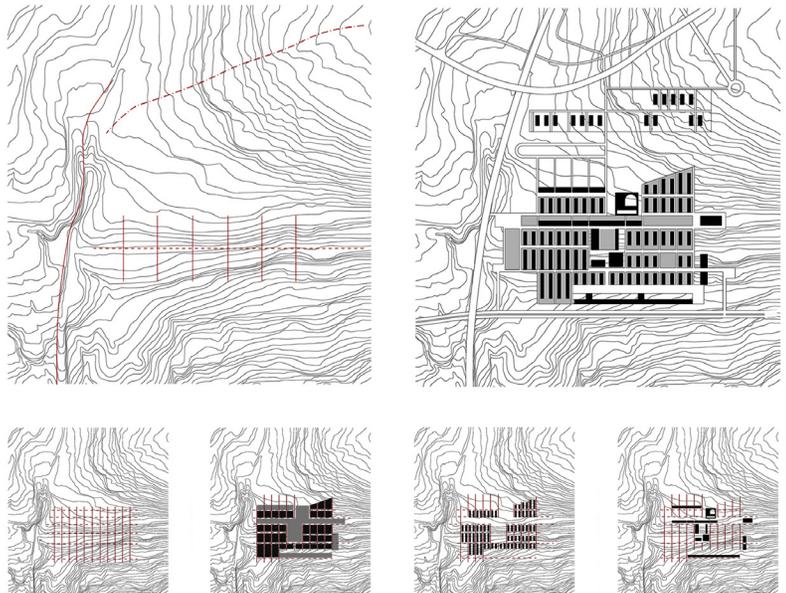


Figure 3: Monteruscello. Territorial forms and settlement principles. Analytical drawings by the author.

“As in an ancient city, the mountains, the sea, the agricultural fields, the ancient villages and villas are, perhaps in a fortuitous and unconscious way, composed in one single formal emotion” (Renna 1980).

The construction of Monteruscello, the last Italian new town of the XX century, was necessary because of the bradiseismic crisis that struck the city of Pozzuoli in 1983. As well as having to deal with the great civic engagement related to the state of housing emergency and with the complex issues raised by the need to transfer a significant part of a seaside town in the inland countryside, Pozzuoli also had to address the questions concerning its definitive transformation into a linear conurbation of small towns from the sea to the inland countryside.

The new settlement, with its 24.000 inhabitants, spreads on the narrow and steep slopes of the craters of Campi Flegrei, opening up to the interior plains of Caserta.

Monteruscello is divided into four distinct morphological units, with a dimension that is similar to that of the typical inhabited centres of this area. The top of the slope is the central core of the village. Further down on the valley floor, the commercial area is developed because this place is easily connected to the infrastructure system. Finally, the University district and the industrial zone lie on the other side of the railway, which is positioned in the rutdefined by the narrow valley.

Renna defined the design of the central core in greater detail, because, as for the ancient cities, it represents the identity of the new settlement, while he defines only the volumetric composition of the other parts of Monteruscello.

This district, called the ‘old town’, is built on the higher part of the slopes, and the incline of the hill side softens progressively in the downstream direction, towards the plain characterized by the geometric forms of the Roman *centuriatio*. In addition, the slope is characterized by a discontinuous form, from a ‘jagged’ form, obtained by the progressive sedimentation of the lava flows that have shaped the hillsides as a succession of little ‘ledges’.

Although this territory is not morphologically articulated but rather a homogeneous form characterizes it, it is possible to recognize a certain topological order in its formal structure, which will correspond to a geometric order in the structure of the new settlement.

It is possible to describe this project adopting three different dimensional scales: the scale of the settlement, the scale of the urban fabric, and the scale of the urban element.

Each of these three scales of representation illustrates in more detail some specific problems addressed during the design process and is useful to control some precise compositional questions. Firstly, the definition of the settlement principles, namely of the *“structure of the form”*, which is, according

to De Carlo (Bisogni and Renna 1974), “the main framework that serves as a compositional plot for the more indeterminate and diffuse texture of the smaller formal expressions”. Then, the definition of the “form of the structure”, namely “the materialization in physical terms of the spatial organization parameters that give structure to the urban agglomerations” (Bisogni and Renna 1974). Finally, the definition of the spatial characters of the urban elements and hence the typo-morphological characters in relation to the form of orographic substrate.

At the largest scale, the geometric homogeneity of the urban grid corresponds to the topological homogeneity of the shapes of the slope. Urban Grid and hillside are not only conceived as elements, but they can also be considered as sets of forms, homogeneous in their totality, but mutable and flexible by means of the alteration or deformation of their constituent elements: the ledges and the blocks.

In fact, at the intermediate scale of the urban agglomeration, the depth of the terraces corresponds to the depth of the ‘staircase’ that defines the shape of the slope. Therefore, the discontinuous conformation of the hillside, articulated by the irregular succession of the ‘ledges’, is resolved through the alteration of the elements that make up the urban grid itself, namely the blocks, the ‘terraced *insulae*’.

At the scale of urban elements, the relation with the territorial forms is given by the fact that the classification of building typologies takes into account the spatial relationships that architectures establish with the surrounding environment (closed courtyard buildings, open courtyard buildings, isolated buildings with courtyard) (Lucci 2016).

Moreover, Renna explores new possibilities for the open or closed courtyard buildings, which derive from the Neapolitan tradition, through the variation of the relationship between the building and the ground. In this way, the relationship between urban morphology and building typology is further enriched by its relationship with the forms of the territory.

Finally, the organic nature of the system is ensured (in addition of its strong multi-scale structure) by the presence of nodal elements, namely by the system of public spaces, which keeps together the parts and confers unit to the whole, by creating a concatenating effect in the structure.

Downstream, the building that contains the high schools defines the boundary of the ‘old town’, and configures itself as a big inhabited wall, while the central collective places are structured along a street-square, placed exactly in the middle of the district and arranged parallel to the contour lines. It is delimited by a *stoà* and ended by a polar building (the mother church). The civic square is placed in the center of this linear system, adjacent to the street-square. It is arranged orthogonally with respect to the slope and built on a podium that overlook toward the vast interior plain.

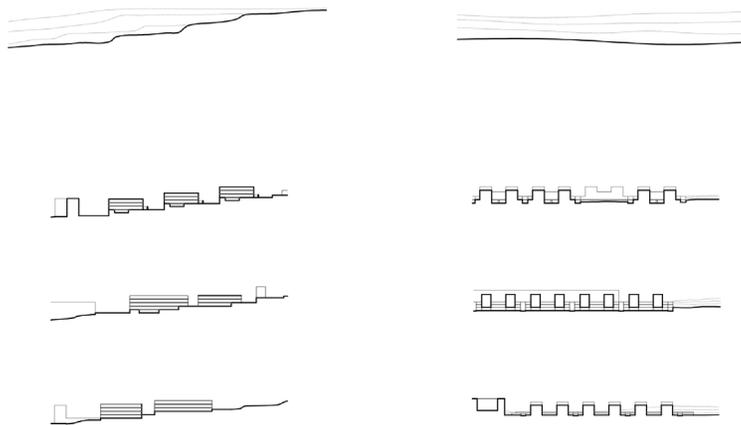


Figure 4: Monteruscello. Sections.
Analytical drawings by the authors.

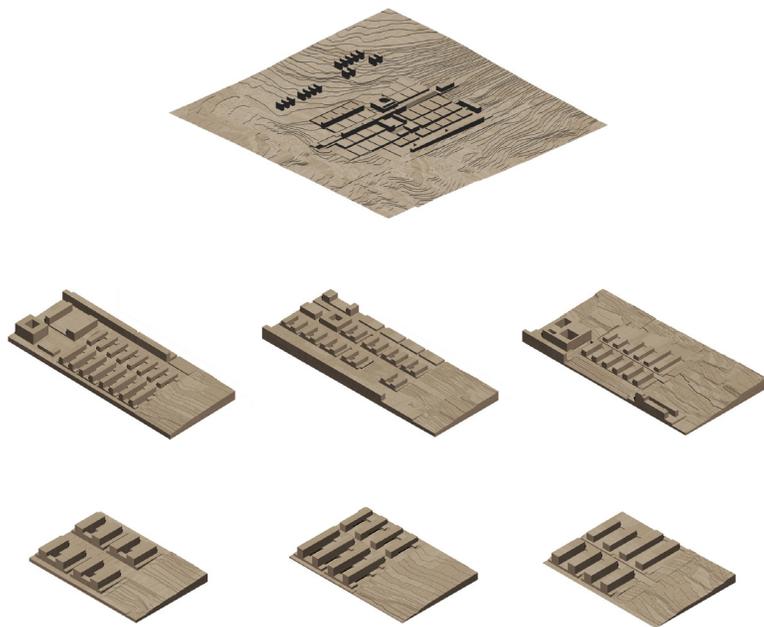


Figure 5: Monteruscello. Models at different
scale. Analytical models by the author.

CONCLUSION

From that time until now, “*the spatial expansion and the time acceleration of environmental modification processes at all dimensional scales*”, already reported by (Gregotti 1966), have multiplied their intensity.

This condition makes it necessary to resume these studies and to develop them according to the needs of our time, of our territories.

If we realize that valleys, hill slopes, ridges, or rivers, woods, clearings are no longer external to the city, but they are part of it, like residences, streets, squares, monuments and gardens, it is possible to discover a lot of contact points between architecture and geography.

The *diffused city* has to return to compare itself with the geographical forms, to follow the directions of the rivers, to take refuge in the concavity of hilly systems, to ‘measure’ the plains, to identify the conspicuous points of the territories, and to place here its monuments, the symbols of its identity; it has to return to project itself into the real and concrete environment in which we live.

With new instruments, both architectural and geographical, we need to analyze our territories, distinguish the parts that compose them, identify the qualities of these parts, and individualize within them the constituent elements and the structural relationships between them. After analyzing the territory and interpreting it, after seeking in its forms the analogies with the actions of our lives, with our cultural world, after projecting into them the needs and desires of our communities, we should imagine the places in which to live our existences, design them and build them.

Only in this way the spaces of our daily existences, in which all our actions take place, could benefit from the feeling of permanence that infuses the vastness of the natural elements and of the balanced and harmonious relationship between the unmeasured “divine forms” and the measured “human forms”.

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