

not use relations in our definition of form, in my view we will not succeed in understanding the structure, formation and transformation of urban form.

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Urban morphology and architectural design: a contemporary condition

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The methods employed by urban morphologists, particularly in the Muratorian school, give emphasis to ensuring continuity in the transformation processes of buildings and fabrics. However, architects today have to deal with new aspects. In most European schools of architecture, knowledge is now transmitted mostly through evidence in the form of images.

Books and magazines have been replaced by digital technology. Many educators themselves have been educated through methods related to the culture of the image and communication. In support of this it is suggested that the image contains more information than the written text, although it has been proven for some time that this is not the case: the image may or may not contain a large amount of information depending on the conceptual and theoretical tools utilized, and these can only be transmitted through theoretical texts (Russo, 1998). Nevertheless, teaching tends today to deal directly with the relationship to form without the mediation of a rational method. The task of solving a problem has generally been replaced in architectural teaching by performing

a series of practical steps often derived from the visual arts.

However, the rational components of the design become increasingly complex. The principles of classical economic science, largely based on the simplifying hypothesis of the perfect rationality of individuals, have long been in crisis. This is because of the evidence of the phenomena in progress, linked to the uncertainty of environmental transformations and social changes, and to the attempt to stabilize them through the constraints (informal constrictions and formal rules) of the institutions (North, 1990). Flexible design methods suitable for fast changing global conditions are also needed. For all these reasons, our studies aimed at the existing built environment are often considered as not entirely appropriate for innovation and in some way outdated.

It is important therefore to make clear the positive role of the discipline of urban morphology in the current phase of crisis, in which architecture seems to be much more oriented towards communication than to building. It is necessary to make clear that Muratorian urban morphology can

play a hermeneutical role in architectural knowledge. It aims to demonstrate the origin of urban phenomena, their transformation and updating. It interprets architectural invention in the context of contemporary culture not only as a product of artistic research, but as innovation 'found' in the course of morphological research.

We must consider urban morphology as the study of open systems, where the order recognized in a finite number of cases makes it possible to generate an infinite number of possibilities from which we, as architects, choose the most suitable (selection) to establish a more specific finalization (specialization), obtaining the real form (individuation).

The idea of 'most suitable' is fundamental. It takes into account the forming processes and the specificity of each cultural area. In other words, it corresponds to a sequence of critical operations that gradually reduce the number of possibilities leading to individuation, to a unique, individual form.

As architects we actually deal with form in two apparently divergent respects: that of perception linked to visual arts; and that, far more complex, of morphology – the systematic study of form that presupposes a formative process that can be investigated rationally.

To demonstrate how this subdivision is reductive and expresses, in fact, the poles of a dyad of opposite and complementary terms, one of the definitions of form most pertinent to morphological studies has been proposed by a philosopher of aesthetics, Luigi Pareyson (1974). Form is an organism, according to Pareyson, and as such it is formed and forming, with its own internal laws that bind the parts in unity.

For us this definition is of great interest. If the purpose of urban morphology is reading the order of the built reality aimed at the project, a useful definition of it from an architect's point of view could be: 'the discipline that studies the form of the city in its forming and transformation, intending form as the visible aspect of a structure'. This order should be considered as 'generative': a set of principles and rules that, within a cultural area and in a specific historical phase, regenerates forms in a recursive way, namely according to rules that can be applied and updated repeatedly, generating continually new forms that can respond to ever-changing needs.

'Generativity' is a variable concept that changes according to experience and knowledge. In architecture this term has, for example, a different value than in linguistics. The idea of 'competence'

proposed by Chomsky as a set of innate rules belonging to a universal grammar might seem similar, in some ways, to the 'a priori' Muratorian synthesis. However, in the first case the notion of competence that derives from it is a system of rules within a cultural area, which allows us to recognize infinite sentences (Chomsky, 2006), while in the second case, it is above all a historical product – the result of shared selections and continuous transformations.

If the order we recognize in cities, fabrics and buildings is able to generate different forms, the procedures for studying urban form should start from the search for the underlying principles that explain the formation of the elements composing the different structures and their transformation to different grades. By 'grade' we mean the characters related to the place occupied by each element in an order of successive complexity. By 'structure' we mean a set of elements combining in a final order. And by 'element' we mean the simplest part and not further divisible within a structure to the degree examined (Strappa, 1995).

The elements, by their nature, could theoretically be combined in infinite ways. Like the structures, they generate by forming 'structures of structures', which in turn become new elements of new structures in a theoretically infinite process. The repeated use of these structures, economic transformations, changes in values and the needs from which they derive, together with the contaminations with different cultural areas, transform the order itself inside different historical phases.

This is of fundamental importance for the designer: the order we recognize in existing forms is not only the order reached at that time, but contains also a new, future possible order, which is the contemporary project.

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