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## The study of urban form in Italy

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**Abstract.** *This paper demonstrates the strong relationship between urban morphology and urban design within the Italian traditions of architecture and urbanism. Attention is focused on the work of architects and urban planners during the twentieth century, the period in which urban morphology and urban design emerged in Italy. A common cultural background shared by all those contributing to the field is the concept of 'type' and the assertion of a close connection between urban morphology and building typology. In contrast, different positions emerge in the interpretation of what the contemporary city should be, and this has, in turn, had an influence on the analysis of urban form. For this reason the typological debate in Italy has always had a strong ideological component. Instead of a common attempt at mutual understanding, urban morphology has been strongly characterized by a systematic, reciprocal misunderstanding among its followers. This paper attempts to define the multiplicity of cultural positions within the field according to the particular design and planning goals of those positions, in the conviction that the complexity of the current urban phenomenon can no longer be confronted from a single point of view.*

*Key Words: urban morphology, urban design, type, ideology, Italy*

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From the Italian point of view, no critical interpretation of an urban phenomenon can be considered outside a specific design strategy for the phenomenon to be investigated.<sup>1</sup> This explains why the most significant contributions to the development of urban morphology as a disciplinary field in Italy are to be found in the research of architects, urbanists and urban designers. This approach has mainly been realized with an ideological aim.<sup>2</sup> So, instead of focusing on urban form as the complex result of specific historical constraints, each clearly identifiable in intentions and formal results, Italian architects and urbanists have attempted to interpret urban form in its entirety from a

unique point of view. That point of view has clearly corresponded to the idea of the city they wished to spread.

The interpretation of urban form has mainly been pursued through an instrumental use of the concept of 'type'.<sup>3</sup> Such a use of type inevitably leads to a consistent diminution in the effectiveness of the interpretation. In fact, the more an interpretation follows the historical process involved in the production of a particular form, the more that interpretation determines a contextualized system of knowledge. That system has a wide range of possibilities because every definition of a type refers to a specific idea of architecture. The range of

ideas offers the choice of the most appropriate solution to a given problem.<sup>4</sup> As a consequence, urban form has almost never been investigated in the terms in which it was conceived, analyzed, built and successively modified over space and time. Rather it has been investigated more simply, according to a subjective idea, sometimes widely shared, about what the future cityscape should be, according to a predetermined theory of urban design.

However, even if the Italian scene has been characterized by a multiplicity of conflicting contributions, it is possible to find some common themes within the development of the debate on architectural and urban design theory, including some common to researchers from different schools of thought. This framework inevitably leads one to accept every morphological approach as a sort of algebraical function whose value can only be determined within a previously identified domain of validity. Outside this approach, different principles and rules apply that render a given function insoluble.

A definition is needed of the limits of the effectiveness of the more important contributions to the development of urban form, albeit limiting attention to the twentieth century. Such a definition is increasingly important as architects and planners face ever more complex and diverse problems. The multiplicity of approaches and theoretical positions yields a range of possible devices for solving a specific morphological problem.

### **Urban morphogenesis as a matter of continuity**

The Italian morphological tradition is peculiar in that it has always acknowledged a close link between tradition and innovation, with different researchers having shown an interest in the connection over a long period. This peculiarity is reflected in the rooting of design projects in existing urban tissues, both in practical and theoretical terms. Moreover, the relation between tradition and innovation, between a preindustrial and a modern

approach to urban form, finds a fertile field of application in typological studies. Specifically, the typological approach is distinguished from all other Italian contributions by its classical concept of architecture as a tectonic system, a system legitimized by its derivation of principles and rules from the practice of building, according to a strong integration of structural, distributional and volumetric aspects.

The foundations of this approach can be found in the early-twentieth century, during the Fascist period, in Gustavo Giovannoni's consideration of historical centres and Giuseppe Pagano's studies of the politics of the development of rural settlements. More recently, Saverio Muratori, Gianfranco Caniggia, Paolo Maretto, Sandro Giannini and their followers placed more emphasis on urban design, bridging the gap between architecture and city planning through a deeper understanding of the historical processes by which urban structure is modified. They also stressed that the abstract interest in the problem of the city had been replaced by an interest in a more realistic problem, connected to specific case studies considered as the basis of a new urban science.

Giovannoni is considered to be the father of the Italian urbanistic tradition. It is not by chance that he was the leader of the group that gradually put together the Law of Urbanism, Number 1150, passed in 1942 and still current today.<sup>5</sup> His most important work, *Vecchie città ed edilizia nuova*,<sup>6</sup> is a successful attempt to set out a contemporary theoretical and operational treatise of urban design. Starting from a historical framework, it deals with the principles of urban growth and transformation as they emerge from an analysis of different geographical situations over a long time-span. His work matured as he supported the politics of *disurbanamento* (disurbanism) put forward by the Fascists to counter the growth of larger metropolitan areas and the increasing pressure placed on historical centres by the building market. Instead of promoting the systematic refurbishment of city centres, replacing the pre-

modern urban blocks with new skyscrapers as proposed by Le Corbusier, Giovanni moved towards a strategy of complementarity between new and old. According to him, tradition and modernity could continue to cooperate within a new concept of 'organicity', in which the historical centres were sites for acts of *ambientismo* (contextualism), and the new expansions could be realized through *borgate satelliti* (satellite quarters). While the former expressed the idea of continuity with existing urban structures, the latter used modern technical tools to achieve urban dispersion.

The main problem becomes, therefore, the investigation of the *innesto* (seam) between the new quarters and the old urban structure. By resolving this, way of life and history could be integrated, as had been the case in the past. Taking on this urban design objective, Giovanni began working on the structure of historic city centres, concluding that there are no cities that are truly old or totally new. Historically, the strategy of the seam seems to be a commonly-used approach. By analyzing specific case studies he formulated the well-known and fruitful *permanenza dello schema planimetrico* (permanence of the planimetric pattern) before Pierre Lavedan set out his 'law of planimetric persistence'.<sup>7</sup> Giovanni also introduced the idea of the city plan as a *palinsesto* (palimpsest), where the dense stratification of different layers reveals the progressive, partial accretions and erosions of the initial implantation. Most significantly, he derived from the study of urban morphology the idea of form as the transitional stage in a never-ending process of development, of which the form itself preserves and constantly manifests internal traces. From this basis he argued for the priority and importance of the *Piano Regolatore Generale* (master plan) for creating the proper conditions for starting and realizing the process of urban design over time.

Giuseppe Pagano also sought to define form as a temporary phase in a historical process of modification, even if his intentions were quite different. In fact Pagano is well-

known for his intolerance of Fascist rhetoric. He tried, therefore, to support the rationality of Modern architecture as a possible antidote to it. In order to critically demonstrate the similarity, both in historical and logical terms, between Mediterranean local traditions and the new international tendencies, and so avert attacks from the conservatives, Pagano focused on rural settlements. He found in the clear, logical and rational principles of construction of the architecture of rural settlements strong evidence for the systematic evolution of Modern architecture.

Pagano's idea of rationality seems, however, to be very different from that promoted by the supporters of Modernism. To him, the rationality or logic of architecture is not a universal system of shared values, independent of time and location. On the contrary, it belongs to the constructive process itself. At the extreme, rationality becomes synonymous with the intelligibility of the process through which a form is derived from the past once deprived of its previous functional constraints, until it is reduced to a simple aesthetic matter. Rationality is, therefore, an attribute of the form, its structure, and the historical process of transformation.

Pagano also arrived at another important result: he affirmed the priority of ordinary building as the material basis from which all institutional architecture is historically derived. According to his masterpiece, *Architettura rurale italiana*,<sup>8</sup> the rural building is considered to be a working tool and the result of a spontaneous consciousness inherited from cultural habits passed from one generation to the next. On this basis it is possible to see the objectives of his endeavour: to describe the character of the contemporary farmhouse through its evolution from the primitive local formulation; to find a line of evolution from autochthonous building traditions to Modern architecture; to discover some kind of eternal law of growth; and to derive aesthetics from a logical functionality. As a consequence, houses seem to be deeply rooted, in their inception, in local conditions. In addition, he

found a chain of mutual constraints according to which every modification of a building maintains the memory of the formal structure of the previous state, from an elementary arrangement to a more complex configuration. The form is preserved even when the original functional needs cease to apply. In this sense, continuity encompasses tradition and innovation.

The same concept of *preesistenza ambientale* (environmental pre-existence) was explored by Ernesto Nathan Rogers during a period of intense architectural debate in the 1950s.<sup>9</sup> The subject of much of the debate was the attempt to overcome what were, by then, considered as the obsolete principles developed by the Modern Movement, in particular the idea of the 'dwelling for everybody', in order to reach the idea of the 'dwelling for each individual'. Within that context, the notion of *preesistenza ambientale* clearly expresses the aspiration for continuity between design, history and regional specificity. Rogers's efforts, however, lacked rigour and merely produced an architectural and urbanistic poetry without a corresponding analytical method.

If Giuseppe Pagano can be considered to be the first to posit a general typological process whose singular stages could be traced back into different geographical traditions, Saverio Muratori developed that intuition further. In doing so, he focused on the subject of the urban house, showing the extent to which the evolutionary process is rooted in specific local environmental constraints stemming from pre-existing urban structures. In his paper '*Vita e storia delle città*',<sup>10</sup> Muratori criticized the contemporary urban sciences because of their essentially positivistic approach to urban design. For Muratori, the laws that describe the birth and transformation of the city are not 'natural' but emerge as the result of precise cultural behaviour. According to him, Modernism discarded the inherited knowledge of construction, seen as a system, and reduced architecture and urban design to simple technical matters. There was no longer any awareness of the inner logic of the trans-

formation of buildings that represents the historical rationality identified by Pagano. This is the reason why Muratori kept a critical distance from both the model of the *Ville Radieuse* offered by Le Corbusier and Wright's Broadacre City on the one hand, and on the other, the Italian conservatives who considered everything as worthy of preservation. While the former were accused of having interrupted the continuity between tradition and innovation, the latter, mainly technicians and historians, had tended to treat the city as an open-air museum. Starting from such premises, Muratori began working on specific case studies to find the laws of continuity within a transformational process. With *Studi per una operante storia urbana di Venezia*<sup>11</sup> and *Studi per una operante storia urbana di Roma*,<sup>12</sup> he laid the first stones of his theoretical structure.

Muratori investigated the rationality of history through the reconstruction of the process of derivation of both architectural and urban form, from previous built structures to more recent, complex configurations. The process of derivation retains the traces of a form's inception in simple original arrangements by updating them over the centuries according to a 'handicraft' approach to tectonics. In addition, he put particular emphasis on the concept that matters of building are mutually related according to a hierarchy of different levels which he terms *scale* (scale). As a consequence, Muratori believed that it was not possible to understand the richness of any effort at building without constant reference to all the components that it encompasses and to the ensemble to which it belongs. In such a way, he became the father of Italian architectural 'structuralism'.

Muratori set out a unique theory that defines all aspects of the human environment. It encompasses all steps of mutual interrelations, from the single building to the totality of the territory. Each of these, as a single aspect, has been systematically developed by one or another of his followers: Gianfranco Caniggia worked on urban tissues,<sup>13</sup> Paolo Maretto on aspects of

architectural language,<sup>14</sup> Alessandro Giannini on the territorial scale,<sup>15</sup> and Renato and Sergio Bollati also on urban tissues.<sup>16</sup> This theoretical approach was so successful and fruitful in the interpretation of the pre-modern urban structure that, during the 1970s, the resurgence of interest in these matters brought forward a new generation of researchers who have contributed to the use of historical knowledge as an operational tool. These include Giancarlo Cataldi,<sup>17</sup> Paolo Vaccaro<sup>18</sup> and Gian Luigi Maffei.<sup>19</sup> Even today, the continuing diffusion of the principles espoused by the school shows the viability of this approach in solving specific problems.<sup>20</sup>

All of these contributions have a common cultural background which allows us to understand their approach to urban morphology and urban design. They all clearly belong to the classical tradition in architecture and urban planning. As a consequence, they stress the importance of architecture as a tectonic praxis and urban design as a way of maintaining formal control over urban growth, according to an ideal of harmony and organicity in the public realm of building. This, in turn, leads to a refusal of any kind of compromise with the principles of the Modernist *tabula rasa*. They try to accept just those aspects of Modernism dealing with technical, social and economic progress that are pertinent to inherited building and urban structures. At the same time, they seek to demonstrate the possibility of critically recovering the transformation of urban form according to a 'handicraft' approach, re-establishing a connection between the current and pre-modern periods. This effort was originally, and is still to some extent today, an attempt to fill the gap dramatically opened during the Enlightenment period from which modernity derives.

### **Functionalism and organicism in urban morphology**

The diffusion of Modernism is closely related

to the resurgence of the problem of the residence. The increasing demand for a place in which to live, owing to the rapid spread of urbanization in the second half of the nineteenth century, required an urgent solution. The cultural background to the demand can be found in contemporary fiction and social pathology – inquiries into living and working conditions – such as Charles Dickens's *Hard times* or Fredrich Engels's *The condition of the working class in England*.<sup>21</sup> This situation inevitably led to greater emphasis on the dwelling as opposed to the question of the new city which, by contrast, was clearly addressed by Le Corbusier and his model of the *Ville Radieuse*.<sup>22</sup> As a result, the traditional concept of a house is systematically subdivided into its main components according to function. The famous aphorism 'form follows function' has sometimes been interpreted in a restrictive sense, not without some ingenuity, as the attempt to subordinate a formal process to a merely functional programmatic sequence that is supposed to be objective. Taken further, according to the positivistic approach, architecture should be based on laws and principles which could, because of their endogenous rationality, be assimilated into natural processes. This inevitably leads to an attempt to define form through a rational process of dismantling the old spatial configuration, considered to be the product of old-fashioned prejudice, and rearranging it according to a universally shared rationality. Each component should, therefore, be individualized according to a specific role in the ensemble in order to obtain a common rational goal.

Within the field of urban morphology, this approach was followed in Italy mainly by Irenio Diotallevi, Franco Marescotti and Pasquale Carbonara. Diotallevi and Marescotti identified the problem of low-income housing as their principal field of interest. Their approach, clearly stated in *Il problema sociale, costruttivo ed economico dell'abitazione*,<sup>23</sup> systematically established the design of the dwelling according to a series of factors: the constraints of local climate (for

example, the prevailing winds, orientation, average temperatures and humidity); the results of technical progress (for example, the potential of new structural systems and artificial materials); the efficiency of different systems of internal distribution (according to which they start to analyze different dwelling types as solutions); and rationality in the use of space (in this regard the problem of modern furniture has increasing importance).

To Diotallevi and Marescotti, the city should not limit the conditions of life in any dwelling. As a consequence, the city is simply conceived as an extension of the same principles, bringing the 'particular' to the 'general' according to an inductive process. The project for a *città orizzontale* (horizontal city)<sup>24</sup> clearly states that city form is the result of an additive process of combining single units all sharing the same spatial arrangement, without any modification caused by an internal hierarchy of public spaces. History is not taken into account except in the form of the well-known literature of social pathology previously mentioned. As a consequence, this method for architectural and urban design, if applied to the analysis of pre-modern urban form, inevitably leads to great misunderstandings.

Pasquale Carbonara showed a wider interest in building. His goal in *Architettura pratica*<sup>25</sup> is, therefore, to define a theoretical framework for architecture that enables individuals to cope with the multiplicity and complexity of functional themes to which modern cities aspire according to criteria of shared rationality. Even if he was aware of the interdependence of structure, function and form, his interest was evidently directed toward the *caratteri distributivi* (distributive characters). With that emphasis, spatial arrangement becomes the most important matter in building and is carried out according to strictly functional principles. Carbonara was also conscious, however, that rationality reveals itself in different ways depending on the cultural aspirations and institutions of the society. He therefore always attempted to contextualize the

treatment of a singular functional theme in its historical framework, from its origin to the present. This was not an attempt to root architectural practice in local tradition, but simply to affirm that rationality is a function that binds social aspirations to contingent limitations in terms of functional demands, technical responses and expressive values.

### The aspiration to a dialectical synthesis

The crisis of the Congrès Internationaux d'Architecture Moderne (CIAM)<sup>26</sup> was revealed during the Hoddeston meeting in 1951 when the results of its housing policies were examined systematically. The theme chosen for the meeting, the 'heart of the city', clearly revealed the shift of interest from an urban model constituted by autonomous architectural objects to a new one based on mutual interrelation. The emphasis was in fact placed mainly on the nature of urban space as the place of reciprocal connection and the principal expression of livability.

In 1953 in Aix-en-Provence this cultural change led to the rescinding of the Athens Charter, which all of the participants considered to be obsolete in its basic principles. Most of the criticism was aimed at the idea of subdividing the city into different functional areas according to the metaphor of industrial production. This principle was considered to be the main cause of indifference towards, and dissatisfaction with, the public realm.

At the last CIAM meeting in Dubrovnik in 1956, Team X broke away from the older Modernists, marking the beginning of a new era. The Modern tradition was immediately compared to the historical. Alison and Peter Smithson, for example, spoke about the necessity to learn from the street of the traditional city but also from that of nineteenth-century by-law extensions. They spoke about the need to rethink the priority of the spaces between buildings as the basis of any architectural intervention. The attention paid to the spatial arrangement of

the historical city and primitive village, in particular by Aldo van Eyck and later by followers of 'Dutch Structuralism', had the aim of finding unifying principles capable of gathering into a higher-level synthesis and coexistence the modern and pre-modern traditions. This intention inevitably leads, however, to a form of abstraction due to the different nature of the postulates implicit in the two approaches.

Manfredo Tafuri pushed the international debate in the direction of a new approach to urban design<sup>27</sup> that sought to encompass a distinctly dialectical synthesis of the pre-modern tradition and the contribution of Modernism, the latter being extensive even in Italy after the reconstruction period and the Istituto Nazionale della Assicurazioni Casa (hereafter INA Casa) experience. According to Tafuri, historical centres and modern quarters could not be merged within a unique reconfiguration, because of the incompatible nature of their principles and inner laws. In this, Tafuri followed the perspective formulated by Giuseppe Samonà, according to whose *L'urbanistica e l'avvenire della città*,<sup>28</sup> the historical centre became nothing more than a pure object of contemplation, flanked by a totally different modern city structure. The unique solution would appear to reside in the conceptual dimension with an abstract three-dimensional structure whose neutrality, yet radical Utopianism, could act as a reference system through which it becomes possible to systematically measure the difference between the existing approaches.

This conceptual framework found fertile cultural ground during the 1960s and became manifest in the urban design theory of the 'large scale'. The architectural debate had, in fact, to face up to the rise of new forms of urbanization that consumed vast areas of land, as exemplified by the experiences of the New Town movement in the UK and the French *Villes Nouvelles*.<sup>29</sup> A consequence of this new attitude was that the city tended gradually to disappear into an extensive urban landscape. Vittorio Gregotti provided an architectural theory that took up these new goals of urban design in *Il territorio*

*dell'architettura*.<sup>30</sup> Here, Tafuri's synthesis finally found both a possible metaphor and a model in the infrastructure of the wider landscape (*territorio*). According to Gregotti, the type, intended as a prefigured formal structure able to guide the project, no longer had any historical reasons for existence. Nor did it have any critical potential at the lower levels of scale because of the increasing frequency of transformations that systematically erase every contingent solution, making it obsolete as soon as it is proposed. Only the logic of settlement location could stand as a permanent factor in the development process. So his interest shifted towards features characteristic of the wider landscape as the unique items capable of giving the 'large scale' an order from which all other decisions regarding building derive. From this point, he began to analyze the history of urbanism and, as a result, moved much closer to a geographical approach.

Ludovico Quaroni offered a similar interpretation in terms of urban design. He began with a deep analysis of the process of transformation of historical urban aggregations, taking an approach that shared many features with that introduced by his colleague and friend Saverio Muratori.<sup>31</sup> From there, he conceived the idea of the city as a fluctuating infrastructure that systematically merges together urban voids and built objects, ordinary and institutional buildings, architectural expressions derived from the past and interventions attributed to the crudest modernity, private manifestations and public behaviour, sacred values and profane attitudes. All would be combined into an internally consistent totality. In *La torre di Babele*,<sup>32</sup> probably his best-known text, this infrastructure acquired the unstable, fabulous consistency of something like a Persian carpet expanded into three dimensions or a modern interpretation of a *medina* that encompasses all the scales of building and, at the same time, conceptually, extends beyond them.

Costantino Dardi pushed research into the 'third level' further, pursuing a total abstraction and lightness in architecture,

interpreted as an ephemeral installation<sup>33</sup> similar to those used in fairgrounds. The result is an expression of a pure, abstract and neutral three-dimensional geometry that makes it possible to conceive every composition imaginable in a never-ending process of unpredictable materialization. Rejecting the concept of type because of its historical constraints, he moved towards the idea of *configurazione* (spatial arrangement) to establish yet again an architectural language starting from its syntactical and grammatical structure.

Similarly, Franco Purini shared Dardi's interest in architecture as a processual method of investigating transformations of abstract geometric systems through specific formal operations, as well as Gregotti's ideal of the large scale,<sup>34</sup> finding a recurrent source of suggestions in the larger built elements in the landscape, such as viaducts, aqueducts, bridges and dikes.<sup>35</sup> Purini stressed the importance of indeterminacy as the key factor in understanding the never-ending process of the growth of urban form. His systematic advocacy of the ideas of complexity as applied to the analysis and design of urban form points to three important attributes of the dynamics of urban form: the non-linearity of the processes of growth, the adaptability of architectural systems and the non-predictability of the results. In emphasizing these points he no longer considers the type capable of taking a leading role as an *a priori* project to be realized in practice. Instead he came to regard it simply as the ultimate exploit in the continuing development of architectural language.<sup>36</sup>

### The idea of coexistence in urban form

Aldo Rossi must be considered to be the source of a very particular interpretation of urban form. According to Rossi, urban form is the result of a patchwork in which different features are stitched together. He envisages a coexistence of different features, each of which belongs to a clearly identifiable interpretation of city form; yet no one

interpretation is able to encompass all the others within a single image, and no urban design strategy is able to erase the pre-existing interpretations. New and existing views cannot then be gathered together into a unique morphological perspective. Therefore he has pursued the urban design strategy expressed by Law Number 167 of 1962, which introduced the PEEP (*Piano di Edilizia Economica e Popolare*, or Plan for low-income housing programme). According to this legislation, new low-income housing should act in the cityscape as self-contained, autonomous urban features, where residential buildings and corresponding services fit together. To express this notion, he introduced the concept of *città per parti* (the patchwork city), an idea clearly enunciated in *L'architettura della città*.<sup>37</sup> This volume enjoyed worldwide success but offers no systematic methods owing mainly to its inception as a collection of papers written largely during the years of his apprenticeship as a teaching assistant to Carlo Aymonino in Venice.<sup>38</sup> Although he wrote of the city as a *manufatto* (manufacture), suggesting the idea of the unity and organic nature of the cityscape, this label is more appropriately interpreted as an attempt to define an urban theory based solely on spatial arrangement, in accord mainly with the contributions of architects and geographers. In fact, he considered explanatory interpretations of urban form based only on political, social and economic aspects as insufficient, although he was very aware that those subjects were part of the interdisciplinary nature of architecture. As a consequence, he aimed his criticism at functionalism and organicism; both derived, in his opinion, from a positivistic approach to building in the broad sense. The correspondence of form to function cannot explain the permanence of architectural forms over the centuries, even if those forms are updated to meet new needs.

This provided the basis for his criticism of the *Existenzminimum* (minimum space for living) and its correspondence with the idea of *Siedlungen* (working-class quarter). Rossi

considered these ideas and their realization to be merely an attempt to translate a specific political objective into a formal goal. The relation between form and function is so close that, once completed and once the historical limitations that prompted the design no longer apply, the corresponding urban form immediately lacks significance and reveals its precarious nature due to the application of an abstract set of rules.<sup>39</sup>

In contrast, Rossi emphasized the importance of Le Corbusier's *Maison Domino* as a system of solutions that enables us to solve different problems over space and time. Consequently, he directed his research efforts to finding spatial arrangements indifferent to social, technical and political constraints, and relevant to the entire historical development of the cityscape. He was not interested in the evolution of the concept of 'house' over space and time because of its contingency and ephemeral value, but he was more generally interested in the residential area, which encompasses a wider time span and shows more consistency.

Rossi interpreted the evolution of the cityscape as a dialectical opposition between *elementi primari* (primary elements) and *aree-residenza* (residential areas). The former were considered to be the generators of a specific urban form and capable of accelerating the urbanization process. In some, but not all, cases they are identified with monuments and are totally independent of functions that change relatively frequently. Primary elements are revealed through formal permanence. In contrast, residential areas undergo a continuous transformation of internal components, mainly single plots, which he considered irrelevant to urban form, demonstrating their contingent and precarious nature.

According to Rossi's interpretation, the concept of type gives primary elements a character of permanence and stability that endows them with the capacity to accommodate changing needs. As a consequence, Rossi firmly rejected the historical dimension of type. Type becomes a constant that

applies to all urban facts. Hence architecture, in its individuality, could be considered a historical interpretation of the type, according to specific constraints. Architecture is a historical interpretation of a universal concept of type.

If Rossi believed that type does not evolve and does not undergo transformations, his definition seems more closely to fit that of 'archetype'. As stated in *L'Architettura della città*, the configurations to which the term type apply are clearly considered primary and widely-shared spatial arrangements according to which all architecture is made. Architectural history can then be considered nothing but a repetition of such archetypal configurations, and their permanence over time is an implicit legitimization of their strength. According to this interpretation, form should be considered as a permanent, universal and static matter.

However, the archetype also refers to the creation of architecture. In the archetype, creative episodes and the architectural signs that are their trace are clearly identified. By reading those signs, Rossi was able to interpret and discover the complex history of the city. The close relationship between his particular interpretation of urban form and a theory of urban design was expressed more directly in the idea of *La città analoga* (the analogous city)<sup>40</sup> and the '*Tendenza*',<sup>41</sup> the latter becoming a cultural movement promoting the former. According to the idea of *tendenza*, urban design is seen as a compositional exercise whose components are predetermined. The meaning of urban analysis emerges at the end of the design process from the system of relations among all the predetermined components.

Gianugo Polesello shared Rossi's theory of urban design,<sup>42</sup> even if he did not share the view that architecture is simply the result of a continuous process of interpretation of permanent formal configurations.<sup>43</sup> According to Polesello, the type is the 'structure' of the architectural form. The term 'structure' expresses the system of components and mutual relationships that define form, which is seen as a logical matter

independent of its physical substance and ultimate use. Construing type as a logical entity implies the existence of 'composition' as a more general language for design theory, according to which different types can be obtained. The elements of the composition are therefore 'components', 'parts' and 'totality'. Polesello considered composition to be an act of synthesis. He also affirmed that composition can use existing types as components or parts of a new type or modify existing types. The relation with history does not, therefore, affect the legitimacy of the formal procedures.

Polesello clearly expressed his debt to Enlightenment theories of architecture and urban design, especially that of J.N.L. Durand, adapting them in the search for an ultimate abstraction. As a consequence, the components of composition are no longer pillars, columns, doors, windows etc, but primary geometric solids; the parts are no longer vestibules, rooms, stairs, courts etc, but merely aggregations of simple geometries. His approach can explain many aspects of Modernism but obviously cannot be successfully applied to understanding the evolution of traditional settlements because of the different nature of the chosen parameters.

Giorgio Grassi's contribution to urban morphology and building typology has a similar aim. In *La costruzione logica dell'architettura*,<sup>44</sup> he stressed the importance of type, independent of its historical use, as the logical structure and inner rationality of form, yet having no necessary relation to the functional programme. Form appears as the result of an arrangement of components simply guided by composition and its laws. Laws of composition change as aspirations change in the course of time. The constructive aspect came to play a clear role merely as a phase in a succession: a moment of material definition of a logical spatial arrangement. Accordingly, Grassi analyzed contrasting situations, using different case studies to show the specific nature of the assumed laws.<sup>45</sup> In his theory of design, the components he used are derived from the

history of architecture, independently of any local constraints. He chose those components in order to show the possibility of a dialogue between the traditional and the contemporary. But obviously, when the quotations derive from a tectonic tradition developed over time and rooted in a particular place, this approach inevitably leads to a sort of implicit misunderstanding of the sources quoted.

### The theory of modification

Carlo Aymonino might be considered as the first author to attempt systematically to legitimate the potential of Modernism to transform the historical city in its entirety. It is not by chance that he recognized the importance of Saverio Muratori's work in establishing the strong connection between urban morphology and building typology. Aymonino shared Muratori's view about the connection but, at the same time, was careful to keep a clear critical distance from his attempt to identify structure with history.<sup>46</sup> According to Aymonino, to equate the two would be to subordinate current social, cultural, political and economic aspirations to the inherited material constraints of history.

Aymonino clearly held to the aim of dismantling the historical monocentric urban model and substituting it with a decentred strategy. According to that strategy, new urban foci should be scattered far from the old kernel to become the leading attractors within new residential areas. For Aymonino, the New Town experience shows the potential of this new system of urban design.<sup>47</sup>

To illustrate his view, Aymonino started with the Enlightenment period, during which, according to Muratori, the crisis of architecture and its progressive loss of identity began. As clearly stated in *Il significato delle città*,<sup>48</sup> Aymonino saw in the rise of bourgeois culture the first clear attempt to satisfy social demands for which there was no precedent and which did not permit a compromise with the *ancien régime*.<sup>49</sup> This inevitably led to a search for

new prototypes, as opposed to the modification of old buildings that had normally been the case up to that time.<sup>50</sup> According to the Marxist interpretation, architecture is in fact a 'superstructure', in other words, an intentional representation of the economic, social, and political values that create it. Thus, according to Aymonino, the bourgeoisie attempted to distance themselves from history and give form to a new model for society. He also analyzed the Enlightenment strategy of transforming a substantially medieval city into a modern one by acting on it in a discontinuous way, through the location of new institutional buildings. The disposition of new buildings within the existing city could rearrange the way it functions, as was demonstrated for the first time by Paule Patte's aerial vision of Paris. This specific planning goal led Aymonino to prefer the study of proto-modern and modern architecture<sup>51</sup> rather than focusing on traditional culture.<sup>52</sup>

An approach similar to that of Aymonino was taken by Guido Canella. During the 1960s it was already clear that to overcome the principle of functionalism it was necessary to focus on the close relation between urban morphology and building typology. The connection between the two underlines the impossibility of defining architectural form simply according to an inner rationality inherent in the design brief or programme. In fact, the brief is never natural or neutral, but is always intentional and cultural and, as such, systematically changes as does every specific product of a society. For Canella, this led to the identification in the city of a field or matrix out of which society manifests itself in unpredictable modifications of habits.<sup>53</sup> Accordingly, Canella considered the metropolitan model to be the most accurate representation of the situation currently faced by society. Architects should, therefore, move in the direction of suiting their work to the mechanism that drives and creates it. Mass society facilities could then act as the social 'condensers' around which a new way of living might arise. Canella, now working

in the metropolitan area of Milan, has created the opportunity to verify what Aymonino had essentially theorized: the idea that new foci can transform the existing city. This accords with the interest shown by both Canella and Aymonino in Modernist traditions and in the logic of discontinuity reinforced by the creation of more and more extensive infrastructure and greater mobility. Consistent with this attitude toward planning, Canella always tried to analyze urban form transformations over time, sharing with others his work as a member of the *Gruppo Architettura*.<sup>54</sup>

Antonio Monestiroli takes a similar approach to urban design, as is evident in his *Temi urbani*.<sup>55</sup> He considers Modernism, however, to be the result of a transformative process of the traditional city through a sort of 'handicraft' method. According to this view, the material forms of the city have been deprived of their original reasons for existence in order to address the needs of current society, even if that might be considered a paradoxical statement. Despite his identification of a coherent transformative process in analysis, he takes a random approach to the creation of form that avoids any sort of evolutionary interpretation. Monestiroli expresses the concept of modification and transformation simply to justify reinstating a constructive relation between tradition and innovation in order to find urban design strategies that provide an alternative to the functionalistic rejection of history. Referring in particular to the significant transformations that emerged within so-called proto-industrial society, he defines the implied consequences for urban planning with precision and underlines the corresponding consequences for transformations. For instance, the comparison between closed and open city models leads Monestiroli to a clear understanding of the transformation undergone by current theories of urban design and their components. For example, large open green spaces, in the shape of public parks, have progressively assumed the connective role that once belonged to building tissue (*tessuto*). The

campus model has overwhelmed the high-density city.

By always deriving forms from the past, independent of local constraints, Monestiroli tends to emphasize the importance of architectural language. The existence of architectural language implies that various expressions have a generic similarity, independent of their specific nature, as is demonstrated by the similarity of buildings from a given historical period, regardless of their type. This focus on language is necessary because one must take into account the modifications that inevitably arise out of cultural changes and have different impacts on existing objects and tissues. A consequence of modifications is that, for the purposes of defining an architectural language, language turns out to be more wide-ranging and far-reaching than type, a point made by Monestiroli in *L'architettura della realtà*.<sup>56</sup> A single language can be used in a wider variety of situations. The language thus becomes a unifying factor, capable of interrelating the different features of a building, independently of its nature. If buildings are then differentiated depending on their function, the language takes on special meaning, assuming the role of a metaphorical connective tissue.

## Conclusion

This review has sought to demonstrate how, in Italy, the concept of type has always had a strong and systematic connection to the design of urban form. This conclusion does not, however, imply a direct correspondence between the two terms in the different historical perspectives outlined in the paper. In fact, if urban design, in simple terms, expresses the intention to transform buildings and the public realm in response to emerging expectations and needs, type has always represented the translation of that intention in terms of spatial arrangement.

Architectural language has always been identified as the unifying feature capable of transforming the irreducible specificity of

different urban phenomena into transmissible 'signs'. To define the type as a sign implies, therefore, establishing a direct correspondence between the formal process, which is the architectural language, and the results obtained through its practice. Each type cannot be interpreted according to the same language. The ideological approach to urban form that entails interpreting all building types according to a unique language rather than focusing on the relevant historical ones, seems to be the source of recurrent misunderstandings in urban morphology. The systematic attempt to interpret urban form not as it really was, but as it should be, according to an evident prejudice, has unfortunately reduced the importance of architectural language, in all its richness, as the real unifying and historical factor in urban morphology and the theory of urban design. Any revisionism should seek to rectify this, with the same strength that has been evident over the last decade in other disciplinary fields.

## Notes

1. This concept was clearly developed in Samonà, G. (1975) 'I concetti di standard e di tipologia nell'urbanistica', in Samonà, G. *L'unità architettura-urbanistica. Scritti e progetti: 1929-1973* (Franco Angeli, Milano).
2. The idea of comparing urban morphological strategies according to a single ideological formation has unfortunately never been translated into practice. See Samonà, G. (1965) 'Città e territorio negli aspetti funzionali e figurativi della pianificazione continua', in *Proceedings of the Tenth INU Congress* (Istituto Nazionale di Urbanistica, Trieste).
3. For a wide range of interpretations of the concept of type see Argan, G. (1965) 'Sul concetto di tipologia architettonica', in Argan, G. *Progetto e destino* (Il Saggiatore, Milano), 75-81.
4. This concept is systematically developed in Caniggia, G. and Maffei G.L. (1978) *Lettura dell'edilizia di base* (Marsilio Editori, Padova).

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5. The text has obviously undergone various modifications, but the original structure remains intact.
  6. Giovannoni, G. (1931) *Vecchie città ed edilizia nuova* (Unione Tipografico-Editrice Torinese, Torino).
  7. His first expression of this was published in Giovannoni, G. (1913) 'La teoria del diradamento edilizio', *Nuova Antologia* 997, while Pierre Lavedan's law is introduced in Lavedan, P. (1926) *Qu'est-ce que l'urbanisme?* (Unione Tipografico-Editrice Torinese, Paris).
  8. Pagano, G. and Daniel, G. (1936) *Architettura rurale italiana* (Ulrico Hoepli Editore, Milano).
  9. See Rogers, E.N. (1958) *Esperienza dell'architettura* (Giulio Einaudi Editore, Torino).
  10. Muratori, S. (1949/50) 'Vita e storia della città', *Rassegna critica di Architettura* 11-12, 3-52.
  11. Muratori, S. (1959/60) *Studi per una operante storia urbana di Venezia* (Istituto Poligrafico dello Stato, Roma).
  12. Muratori, S. (1963) *Studi per una operante storia urbana di Roma* (Centro Studi di Storia Urbanistica, Roma).
  13. See, for example, Caniggia, G. (1963) *Letture di una città: Como* (Centro Studi di Storia Urbanistica, Roma); Caniggia and Maffei (1978) *op. cit.* (note 4); Caniggia, G. and Maffei G.L. (1981) *Strutture dello spazio antropico* (Alinea, Firenze); Caniggia, G. and Maffei, G.L. (1984) *Il progetto dell'edilizia di base* (Marsilio Editori, Venezia).
  14. See, for example, Maretto, P. (1960) 'L'edilizia gotica veneziana', *Palladio*, 3-4, 123-201; Maretto, P. (1980) *Realtà naturale e realtà costruita* (Uniedit, Firenze) 355; Maretto, P. (1986) *La casa veneziana nella storia della città. Dalle Origini all'Ottocento* (Marsilio Editori, Venezia) 564.
  15. See Giannini, A. (1964) *Corso di lezioni sul territorio* (Istituto di metodologia Architettura, Roma); Giannini, A. (1976) *L'organismo territoriale* (Istituto di Progettazione Architettura, Genova); Giannini, A. (1980) *L'individuo territoriale* (Istituto di Progettazione Architettura, Genova).
  16. Bollati, R. (1976) *Metodo di lettura delle strutture urbane, attraverso le fasi evolutive, applicato ai centri calabresi di Gerace, Cosenza, Reggio Calabria. Ipotesi di lavoro* (Istituto Universitario Statale di Architettura, Reggio Calabria); Bollati, S. (1976) *Tesi storiche relative alla formazione ed allo sviluppo di un aggregato antico attraverso la lettura delle sue strutture allo stato attuale* (Istituto Universitario Statale di Architettura, Reggio Calabria); Bollati, R., (1980) *Metodo di lettura delle strutture urbane, attraverso le fasi evolutive* (Istituto Universitario Statale di Architettura, Reggio Calabria); Bollati, S. (1980) *Formazione e sviluppo di un aggregato antico* (Istituto Universitario Statale di Architettura, Reggio Calabria); Bollati, R., Bollati, S. and Lonetti G. (1990) 'L'organismo architettonico. Metodo grafico di lettura', *Studi e Documenti di Architettura*.
  17. See Cataldi, G. (1972) *Sistemi statici in architettura* (G.e G., Firenze); Cataldi, G. (1972) 'Il territorio della piana di Gioia Tauro', *Studi e Documenti di Architettura*; Cataldi, G. (1977) *Per una scienza del territorio. Studi e note* (Uniedit, Firenze); Cataldi, G., Farneti, F., Larco, R., Pellegrino, F. and Tamburini, P. (1982) *I tipi 'radice'* (Alinea, Firenze).
  18. See Vaccaro, P. (1968) *Tessuto e tipo edilizio a Roma, dalla fine del XIV sec. alla fine del XVIII sec.* (Centro Studi di Storia Urbanistica, Roma); Vaccaro, P. (1980) *Cortona: il piano del centro storico e la sua gestione* (Comune di Cortona, Cortona); Vaccaro, P., Gialluca, B. and Lavagnino, E. (1987) *Cortona struttura e storia. Materiali per una conoscenza operante della città e del territorio* (Editrice Grafica L'Etruria, Cortona).
  19. See Caniggia and Maffei (1978) *op. cit.* (note 4); Maffei, G.L. (1981) *La progettazione edilizia a Firenze* (Marsilio Editori, Venezia); Caniggia and Maffei (1984) *op. cit.* (note 13); Maffei, G.L. (1990) *La casa fiorentina nella storia della città* (Marsilio Editori, Venezia); Bascià, L., Carlotti, P. and Maffei, G.L. (2000) *La casa romana nella storia della città dalle origini all'Ottocento* (Alinea, Firenze).
  20. The revival of interest in traditional dwelling types and urban tissues has inspired Claudio D'Amato at the Politechnic of Bari to bring
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- together a group of researchers led by Attilio Petruccioli and Giuseppe Strappa, all of whom come from the *scuola muratoriana*.
21. Dickens, C. (1854) *Hard times* (Tauchnitz, Leipzig); Engels, F. (1845) *Die Lange der arbeitenden Klasse in England* (Wigand, Leipzig), published in English translation as *The condition of the working class in England*, 1892.
  22. Le Corbusier (C.E. Jeanneret) (1933) *La ville radiieuse*, published in English translation as *The radiant city*, 1967.
  23. Diotallevi, I. and Marescotti, F. (1974) *Il problema sociale, economico e costruttivo dell'abitazione* (Edizioni Il Poligono, Milano).
  24. See Diotallevi, I., Marescotti, F. and Pagano, G. (1940) 'Quartiere della Città Orizzontale', *Costruzioni Casabella* 148.
  25. Carbonara, P. (1954) *Architettura pratica* (Unione Tipografico-Editrice Torinese, Torino).
  26. For a wider perspective on the urban theories of CIAM see Mumford, E.P. (2000) *The CIAM discourse on urbanism, 1928-1960* (MIT Press, Cambridge, Mass.).
  27. Tafuri, M. (1968) *Teoria e storia dell'architettura* (Laterza, Bari).
  28. Samonà, G. (1959) *L'urbanistica e l'avvenire della città* (Laterza, Bari).
  29. To understand the cultural atmosphere of this period it is important to read Samonà, G. (1964) *La città territorio* (De Donato Editore, Bari).
  30. Gregotti, V. (1966) *Il territorio dell'architettura* (Feltrinelli, Milano).
  31. To understand the similarity of Quarini's approach to the analysis of urban form to that of Muratori see Quaroni, L. (1977) *Progettare un edificio. Otto lezioni di architetturae* (Giuseppe Mazzotta Editore, Milano); Quaroni, L. (1996) *Il progetto per la città. Dieci lezioni* (Edizioni Kappa, Roma).
  32. Quaroni, L. (1966) *La torre di Babele* (Marsilio, Padova).
  33. See Dardi, C. (1971) *Il gioco Sapiente* (Marsilio, Padova); Dardi, C. (1976) *Semplice, lineare, complesso. L'acquedotto di Spoleto* (Kappa, Roma).
  34. See Purini, F. (1980) *L'architettura didattica* (Casa del libro Editrice, Reggio Calabria).
  35. See the works collected in Purini, F. (1976) *Luogo e progetto* (Kappa, Roma).
  36. See Purini (1980), *op. cit.* (note 34).
  37. Rossi, A. (1966) *L'architettura della città* (Marsilio, Padova).
  38. Among the most famous of these papers are Rossi, A. (1964) 'Considerazioni sulla morfologia urbana e la tipologia edilizia', and 'I problemi tipologici e la residenza', in Rossi, A. *Aspetti e problemi della tipologia edilizia* (Cluva, Venezia) 15-31; Rossi, A. (1964) 'Aspetti della tipologia residenziale a Berlino', *Casabella Continuità* 288.
  39. The importance of the set of rules defining building in the development of city form is also stressed in Rossi, A. (1966) 'Tipologia, manualistica e architettura', in Rossi, A. *Rapporti tra morfologia urbana e tipologia edilizia* (Cooperativa Libreria Universitaria di Venezia, Venezia) 69-81.
  40. Rossi, A. (1975) 'Introduzione all'edizione portoghese de 'L'architettura della città'', in Bonicalzi, R. (ed.) *Aldo Rossi. Scritti scelti sull'architettura e la città, 1956-1972* (Città Studi Edizioni, Milano) 443-53.
  41. Rossi, A. (1975) 'L'architettura della ragione come architettura di tendenza', in Bonicalzi (ed.) *op. cit.* 370-8 (note 40).
  42. Grandinetti, P. (1983) 'Gli elementi del progetto', in Polesello, G. (ed.) *Progetti di architettura* (Kappa, Roma) 5-10.
  43. See Polesello, G. (1969) 'L'architettura e la progettazione della città e nella città', in *Gruppo Architettura, per una ricerca di progettazione 1* (Istituto Universitario di Architettura di Venezia, Venezia); Polesello, G. (1982) 'La composizione architettonica e la progettazione urbana. Procedure ed esperienze', in Trame, U. (ed.) *Tipi architettonici e fatti urbani* (Cooperativa Libreria Universitaria di Venezia, Venezia).
  44. Grassi, G. (1967) *La costruzione logica dell'architettura* (Marsilio, Padova).
  45. Grassi, G. (1979) *L'architettura come mestiere e altri scritti* (Franco Angeli, Milano).
  46. Aymonino, C. (1967) *Lo studio dei fenomeni urbani* (Laterza, Bari).
  47. See Aymonino, C. and Giordani P. (1967) *I centri direzionali* (De Donato, Bari).
  48. Aymonino, C. (1974) *Il significato della città* (Laterza, Bari).
  49. *Ibid.*
  50. This concept is also developed in Aymonino,

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- C. (1966) 'La formazione di un moderno concetto di tipologia edilizia', in Aymonino, C. *Rapporti tra la morfologia urbana e la tipologia edilizia* (Cooperativa Libreria Universitaria di Venezia, Venezia) 12-51.
51. Aymonino, C. (1975) *Le capitali del XIX secolo: Parigi e Vienna* (Officina, Roma); Aymonino, C. (1971) *Origini e sviluppo della città moderna* (Marsilio, Venezia).
52. The most important exception is Aymonino, C., Brusatin, M., Fabbri, G., Lena, M., Lovero, P., Lucianetti, S. and Rossi, A. (1970) *La città di Padova* (Officina, Roma).
53. Canella, G. (1965) 'Relazioni tra morfologia, tipologia dell'organismo architettonico e ambiente fisico', in Canella, G. *L'Utopia della realtà* (De Donato Editore, Bari) 66-81.
54. Canella, G. (1984) *Per un'idea di città. La ricerca del Gruppo Architettura a Venezia (1968-1974)* (Cooperativa Libreria Universitaria di Venezia, Venezia).
55. Monestiroli, A. (2000) *Temi urbani* (Laterza, Bari) 82.
56. Monestiroli, A. (1976) *L'architettura della realtà* (Laterza, Bari).
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