Rossi identifies the Palazzo della Ragione in Padua as an example of an urban artefact. It was constructed from 1172 to 1219 as the town hall. Its large roof, covering three large rooms without columns, was completed at the beginning of the 14th century. The three rooms were combined into one large meeting hall, and a front arcade with connecting stairs were added after a fire in the mid-15th century. For Rossi it is an example of how a multiplicity of functions can be accommodated over time, including an informal market on the ground floor, while the overall form of the structure remains intact, giving the figure a sense of permanence in changing times.

The Architecture of the City

Aldo Rossi

Aldo Rossi's insertion of the preposition 'of' between architecture and the city constitutes a powerful critique of Modernist urbanism and the fixation on the architecture of individual buildings *in* rather than *of* the city. Rossi defines the architecture of the city as the persistence and change evident in the physical fabric of the city as an artefact in time. Rossi finds that urban artefacts can serve multiple functions over time, independent of their function. For Rossi, the architecture of the city can be read in its *morphology* and *typology*. Urban morphology is a description of the form of an urban artefact, while urban typology identifies the sets of rules or structuring principles and is located in the transformation and adaptations of forms and types of habitation, such as in the creation of microclimates. This chapter offers brief selections from Rossi's description of the morphology of urban artefacts, typology, classification systems and the process of transformation of the architecture of the city in time.

The Individuality of Urban Artefacts

Our description of the city will be concerned primarily with its form. This form depends on real facts, which in turn refer to real experiences: Athens, Rome, Paris. The architecture of the city summarises the city's form, and from this form we can consider the city's problems.

By architecture of the city we mean two different things: first, the city seen as a gigantic man-made object, a work of engineering and architecture that is large and complex and growing over time; second, certain more limited but still crucial aspects of the city, namely urban artefacts, which like the city itself are characterised by their own history and thus by their own form. In both cases architecture clearly represents only one aspect of a more complex reality, of a larger structure; but at the same time, as the ultimate verifiable fact of this reality, it constitutes the most concrete possible position from which to address the problem.

We can understand this more readily by looking at specific urban artefacts, for immediately a series of obvious problems opens up for us. We are also able to perceive certain problems that are less obvious: these involve the quality and the uniqueness of each urban artefact.

In almost all European cities there are large palaces, building complexes or agglomerations that constitute whole pieces of the city and whose function now is no longer the original one. When one visits a monument of this type, for example the Palazzo della Ragione in Padua, one is always surprised by a series of questions intimately associated with it. In particular, one is struck by the multiplicity of functions that a building of this type can contain over time and how these functions are entirely independent of the form. At the same time, it is precisely the form that impresses us; we live it and experience it, and in turn it structures the city.

Where does the individuality of such a building begin and on what does it depend? Clearly it depends more on its form than on its material, even if the latter plays a substantial role; but it also depends on being a complicated entity that has developed in both space and time. We realise, for example, that if the architectural construction we are examining had been built recently, it would not have the same value. In that case the architecture in itself would be subject to judgement, and we could discuss its style and its form; but it would not yet present us with that richness of its own history characteristic of an urban artefact.

In an urban artefact, certain original values and functions remain, others are totally altered; about some stylistic aspects of the form we are certain, others are less obvious. We contemplate the values that remain – I am also referring to spiritual values – and try to ascertain whether they have some connection with the building's materiality, and whether they constitute the only empirical facts that pertain to the problem. At this point, we might discuss what our idea of the building is, our most general memory of it as a product of the collective, and what relationship it affords us with this collective.

It also happens that when we visit a palazzo like the one in Padua or travel through a particular city, we are subjected to different experiences, different impressions. There are people who do not like a place because it is associated with some ominous moment in their lives; others attribute an auspicious character to a place. All these experiences, their sum, constitute the city. It is in this sense that we must judge the *quality* of a space – a notion that may be extremely difficult for our modern sensibility. This was the sense in which the ancients consecrated a place, and it presupposes a type of analysis far more profound than the simplistic sort offered by certain psychological interpretations that rely only on the legibility of form.

We need, as I have said, only consider one specific urban artefact for a whole string of questions to present themselves; for it is a general characteristic of urban artefacts that they return us to certain major themes: individuality, locus, design, memory. A particular type of knowledge is delineated along with each artefact, a knowledge that is more complete and different from that with which we are familiar. It remains for us to investigate how much is real in this complex of knowledge.

I repeat that the reality I am concerned with here is that of the architecture of the city – that is, its form, which seems to summarise the total character of urban artefacts, including their origins. Moreover, a description of form takes into account all of the empirical facts we have already alluded to and can be quantified through rigorous observation. This is in part what we mean by urban morphology: a description of the forms of an urban artefact. On the other hand, this description is nothing but one moment, one instrument. It draws us closer to a knowledge of structure, but it is not identical with it.
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Typological Questions

The city as above all else a human thing is constituted of its architecture and of all those works that constitute the true means of transforming nature. Bronze Age men adapted the landscape to social needs by constructing artificial islands of brick, by digging wells,

drainage canals and watercourses. The first houses sheltered their inhabitants from the external environment and furnished a climate that man could begin to control; the development of an urban nucleus expanded this type of control to the creation and extension of a microclimate. Neolithic villages already offered the first transformations of the world according to man's needs. The 'artificial homeland' is as old as man.

In precisely this sense of transformation the first forms and types of habitation, as well as temples and more complex buildings, were constituted. The *type* developed according to both needs and aspirations to beauty; a particular type was associated with a form and a way of life, although its specific shape varied widely from society to society. The concept of type thus became the basis of architecture, a fact attested to both by practice and by the treatises.

It therefore seems clear that typological questions are important. They have always entered into the history of architecture, and arise naturally whenever urban problems are confronted. Theoreticians such as Francesco Milizia never defined type as such, but statements like the following seem to be anticipatory: 'The comfort of any building consists of three principal items: its site, its form and the organization of its parts.'[1] I would define the concept of type as something that is permanent and complex, a logical principle that is prior to form and that constitutes it.

One of the major theoreticians of architecture, Quatremère de Quincy, understood the importance of these problems and gave a masterly definition of type and model:

> The word 'type' represents not so much the image of a thing to be copied or perfectly imitated as the idea of an element that must itself serve as a rule for the model … The model, understood in terms of the practical execution of art, is an object that must be repeated such as it is; type, on the contrary, is an object according to which one can conceive works that do not resemble one another at all. Everything is precise and given in the model; everything is more or less vague in the type. Thus we see that the imitation of types involves nothing that feelings or spirit cannot recognize …

> We also see that all inventions, notwithstanding subsequent changes, always retain their elementary principle in a way that is clear and manifest to the senses and to reason. It is similar to a kind of nucleus around which the developments and variations of forms to which the object was susceptible gather and mesh. Therefore a thousand things of every kind have come down to us, and one of the principal tasks of science and philosophy is to seek their origins and primary causes so as to grasp their purposes. Here is what must be called 'type' in architecture, as in every other branch of human inventions and institutions.[2] […]

In the first part of this passage, the author rejects the possibility of type as something to be imitated or copied because in this case there would be, as he asserts in the second part, no 'creation of the model' – that is, there would be no making of architecture. The second

part states that in architecture (whether model or form) there is an element that plays its own role, not something to which the architectonic object conforms but something that is nevertheless present in the model. This is the *rule*, the structuring principle of architecture.

In fact, it can be said that this principle is a constant. Such an argument presupposes that the architectural artefact is conceived as a structure and that this structure is revealed and can be recognised in the artefact itself. As a constant, this principle, which we can call the typical element, or simply the type, is to be found in all architectural artefacts. It is also then a cultural element and as such can be investigated in different architectural artefacts; typology becomes in this way the analytical moment of architecture, and it becomes readily identifiable at the level of urban artefacts.

Thus typology presents itself as the study of types of elements that cannot be further reduced, elements of a city as well as of an architecture. The question of monocentric cities or of buildings that are or are not centralised, for example, is specifically typological; no type can be identified with only one form, even if all architectural forms are reducible to types. The process of reduction is a necessary, logical operation, and it is impossible to talk about problems of form without this presupposition. In this sense all architectural theories are also theories of typology, and in an actual design it is difficult to distinguish the two moments. [...]

Ultimately, we can say that type is the very idea of architecture, that which is closest to its essence. In spite of changes, it has always imposed itself on the 'feelings and reason' as the principle of architecture and of the city.

While the problem of typology has never been treated in a systematic way and with the necessary breadth, today its study is beginning to emerge in architecture schools and seems quite promising. I am convinced that architects themselves, if they wish to enlarge and establish their own work, must again be concerned with arguments of this nature.[3] Typology is an element that plays its own role in constituting form; it is a constant. The problem is to discern the modalities within which it operates and, moreover, its effective value.

Certainly, of the many past studies in this field, with a few exceptions and save for some honest attempts to redress the omission, few have addressed this problem with much attention. They have always avoided or displaced it, suddenly pursuing something else – namely *function*. Since this problem of function is of absolutely primary importance in the domain of our inquiry, I will try to see how it emerges in studies of the city and urban artefacts in general and how it has evolved. Let us say immediately that the problem can be addressed only when we have first considered the related problems of description and classification. For the most part, existing classifications have failed to go beyond the problem of function.
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Problems of Classification

In my summary of functionalist theory I have deliberately emphasised those aspects that have made it so predominant and widely accepted. This is in part because functionalism has had great success in the world of architecture, and those who have been educated in

this discipline over the past 50 years can detach themselves from it only with difficulty. One ought to inquire into how it has actually determined modern architecture, and still inhibits its progressive evolution today; but this is not an issue I wish to pursue here.
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The task of human geography is to study the structures of the city in connection with the form of the place where they appear; this necessitates a sociological study of place. But before proceeding to an analysis of place, it is necessary to establish a priori the limits within which place can be defined. Tricart[4] thus establishes three different orders or scales:

1   The scale of the street, including the built areas and empty spaces that surround it.
2   The scale of the district, consisting of a group of blocks with common characteristics.
3   The scale of the entire city, considered as a group of districts.

The principle that renders these quantities homogeneous and relates them is social content.

On the basis of Tricart's thesis, I will develop one particular type of urban analysis which is consistent with his premises and takes a topographical point of view that seems quite important to me. But before doing so, I wish to register a fundamental objection to the scale of his study, or the three parts into which he divides the city. That urban artefacts should be studied solely in terms of place we can certainly admit, but what we cannot agree with is that places can somehow be explained on the basis of different scales. Moreover, even if we admit that the notion is useful either didactically or for practical research, it implies something unacceptable. This has to do with the *quality* of urban artefacts.

Therefore while we do not wholly deny that there are different scales of study, we believe that it is inconceivable to think that urban artefacts change in some way as a result of their size. The contrary thesis implies accepting, as do many, the principle that the city is modified as it extends, or that urban artefacts in themselves are different because of the size at which they are produced. As was stated by Richard Ratcliff:

> To consider the problems of locational maldistribution only in the metropolitan context is to encourage the popular but false assumption that these are the problems of size. We shall see that the problems to be viewed crop up in varying degrees of intensity in villages, towns, cities, and metropolises, for the dynamic forces of urbanism are vital wherever men and things are found compacted, and the urban organism is subject to the same natural and social laws regardless of size. To ascribe the problems of the city to size is to imply that solutions lie in reversing the growth process, that is, in deconcentration; both the assumption and the implication are questionable.[5]

At the scale of the street, one of the fundamental elements in the urban landscape is the inhabited real estate and thus the structure of urban real property. I speak of inhabited real estate and not the house because the definition is far more precise in the various

European languages. Real estate has to do with the deed registry of land parcels in which the principal use of the ground is for construction. The usage of inhabited land in large measure tends to be residential, but one could also speak of specialised real estate and mixed real estate, although this classification, while useful, is not sufficient.

To classify this land, we can begin with some considerations that are apparent from plans. Thus we have the following:

1   A block of houses surrounded by open space.
2   A block of houses connected to each other and facing the street, constituting a
    continuous wall parallel to the street itself.
3   A deep block of houses that almost totally occupies the available space.
4   Houses with closed courts and small interior structures.

A classification of this type can be considered descriptive, geometric or topographic. We can carry it further and accumulate other classificatory data relative to technical equipment, stylistic phenomena, the relationship between green and occupied spaces, etc. The questions this information gives rise to can lead us back to the principal issues which are, roughly speaking, those that deal with:

1   Objective facts.
2   The influence of the real-estate structure and economic data.
3   Historical-social influences.

The real-estate structure and economic questions are of particular importance and are intimately bound up with what we call historical-social influences. […] For now, we will continue with the subject of real-estate structure and economic data, even if the second is given summary treatment.

The shape of the plots of land in a city, their formation and their evolution, represents a long history of urban property and of the classes intimately associated with the city. Tricart has stated very clearly that an analysis of the contrasts in the form of plots confirms the existence of a class struggle. Modifications of the real-estate structure, which we can follow with absolute precision through historical registry maps, indicate the emergence of an urban bourgeoisie and the phenomenon of the progressive concentration of capital. […]

Real estate, which we considered earlier from a topographic point of view, also offers other possibilities of classification when seen in a socio-economic context.

We can distinguish the following:

1   The 'pre-capitalist' house, which is established by a proprietor without exploitative ends.
2   The 'capitalist' house, which is meant for rental and in which everything is
    subordinated to the production of revenue. Initially it might be intended either
    for the rich or the poor, but in the first case, following the usual evolution of
    needs, the house drops rapidly in class status in response to social changes.

These changes in status create blighted zones, one of the most typical problems of the modern capitalist city and as such the object of particular study in the United States, where they are more evident than in Italy.

3   The 'para-capitalist' house, built for one family with one floor rented out.

4   The 'socialist' house, which is a new type of construction appearing in socialist countries where there is no longer private land ownership and also in advanced democratic countries. Among the earliest European examples are the houses constructed by the city of Vienna after the First World War.

When this analysis of social content is applied with particular attention to urban topography, it becomes capable of providing us with a fairly complete knowledge of the city; such an analysis proceeds by means of successive syntheses, causing certain elementary facts to come to light, which ultimately encompass more general facts. In addition, through the analysis of social content, the formal aspect of urban artefacts takes on a reasonably convincing interpretation, and a number of themes emerge that play an important role in the urban structure.
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Processes of Transformation

The relationship between the dwelling areas and the primary elements of a city is responsible for configuring that city in a specific way. If this can be demonstrated in cities in which historical events have always acted to unify disparate elements, it is even more apparent in the case of cities that have never managed to integrate in an overall form the urban artefacts that constitute them: thus London, Berlin, Vienna, Rome, Bari and many other cities.

In Bari,[6] for example, the ancient city and the walled city constitute two extremely different, almost unrelated artefacts. The ancient city has never been enlarged; its nucleus is completely defined as a form. Only its principal street, which served to link it to the surrounding region, emerges intact and permanent in the texture of the walled city. In cases of this type there is always a close connection between primary elements and the area; often this connection becomes an urban artefact so absolutely predominant that it constitutes a characteristic of the city, for the city is invariably the sum of its artefacts.

Morphological analysis, one of the most important instruments for studying the city, brings these aspects into full view. Amorphous zones do not exist in the city, or where they do, they are moments of a process of transformation; they represent inconclusive times in the urban dynamic. Where phenomena of this type appear very frequently, as in the suburbs of the American city, the processes of transformation have usually been accelerated, since high density puts greater pressure on land usage. These transformations are realised through the definition of a precise area, and this is when the process of *redevelopment* occurs.

A distinctive characteristic of all cities, and thus also of the urban aesthetic, is the tension that has been, and still is, created between areas and primary elements and

The Lower East Side in Manhattan shows traces of the four historical periods outlined by Rossi. The area was first cultivated as farms from the Bowery (Dutch for farm) to the East River in the pre-capitalist period. The land was cut into blocks defined by streets and avenues and the blocks were subdivided into building lots for row house construction and property speculation in the capitalist period. Tenement and apartment buildings later replaced row houses. In the para-capitalist phase, row houses were subdivided and rented out as flats. Finally, during the socialist phase, large areas along the East River were declared blighted and cleared to create public housing, a park and highway. In the 1970s and 1980s, a number of abandoned lots became a network of community gardens, while more recently the neighbourhood has been the site of intensive gentrification. (Map overlay from *Transparent Cities*, 1994, SITES Books.)

between one sector of the city and another. This tension arises from the differences between urban artefacts existing in the same place and must be measured not only in terms of space but also of time. By time I mean both the historical process, in which phenomena of a permanent kind are present with all their implications, and a purely chronological process, in which such phenomena can be measured against urban artefacts of successive periods.

In this way, formerly peripheral parts of large cities in transformation often appear beautiful: London, Berlin, Milan and Moscow reveal entirely unexpected perspectives, aspects and images. The different *times* more than the immense spaces of the Moscow periphery, by virtue of an aesthetic pleasure that resides in the very nature of the artefacts, give us the real image of a culture in transformation, of a modification taking place in the social structure itself.

Of course, we cannot so easily entrust the values of today's cities to the natural succession of artefacts. Nothing guarantees an effective continuity. It is important to know the mechanism of transformation and above all to establish how we can act in this situation – not, I believe, through the total control of this process of change in urban artefacts, but through the control of the principal artefacts emerging in a certain period. Here the question of scale, and of the scale of intervention, comes to the fore.

The transformation of particular parts of the city over time is very closely linked to the objective phenomenon of the decay of certain zones. This phenomenon, generally referred to in the English and American literature as 'obsolescence', is increasingly evident in large modern cities, and it has special characteristics in the large American cities, where it has been closely studied. For our purposes, we will define this phenomenon as characterised by a group of buildings – which may be in the neighbourhood of a certain street or may constitute an entire district – that has outlived the dynamics of land use in the surrounding area (this definition has a much broader scope than some others). Such areas of the city do not follow life; often they remain islands for a long time with respect to the general development, bearing witness to different periods in the city and at the same time configuring large areas of 'reserve'. This phenomenon of obsolescence illustrates the validity of studying areas of the city as urban artefacts; we can then relate the transformations of such areas to the study of specific events.

The hypothesis of the city as an entity constituted of many parts which are complete in themselves is, it seems to me, one which truly permits freedom of choice; and *freedom of choice* becomes a fundamental issue because of its implications. For example, we do not believe that questions concerning values can be decided in terms of abstract architectural and typological formulations – for example, high-rise or low-rise housing. Such questions can only be resolved at the concrete level of urban architecture. We are fully convinced that in a society where choices are free, the real freedom of the citizen rests in being able to choose one solution rather than another.

Notes

1   F Milizia, *Principi di Architettura Civile*, cit no 4 of the introduction to this book; the phrase quoted is from the beginning of the second part, 'Della comodità', p 221.

2   A-C Quatremère de Quincy, *Dictionnaire historique d'architecture comprenant dans son plan les notions historiques, descriptives, archaeologiques, biograhiques, théoriques, didactiques et pratiques de cet art*, 2 vols (Paris), 1982. The passage quoted is from vol 2, the selection on 'Type'. Quatremère's definition of type has recently been picked up by Giulio Carlo Argan in a particularly interesting way, in Argan, 'Sul concetto di tipologia architettonica', in *Progetto e destino*, Casa editrice Il Saggiatore (Milan), 1965, pp 75–81. See also Louis Hautecoeur, *Histoire de l'architecture classique en France*, 7 vols, A et J Picard (Paris), 1943–57, in particular vol V, *Révolution et Empire* 1792–1815 (1953), where Hautecoeur writes, 'As Schneider noted, Quatremère affirmed that there is a "correlation between scale, forms, and the impressions that our spirit receives from them"' (p 122).

3   Among the new aspects of the research by architects on the problems of typology, the lectures given by Carlos Aymonino at the Istituto Universitario di Architettura di Venezia are particularly interesting. In one of them, 'The Formation of a Concept of Building Typology', he states, 'We can thus attempt to distinguish some "characteristics" of building typologies which allow us to identify them better: a) singleness of theme, even if [the type is] subdivided into one or more activities in order to derive a reasonable elementary or simplicity from the organism; this also applies in more complex cases; b) indifference – in theoretical formulations – to context, that is, to a precise urban location (does a significant interchangeability derive from this?) and the formation of a relationship concerned only with its own plan as the single relevant boundary (an incomplete relationship); c) the overcoming of building code regulations to the extent that the type is characterised precisely by its own architectural form. The type in fact is also conditioned by codes (of hygiene, security, etc) but not *only* by them' (p 9). Aymonino's lectures are found in two volumes published by the Istituto Universitario di Architettura di Venezia, *Aspetti e problemi della tipologia edilizia. Documenti del corso di caratteri distributivi degli edifici. Anno accademico 1963–1964 (Venice), 1964; and La formazione del concetto di tipologia edilizia. Atti del corso di caratteri distributivi degli edifici. Anno accademico 1964–1965* (Venice), 1965. Some of these lectures are also republished with revisions in C Aymonino, *Il significato della città*, Editori Laterza (Bari), 1975.

4   J Tricart, *Cours de géographie humaine*, 2 vols: vol I, *L'habitat rural*; vol II, *L'habitat urbain*, Centre de Documentation Universitaire (Paris), 1963. Tricart observes, 'Like every study of artifacts considered in themselves, urban morphology presupposes a convergence of givens customarily drawn from different disciplines: urbanism, sociology, history, political economy, law itself. It is sufficient that this convergence has as its aim the analysis and explanation of a concrete artifact, of a landscape, for us to be able to state that it has its place in the framework of geography' (vol II, p 4).

5   R Updegraff Ratcliff, 'The Dynamics of Efficiency in the Locational Distribution of Urban Activities', in Harold Melvin Mayer and Clyde Frederick Kohn (eds), *Readings in Urban Geography*, University of Chicago Press (Chicago), 1959, pp 299–324; the passage cited is on p 299.

6   V Rizzi, *I cosiddetti Statuti Murattiani per la città di Bari. Regolamenti edilizi particolari*, Leonardo da Vinci (Bari), 1959.