

MORPHOLOGICA MAP: BASE PROTOTYPE

POLARITY (civic/specialised)

Two key elements emerge when studying the concept of urban polarity. The first is the dynamic relation that is established between polarities. The very supporting structure of an urban organism depends on it. And it is thanks to the relation between polarities that urban structures can actually survive and change. It is on the basis of such relation that a city can be read according to its basic large-scale formative processes. The second key element is the relation that develops between polarities and urban fabric. The relation is reciprocal: the fabric indicates the various potentials for polarization, however only through the physical construction of polarities that the potential can materialize and the fabric can be realised. Except of course the fabric will once again ensure the survival of polarities, supporting their function over time.

Inner

The most representative buildings, from a social and civic point of view, were generally located in the heart of the city or of specific neighborhoods (the cathedral church, the parish, the Bishop's or the Lord's Palace, the Broletto (Municipal palace), the Market, the Stock market etc.). They may have a public space thematized.

Outer

Buildings of a specialized nature (city walls, lazarettos, monasteries, military barracks, etc.), due to their greater dimensions and their function within the civic fabric, were usually placed at the edge of town, occupying the urban fringe belts, particularly important because they marked the urban boundary and the sites where exchange with the territory occurred.

Local

In small-sized towns the relation between fabric and collective themes is clearly perceivable, since such themes have substantial visibility and presence, which confirm and consolidate the image of the urbs as a unitary system; in cities of greater size, on the contrary, the perception of the relation is undoubtedly more difficult. The organic value of the city as a whole will thus be entrusted to local themes embodied in its fabric (parish churches, libraries, "town halls", museums, etc.); their task will be to reveal their connection to the wider urban system. But in situations of high polycentricity, where various urban communities (for reasons that are ethnic, religious, cultural, etc.) coexist in the same district, even the simple non-residential - usually commercial - specialization of a square or a street can take on a local polar value (if on a lower level), even in the absence of a distinctive building

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ROUTE a

The more a context is anthropized, the more the rationale of route formation is accurate and concise, eventually becoming recognizable and assessable within urban fabrics. In general, a distinction can be made between planned systems and spontaneous systems. We will focus especially on the latter. In fact, when analyzing the underlying logic beneath the formation of urban fabrics over time, "informal" and everyday aspects must be especially taken into consideration, as they have a key role in all of the city's transformations and they are the direct expression of the vitality of an urban society. Overall, we can identify a few 'basic' route typologies generally found in all spontaneous building fabrics, from medieval towns to contemporary informal cities.

Informal City

Matrix (urban)

Given any two nodal points (urban or territorial), the route linking them in the most direct possible way will be termed a matrix route. It is deeply connected and influenced by the morphology of the fabric it fits into and it often takes on a distinct curvilinear outline, to achieve the required mediation between the geo-morphological conditions of the context and the rectilinear continuity of a path. . This will normally determine a relatively continuous pertinent strip, essentially parallel to the route's outline, the depth of which will depend on diachronic variations, at any given time, in the lot type (building type) determining its shape at any given time.

Building (district)

Rutes planned for building and likely to form a fabric. They will typically develop orthogonally to the matrix route they insist upon, with the respective pertinent strips positioned at the edge of the main route's pertinent strip. The need for optimum use of the new building fabric will entail, however, a preference for parallel placement of the new building routes, rather than for orthogonality to the matrix route; variations in the latter will not necessarily determine any change in the outline of the urban fabric. Finally they tend to be as rectilinear as possible, in order to allow for orthogonal arrangement of building lots.

Connections

Connecting routes (between building routes). In particular, when a route is formed at the edge of building, it will tend to develop a single pertinent strip, on the opposite side of the lateral boundary of previously built houses; when, on the contrary, serial building, possibly hasty, will have already exceeded the maximum linear distance (from a nodality) for the proper functioning of a building system, the route can be formed by demolishing two houses opposite each other, giving up the pertinent strip. The route will no longer be necessarily rectilinear and continuous, but may be fragmented between one building route and another.

Local

Normally pedestrian, they are aimed at establishing a network of complementary and alternative routes to the main roads. In underdeveloped urban systems they may coincide with the connections. In well-developed systems they can generate real neighborhoods with independent yet hierarchical building types.

Restructuring

This is the typical route that is superimposed on a previous fabric when it is deemed necessary to create a direct link between pre-existing and new polarities. By its very nature it tends to exhibit different building types, more recent and more specialized, and its very road section, since it depends on a more up to date "type", will tend to expand and differentiate. Finally, it will be likely to run diagonally to the built environment, forming, as a result, trapezoid-shaped lots. A restructuring route is therefore often the privileged site for constructing specialized buildings.

Specialised.1 (es. motorway)

Extra urban routes that sometimes come within the tissues dramatically influencing their conformation (highways, railways, etc..).

Specialised.2 (es. railway)

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ROUTE b

The planned city, on the contrary, can be considered from a morphological point of view as a special component of the informal city. This means that, except for urban projects of an openly ideological or utopian nature, the construction of its fabrics is significantly, if not totally, spontaneous, where spontaneous does not necessarily mean chaotic, random, "disorderly". On the contrary, the level of regulation depends on the degree of civic development of the society planning construction: particularly advanced systems develop "spontaneous" fabrics that are sufficiently ordered; the ordering element is not so much due to building regulations, more or less systematic, but rather it is based on continuity with a modus operandi in use for centuries, which leads to the adoption of well developed and efficient building types, the direct expression of the society's degree of civic maturity. This is true, at a later date, when urban planning will not occur through a network of restructuring routes, as in the case of the Haussmannian plan for Paris. This is why only two grid systems are distinguished, "equivalent" or "hierarchical", within which building fabrics can be constructed. It is not the grid's shape, in fact, that matters, but its "structural" significance within the city.

Planned City

Equivalent

They are all the grids that, regardless of shape, do not have a preferential direction. All directions are equally weighted. The fabric will be built within them according to a "light" hierarchy.

Grid.1

Grid.2

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Hierarchized

They are all those grids that have a preferential reading/use direction. Direction that is highlighted usually by the greater size of road sections and/or by the disposal along its axis of urban polarities. The fabric, in this case, will be organized starting from hierarchies imposed by the planning system.

Grid.1

Grid.2

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URBAN FABRIC

A city is an organism made of "fabrics". Social, economic, cultural and environmental fabrics, energy and information networks: the very functioning of an urban structure depends on their interaction. The more such fabrics are interrelated and efficient, the more the organism will be dynamic, versatile and capable of meeting the demands and aspirations of its citizens. While it is unnecessary and perhaps impossible to try and understand the form of such fabrics, it is possible and necessary to understand the logic of their relations. Understanding such logic or, better still, understanding the logical basis of such relations and discerning their role in the definition of urban fabrics can be considerably interesting and useful. If the distinction between internal and external polarities is crucial for defining a city as an organism, the reasons behind the formation process of its building structures, its fabrics, lie within the "nodality"- "anti-nodality" dialectic, where nodality does not necessarily coincide with the center, and anti-nodality does not necessarily correspond, in a strict sense, to the periphery. It 's a matter of basic behavioral priorities, and therefore of hierarchies derived from such priorities. This state of nodality will be paralld by a greater fabric specialization, which will regularly decrease as the distance from the nodality increases, finally reaching the opposite condition of "anti-nodality". The latter will coincide with an absence of specialization and the progressive decline of urbanity. The nodality is the "center", the anti-nodality is the "periphery". It goes without saying that between two centers there is always a periphery, that is between two nodes there is always an "anti-node", regardless of their geometric location within the city: the nodality-anti-nodality dialectic involves all spontaneous urban fabrics, whether they are located at the center or at the edge of the urban organism. Therefore, the greater the urban core, the more complex and structured will its hierarchical organization be and vice versa.

Aggregative System (a)

Basic aggregative system of building typologies. Within a tissue there can be multiple types and multiple systems of aggregation.

Type.1

Building types identified according to their morphological role within the tissue (eg .: townhouses, multi-family terraced houses, recasting lines courtyard houses, etc..).

Type.2

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Aggregative System (b)

Type.1

Type.2

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UNITS

The polycentric city requires the presence of a series of scalar socio-building "units" able to condense and locate the various tissues that characterize an urban organism. These units are able to identify the different urban communities and gather them together in the common body of the civitas. They are capable of conforming the "everyday" levels of living the city according to recognizable structures which to entrust our everyday identity as citizens. Most of our daily activities take place in fact, at a closer look, according to areas of movement relatively low, and so it will be in the future when the full efficiency of computer networks will dramatically reduce the everyday radii of movement for millions of people, breaking phenomena as commuting and bringing attention to the "place" where you live (and work) within the city. For this reason, the identification of intermediate units of urbanity is of utmost importance for the design of the contemporary city. Finally these units play a significant role also in the strategies of urban sustainability. It is possible to identify three types of scalar morphological units: urban, building, neighbourhoods. Each one corresponds to a different level of urbanity, both from a morphological and social point of view.

Urban

It is the unity of self-sufficiency and identity of a community within the urban fabric. It is normally made up of an adequate number of houses which might constitute a community, a balanced endowment of services, public spaces, green etc.. But above all it is morphologically recognizable within the urban fabric. A recognizability accentuated, often, by the presence of one or more polarities and from a fabric in which is possible to find those logics and those hierarchies that characterize an urban organism. It is not a quantitative "measure" (it does not correspond to a "standard" supply of services, etc.), on the contrary it is a morphological measure and therefore qualitative. It is useful to recall how often the historical city is far away from the equipment by law and yet possesses a value immeasurably superior to any urban neighborhood designed and built according to the planning standards. The other fundamental element, in addition its morphological-functional autonomy, is the connectivity of a unit with the other, of a unit with the entirety of urban structures, in other words, its complementarity with respect to the wider urban organism.

Type.1

Type.2

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Building

It is the residential unit par excellence. It has no functional self-sufficiency (but it may have services inside) and, however, has an adequate system of public spaces and paths able to morphologically define the unity. They are present mainly in the case of strongly polycentric cities having the (urban and social) need of subdividing the urban units in more restricted areas. The combination with other building units determines then the urban units.

Type.1

Type.2

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Neighbourhood

There is a system of built structures which has the essential task is to mediate the transition between the citizen's (or family's) individual, sociological dimension and the city's public dimension. The more complex the public dimension is, the more important the role played by the structures in the functioning of an urban organism. Such structures, at the same time physical and social, are the result of "social building neighborhoods", and have been entrusted for centuries with an important role in building the city. Considerable historic examples are those of the Venician calle-courtyards, the Dutch Hoffes (a term that literally means "inner courtyards"), all the way up to the British squares and mews, with their common areas well enclosed by the walls of houses (often serial and therefore unitary in their "collective" image), open to the city through proper entrance ways and polarized at the center by a collective service: the garden, the communal well in Venice, and so on. Neighborhood social building is in fact responsible for creating a collective dimension of space that acts as a fundamental area of mediation between urban public spaces and private pertinent spaces. A semi-public space of great relevance for urban identity, functionality, and sustainability. It is, so to speak, an "everyday" need to belong, which cannot always be sufficiently satisfied by the district; activities and functions that cannot be carried out easily at home, and even less so in the street, are therefore entrusted to the collective neighborhood space. Neighborhood social buildings represent, moreover, the sustainable urban unit of contemporary cities. Their nature, both collective and unitary, in fact allows for the implementation of a first strategic level of sustainability, which downscaled to individual buildings would not in fact be very effective. Rainwater and gray water collection, centralized heating systems with clean energy production, "neighborhood" based and meticulous collection of waste, are just some of the needs the construction of a neighborhood unit can meet. The value of social neighborhood building therefore lies in its intermediate position, both from a social and urban point of view, between citizens and civitas, public and private spheres, communal and individual rights, between the utmost open and permeable urban space and the utmost closed space, focused on its pertinent features. These units are normally integrated within the building fabric coming to define a parallel level of belonging, when they don't constitute themselves a fabric.

Type.1

Type.2

Type.3

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OPEN SPACES
(civic/specialised)

The quality of urban spaces is strongly influenced by the degree of nodality of these spaces and then by the quantity/quality of paths into which they converge. Pathways that organize the urban spaces according to dynamic-hierarchical systems that goes hand in hand with the processes of formation of any urban organism. According to the degree of nodality of an urban space depends its possible thematisation and the inside location of a polarity, the latter in case of low nodal spaces will tend to fully absorb their urban role (turning them into own "pertinences"). The other important aspect in the definition of an open space is the quality of its edges, namely the construction of that "limit" which is responsible for the physical definition of an urban space. All urban areas (including paths) are given then by the quality of their building walls, by their presence (or absence), by their degree of openness and permeability and so on. All elements on which depends the "level of connectivity" of an urban space and therefore its hierarchical role within the tissue. It is at this point that the Morphological Map begins to receive information gradually more and more linked to the functional performance of a particular urban activity rather than to its morphological aspects. Open spaces are in fact (could not be otherwise) the first level of connection between the physical tissues of an urban organism and the functional networks of the contemporary city. Their own subdivision (urban, district, local, courtyard ...) is both qualitative and quantitative, morphological and geographical, opening up more and more to all the functional levels of the "everyday city".

Urban

District

Local

Coutyard

Arcades

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NATURALS

They are the other side of morphology (the natural one) that, as for urban open spaces, weaves an unavoidable system of relations with the anthropic fabrics. That is essentially what has been observed for the former (nodality, margins ...), while taking into account the fundamental reversal of meaning: the quality of a square lies in its being a civic "fullness" par excellence; the quality of an urban park lies in its being an "emptiness" by definition (although with all its possible variations).

Green

Park

Garden (public/private,
botanic...)

Rural

Wild

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Water

Lake/Basin

River

Channel

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FUNCTIONAL LEVELS

They are the expression of all the major urban "networks": computer, energy, environmental, smart networks... finding in urban fabrics their necessary economic, social and cultural plug-in.

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