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# Architectural Acupuncture in the Urban Morphology Theories

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## Article

# “Architectural Acupuncture” in the Urban Morphology Studies

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**Abstract:** The contribution aims to reconstruct the trajectory of urban morphology studies focused on the graphical understanding of the transformation phenomena within historical and contemporary fabrics. Highlighting some analogies with urban morphology studies present in the theories and design experiments of authors such as Aldo Rossi, Carlo Oswald W. Ungers, Hans Kollhoff, Saverio Muratori, Gianfranco Caniggia, and Giancarlo De Carlo. These studies mostly matured and developed within a favorable cultural environment, which, albeit with due distinctions, saw them aligned on the same front in the practice of analogical procedures (Zambelli, 2021), expressing and anticipating in architectural facts the contemporary concept of urban acupuncture (Lerner, 2010). An emerging notion used to designate the episodic and local character, with urban and territorial impact of new interventions that aim to oppose the contemporary practice of grand self-celebratory authorial interventions intentionally in dissonance with the context. These interventions are promoted both by liberal and capitalist culture as well as by socialist-inspired culture (Sudjic, 2012). Lastly, it highlights the multiscale nature present in urban morphology studies as well as, at least in intentions, in urban acupuncture projects. Evident in the correlation between expression and content, form and emerging significance, wherein (Foucault, 1969) each change in form, together with a change in scale, corresponds to a new morphological adaptation and consequently a redefinition of rules and 'urban grammar', usable in urban projects with territorial significance. Today, enriched by new digital monitoring tools that graphically render real-time socio-economic flows and dynamics, confirming those insights and syntheses that morphology and typology had suggested in forms that we could now define as acupuncture urban interventions.

**Keywords:** architecture acupuncture; urban morphology; urban regeneration

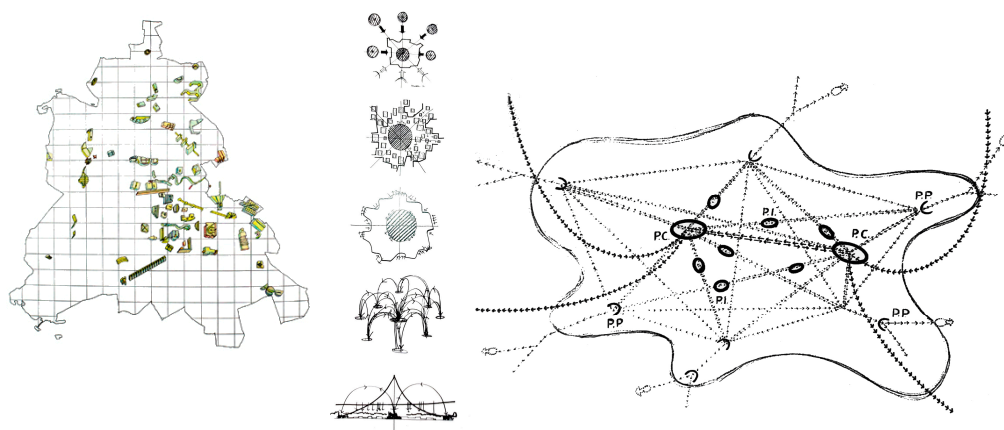
## 1. Introduction

The heuristic nature of analogical procedures guiding the formal vein of Urban Morphology studies defines the city and its fabric as a unitary system. Where geometric epiphanies of a culture with common roots “(...) look to architectural types and urban forms as expressions of 'human and material evolutionary change'” (Rossi, 1976), revealing kaleidoscopic urban compositional outcomes generated by a singular phenotype. This assumes the organic notion of a city, already embryonically intuited in early studies of human geography, in older studies matured within anthropic geography (C.O Sauer, 1925) (Leighly J.B. (1963), and further in contemporary reflections at the intersection of geography and architecture expressed by the Italian and French schools of urban morphology (Castex, Panerai, Muratori). Analogies that Levy (Levy, 1988) had already highlighted in a text on studies concerning form and morphogenesis within the Italian school: “*connaissance des règles de transformation de cette forme, de sa structure, et des différents états morphologiques qu'elle peut prendre (...) à travers des processus à identifier (morphogénèse, métamorphose, anamorphose(...)).*”

## 2. Background

The connections between architectural design and urban intervention (urban acupuncture – Lerner. 2010) can be already found in reflections on urban morphology by Ungers, in the definition of 'archipelago' (Ungers, 1977). In those urban connection points, he defines as generators of nodes

(Ungers, Koolhaas, 1977), parallel to the idea of a node from the Roman school of morphology (Caniggia, 1984). Significant points, articulated in their value and highlighted by Giancarlo de Carlo - 'Squares are found where two or more roads converge, i.e., where two or more contexts intersect. Therefore, squares are also contexts, generally more complex than those that intersect to form them.' (...) 'For this reason, squares in cities are the most significant architectural nodes and form plots: real plots like fabrics and stories' (De Carlo G., 1995). Squares, focal points, flows, and densities specializing in architectural forms, notions already present in morphological studies, are found today in the concept of urban acupuncture (De Solà-Morales, Lerner, Casagrande). Initially developed by Casagrande (M. Casagrande, 2010) on a small scale, while working on a neighborhood in Taipei, proposing to divert the potential energy of a place (protonode) by deflecting it with the introduction of new elements to achieve a reflected effect. A concept extended to the building and urban scale (Lerner, 2010), where urban acupuncture is a design intervention capable of triggering virtuous mutations in discontinuity with the process. 'At times, urban acupuncture occurs thanks to a touch of genius, like the Louvre pyramid, the recovery of Porto Madero in Buenos Aires, and the Pampulha complex by Oscar Niemeyer in Belo Horizonte.' (...) 'In some cases, interventions occur more by chance than by design, to heal wounds that humans have inflicted on nature.' (...) 'Over time, these wounds will create another landscape.' (Lerner J., 2010). Architectural-scale interventions that reflect upon the territory of a city and its metropolitan area.



**Figure 1.** (a) Ungers, Koolhaas, archipelago: Islands and Streets (b-c) De Carlo G., Central and peripheral nodes.

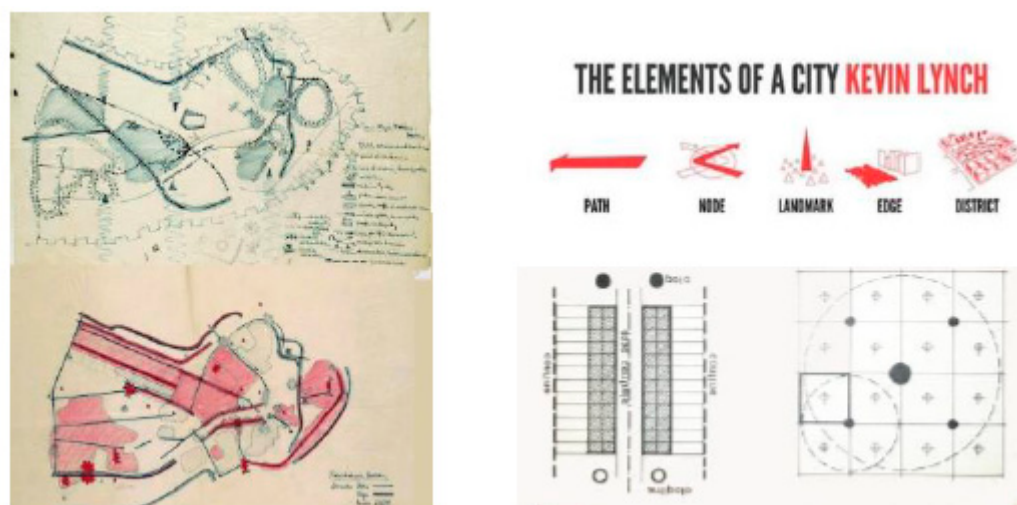
The case and genius (Lerner) present in Ungers' (Ungers, 1977) design research refer to Kantian's concept of dual forms of knowledge - intuition and invention - formulating 'transformation' principles capable of extracting 'invention' from the norms and consciousness and culture of the place; dialectical thinking capable of developing new forms and solutions (Ungers, 1977) 'The house enters into a dialogue with its context in a way that (...) as original as it is respectful' (...) 'in which the old and new strike a balance in a process of interactive continuity' (Ungers and Koolhaas, 1977), matured in reflection on the procedural nature of the city and the relationship between past and future, in continuity or discontinuity.

Forms and solutions, both tactical and strategic, integrated between space and time, that Caniggia had already begun to understand in reflections on the city, especially when, reflecting on architectural design, urban organism, and territory, he anticipated Lerner's intention (Lerner, 2010) to draw lessons from continuities and innovations, from the essence hidden in the residual traces of transformations, useful graphic metaphors to calibrate the local and tactical project, strategic and territorial, but above all capable of confronting the practice of large authorial interventions promoted both by the liberal and capitalist culture and by the socialist-inspired culture.

Analogies and references of a multi-scalar nature, 'formulas' to design, tactical urban scenarios, and strategic territories, new or renewed relationships between solids and voids, syntagms of the urban and territorial text, forms of lived experience where scenarios and actors continuously alternate on the urban scene, revealing metamorphoses in the landscape, in the city, and in the territory. New and past scenarios of a culture of the city (Munford L., 1954), to develop theories capable of grasping

useful lessons in urban form, generative matrices, and to define semantic expressions, the 'genetic' codes for a new phase of the formative process of the city; the one for which Aldo Rossi accused geographers of having stopped at the mere investigative aspect: *'geographers understood everything but stopped at the most important transition (...)'* (Rossi, 1966).

An 'organic' unity that C. O. Sauer (Sauer, 1925), an American geographer of German origin and father of American urban morphology, had already intuited in 1925. A holistic whole that encompasses city and territory, where flows and autonomous actions intersect with influences and heteronomous imaginations to produce over time other scenarios and different layouts for each city (Miller 2011). An organic idea that many researchers in many universities (Porto, Rome, Milan, Turin, Lisbon, Montreal, Quebec, etc.) have begun to examine in detail the individual constituent elements, tending to characterize some studies of Urban Morphology for that particular approach that seeks in the graphic formal expression the outcomes of material culture (Castex, Panerai, Muratori) (Lynch, 1960).



**Figure 2.** (a) Lynch K., Boston (b) Lynch K., The elements of a city; (c) Caniggia G., Nodes and Hierarchies in Fabrics.

Forms and geometries of the built environment, important for defining the identity of a place, such as plots and the arrangement of buildings, project the connection between space, history, and the culture of the place (Norberg-Schulz, 1979). They represent the tangible register of the historical stratifications that have shaped the urban environment over the centuries. Implicit indications of the role of forms of the territory and buildings that reflect and preserve the historical developments of a place over time. (Jane Jacobs, 1992) (Yi-Fu Tuan, 2001).

A practical approach based on direct analysis of historical maps and visual representations of cities to extract information, offering a practical interpretation of the relationships between cartographic representation and interpretation of urban memory (Lowenthal, 2015), focused on the interpretation of the configuration of plots as an indicator of history and territorial transformations over time (Farinelli, 1999).

Forms and arrangements (of plots) not random but the result of historical, social, and economic processes that leave traces in the spatial configuration of cities and the surrounding territory. Something more than just an aesthetic or functional aspect, interpreted to understand and narrate the history and evolution of a place over time (Farinelli, 1989).

A semantic search aimed at recognizing, in the language of architectural forms, the outcome of individual and collective choices that have contributed to defining the image. "Caniggia (1984), called 'typological process', the transformation of built types generating the evolution of urban form, seeking their internal logics of growth and transformation." (Levy, 2005).

Studies on urban forms and volumetric and figurative mutations of cultural geography, which find interesting results in architectural design, in the 'flows of energy displacement' (Casagrande, 2010) justifying tensions and revealing possible urban adjustments (specializations and



transformations) for the contextual reform of the inherited and contemporary city. New building and architectural figurations, to be overlaid on the inherited narrative. New phases of a predominantly continuous process with occasional discontinuities (Caniggia G., 1976) contained in the essence of different ideas of the city (Rykwert, 1982) matured in different times for a different system of rules. Recognizable essences and images of cities in the late 1800s maps, representative of a reality still linked to limited heteronomous influences and limited oppositional overlaps, epiphanies of discontinuity, architectural urban compositional product mostly still linked to 'spontaneous' culture or to a shared and limited academic practice, imposed, and superimposed on a city capable of metabolizing any incongruous insertions or architectural errors (Turri, 1990).

Outcomes of a research focused from the 1980s, starting from some studies and design experiments, where the first signs of a renewed semantic reflection on the formal meaning of the so-called 'restructuring paths' appear, intuited by Caniggia and derived from the primary concept of matrix - 'new matrix' - overlapping the geometric design of the fabric, organized on different rules aimed at connecting other nodes, other islands, other 'archipelagos to define them in the words of Ungers and Koolhaas. Places of 'energy' flows, as Casagrande defines them, differently superimposed, today more evident in the correct photogrammetric map. Urban and territorial design, graphic syntax of architectural reality, overlapping forms, characterized by urban voids circumscribed by new solids, buildings, or churches, new 'design inventions', based on new rules for a new urban and territorial order.

### 3. Materials

"Morphology," from *Morphologie*, the German term coined by Goethe to indicate the field of linguistics that deals with studying, through comparison, the form and structure of syntax in relation to the cultural and social components that influence and produce its metamorphosis. It was primarily used by geographers Karl Ritter (Ritter, 1835) and Alexander von Humboldt (Von Humboldt, 1849) to describe the evolution of the forms of the territory, what geographically is defined by Turri as the "plasticity of relief," the natural substrate, the soil upon which anthropic structures rest, influencing the subsequent urban form and its continuous changes. The term Urban Morphology, with the adjective 'urban,' since the late '80s of the last century, is used to indicate the study of the city's form, fabric, and components. That interpretation of the urban 'text,' a semantic study of forms present in its blocks and tissues composing its unit, constitutes the text of stone.

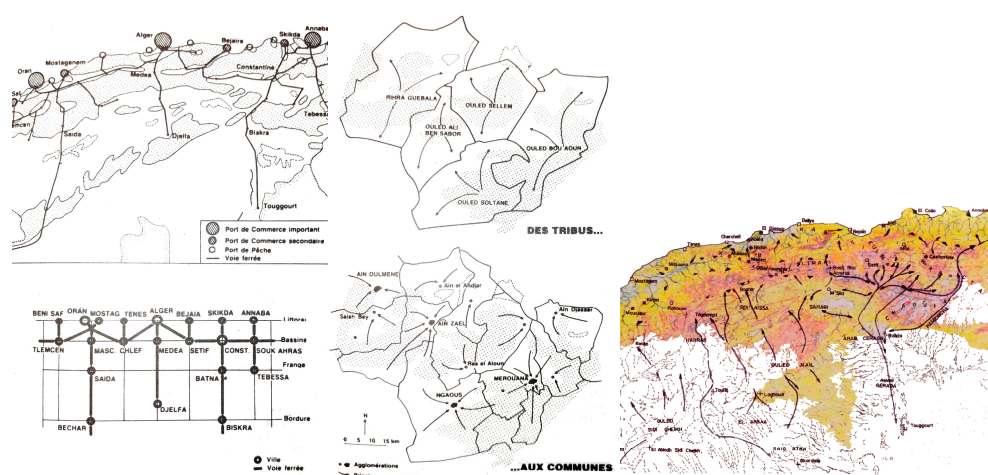
Among the many contemporary researchers who have contributed to recent studies of Urban Morphology, it is necessary to mention Whitehand. Particularly for the international contribution to research through the pages of the journal "Urban Morphology" (Whitehand, 2001; Larkan, 2014). A careful researcher who developed the works of some master such as Schlüter and Geisler, and later Conzen. Geographical reflections, particularly influenced by concepts matured within the geographic culture in Germany, where Otto Schlüter, speaking of *Landschaft*, referred to physiognomic elements, their spatial organization (the German term *Landschaft* which means both 'landscape' and 'region', combines the cultural area with its processual development) paved the way for geographical studies contemplating human action on the territory. It is from these geographical studies that the discipline of Urban Morphology began to specialize, and, with the contribution of anthropologists (Lévi-Strauss, 1955), opened towards the subjective dimension, the existential condition of human beings in the analysis of a territory.

Carl Sauer defined the cultural landscape as a system of systems (Sauer, 1925), anticipating terms now widely shared by many researchers in the discipline, placing at its core the studies of human impact on the animal and plant world. Therefore, it is difficult to establish the boundaries of the cultural area from which the study of Urban Morphology begins. Interrupted and displaced several times in the last century due to socio-cultural and political events but also due to serious contaminations with other disciplines in the social and economic domains. Indirect contributions derived from Human Geography arrived, in the early years of the 20th century, from historical-geographical studies of French origin, from researchers such as Albert Demangeon (Demangeon, 1905). A social geographer particularly attentive to reflecting on the distribution of men and their

works on the earth's surface, as well as from another exponent of the French geographical culture, Le Lannou (Le Lannou, 1949), who, although not questioning the almost exclusive attention to the material aspects of existence and spatial organization, reflects on the human inhabitant and how this, as a collective actor (Turri, 1974), perceives space, organizing it in relation to vital needs. Reflections begun and continued on a territory like that of Sardinia, which allowed him to address that particular relationship between man and land, that of peasants who use the soil exclusively, dividing the land, versus that of nomads who instead use the territory as a collective rather than individual good (Turri, 1978). Two social and economic subjects, two opposing ideas of anthropic space, which have been, as they still are, the great reason for contrast between nomads and sedentary individuals.

Another significant contribution in this area of study comes from Edmon Demolins, a controversial figure who wrote a text of geographical nature. In this work, he intertwined places, climatic regions, and socio-economic aspects, reaching questionable considerations: he proposed the debatable idea that each territory corresponds to a specific human 'race' (Demolins, 1901). However, what is fascinating is his description of the great Erg in the African desert. This area, an immense sea of sand without divisions or human traces, borders fertile lands used only for crossing. It is a sea of sand lived in and crossed by men, like sailors making oases their ports, recognizing themselves within an immaterial and dynamic statutory entity like the clan.

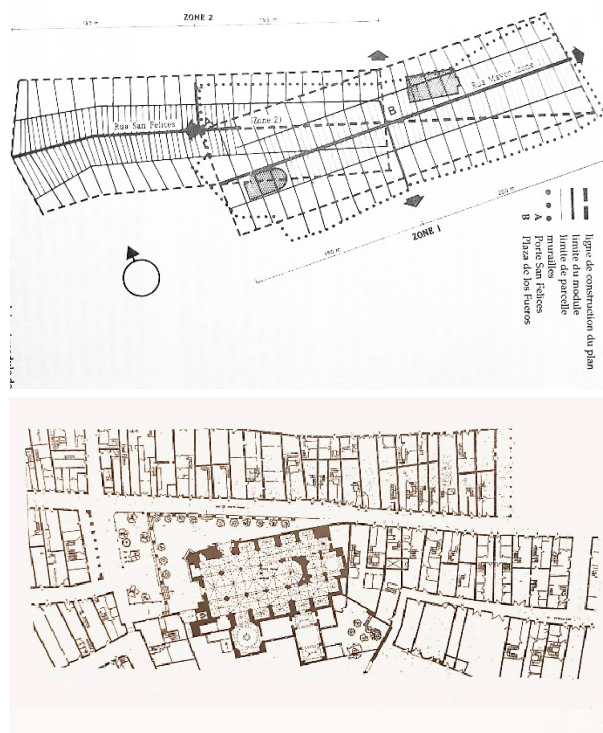
Particularly interesting, in terms of study on the form and the relationship between territory and city, is the contribution of Marc Cote (Cote M., 1988), a relatively unknown figure and lecturer at the University of Aix-en-Provence. In his study on the relationship between natural space and paths within the dynamic context of Algerian territory, Cote understood and represented the contrast between the pre-colonial relational system and the colonial imposition. This upheaval overturned the physio-political, administrative, and socio-economic structure of the indigenous territory. Cote graphically represented this overlay of two models, showing how centers and boundaries, settlements and paths, closely linked to two different ideas of human space, changed in the indigenous area. This area, previously based on a delicate balance between parts of the territory, was altered by new alien statutory boundaries, functional only to cultural and economic dominance logics. This imbalance continues to hinder the recovery of a centuries-old relationship between man and territory.



**Figure 3.** Cote M., Organization of Collective space (Algeria): (a) Space in the Hodna Region; (b) Market network during the French colonization; (c). Transhumance and ethnic groups in the pre-colonial period.

These pioneering geographical studies intertwine the human component with the form of the city and the territory ('the landscape'). The spatial configuration, understood in its Anglo-Saxon etymological meaning of '*landscape*' or '*Landshaft*,' better expresses the object of Urban Morphology studies. These delve into all forms of human work, analyzing elements, paths, the subdivision of

parts, the forms of constructions, and the different structures constituting urban space (Merlin, P., 1988; Panerai, P., Langé, J. 2001).



**Figure 4.** Viana. (a) Scheme of cadastral matrix; (b) Survey of the main road. (Merlin, 1988).

While English morphology deserves recognition for conducting research oriented towards socio-economic analysis, mainly focusing on the overall characteristics of urban form over time, the process of change, and the economic impacts on space configuration and organization, the French school (Levy, Castex, Panerai, etc.) deserves credit for having developed a historical-geographical approach. This approach was already implicit in the early pioneering studies of the discipline. Meanwhile, the Italian school deserves credit for beginning to focus on the systemic graphical elements and aspects of the global structure of the territory and the city. This was achieved starting from the concepts of typological variation and the transformation process: "*connaissance des règles de transformation de cette forme, de sa structure, et des différents états morphologiques qu'elle peut prendre (...), à travers des processus à identifier (morphogenèse, métamorphose, anamorphose...)*". Caniggia (1979)." (Levy, 2005)

### Semiology of Forms

In a meeting in 1966, R. Bartres, reflecting on the descriptive potential of city forms and drawing insights from influential figures and thinkers such as Hugo, Derrida, Lynch, etc., emphasized the need to move beyond metaphors and acquire scientific interpretive tools essential for understanding what he called the "inscription of man in space" through the stone writings of the city (R. Bartres, 1967).

*"In Notre Dame de Paris, Hugo wrote a beautiful, highly intelligent chapter (...) he shows, in a very modern way, to conceive the monument and the city truly as a writing, as an inscription of man in space. Hugo's chapter is dedicated to the rivalry between two writings, writing with stone and writing on paper."* (R. Bartres, 1967)

Bartres highlighted and recalled how little attention urban research had devoted to these studies, noting that only an urbanist and city scholar like Kevin Lynch attempted to attribute meaning to the city beyond simple metaphors. "Formal units and classes" are the terms Lynch uses to grasp what about the city could be useful in understanding the mechanisms of formation and combination,

defining objects and forms that have been deemed important by numerous others approaching urban morphology studies in various capacities. Terms Lynch identifies in paths, edges, districts, nodes, and landmarks (K. Lynch, 1960). These are elements of the urban narrative with stone that we can similarly consider in notes and drawings about the territory and type, also in the Italian school of morphology.

*"These processes would probably consist of carving the urban text into units, then distributing these units into formal classes" (...) "Units that he calls paths, edges, districts, nodes, reference points. These are classes of units that could easily become semantic classes."* (Bartres, 1967)

With discrete units, Bartres identifies clearly recognizable elements in the city's form, such as cadastral particles, significant elements, objects of the urban narrative, paths, boundaries, and nodes—elements of a stone-text whose overlaid forms suggest stages of discontinuity that can complete the entirety of the story contained within the geometries of the cartographically represented city. We know that cities and architectures are sometimes produced in continuity with inheritance, sometimes in complete or partial discontinuity, primarily representing the essence of architectural evolution, recorded in the city's forms both at the urban and territorial scales.

*"D'une manière générale, les travaux de morphologie urbaine ont été surtout préoccupés par la notion de continuité urbaine, à travers la permanence des structures, des tracés (viaires, parcellaires...), leur rôle et leur influence dans la détermination des formes successives (processus de sédimentation) : on les retrouve dans les concepts de « processus typologique » (...) chez Caniggia,"* (Levy, 2005)

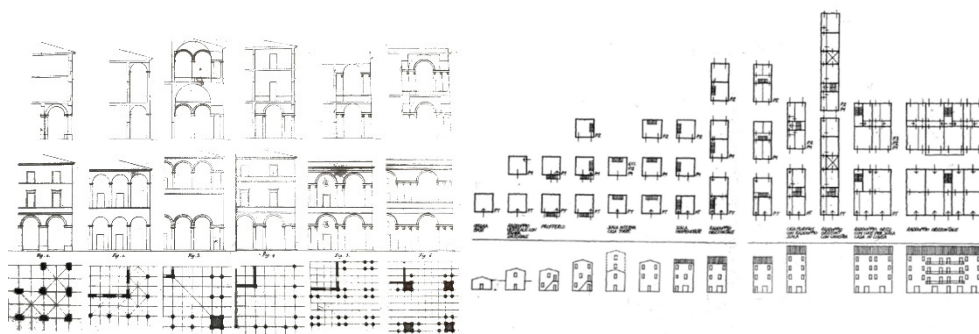
These discontinuities in the city's forms are linked to rules that determine its evolution, usable for urban and territorial design, or at least its foundation. An evolution sometimes linear, at other times interrupted by sudden leaps. The rupture of continuity in evolution runs parallel to that of culture, as Foucault (Foucault, 1966) discussed with the concept of 'rupture épistémique' in the linear development of knowledge. An epistemic rupture that can help us understand that at a certain historical moment, cities with their codes and developmental rules change, creating new forms and a new order in the city's structure (Levy, 2005).

#### 4. Methods

Flows, socio-economic and cultural dynamics constitute the organic component of the city, crystallizing in architectural and urban structures. They represent a varied product of an evolving idea of architecture and city, depending on the prevalent concept of type in the lived moment. At a larger scale, even the grid composing the territorial structure varies, both in its extension and in organization, hierarchies, as well as in connections that develop among hosting natural geographical systems. Cause and effect, as Rossi writes, had already been well understood by geographers and scholars of the territory.

Primarily, 'the type' defined by elements from Durand (Durand, 1809) understood as a simple addition of parts distinguishable by function. This type, perhaps in some way, sought to respond to modernity and the proliferation of functions that buildings required for the socio-economic reality of the 19th century industrial era. The new building could be expressed by aggregating different parts of traditional buildings. Furthermore, the type, this time based on elementary forms, represents the elementary base from which infinite possible variants can derive. We find them in Caniggia's text but also, in a different manner, in OM Ungers, who, starting from Rossi's thesis, expresses in his studies and research a design tension aimed at extracting new forms and a design strategy from the morphological analysis of the city's form capable of offering infinite possible variants to consider square, rectangle, and circle.





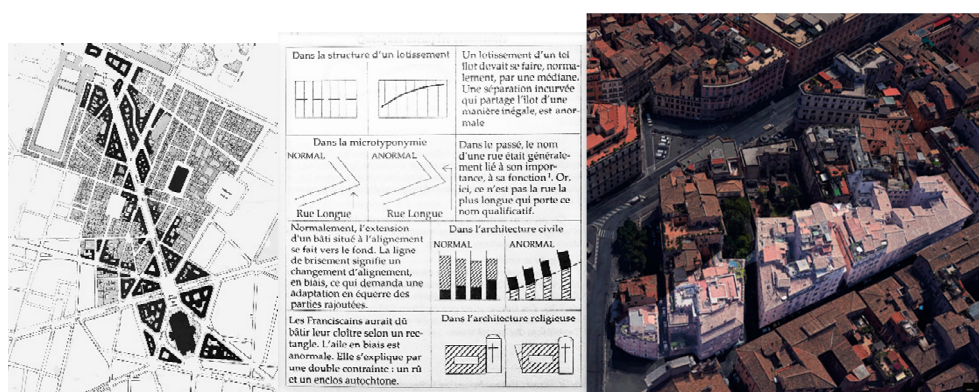
**Figure 5.** Typologies: (a) Durand J.N.L., Abacus of vertical Combinations; (b) Caniggia G. Typological process.

#### 4.1. The semantic meaning of parcel geometry

The plot is the unit of the urban organism, active in the transformation process. Its form expresses the content. Whitehand (Whitehand, 2014), in a recent text, emphasized how the Conzen school was able to leverage the relevance of the morphological period by paying particular attention to the shape of the plot characterizing one period or type rather than another.

The plot is studied by Caniggia in the text published in 1984 'The Project of Basic Building.' It describes the block and its component parts as variations of an idea of fabric or building, with rules and necessary relationships frequently induced by a path and the emergencies that have established or influenced its genesis.

The cadastral unit, the plot, in its unity of building volume and the related area, varies within and beyond the block, sometimes due to particular orographic features, other times due to newly arisen organizational needs in the fabric. In 1976, in 'Structures of Anthropogenic Space,' Caniggia, speaking of ancient permanences within the fabric, had already begun to indicate in the diagonal paths and trapezoidal plots the indicators of the subsequent transformation of an older building substrate, more linked to special structures or orographic morphologies.

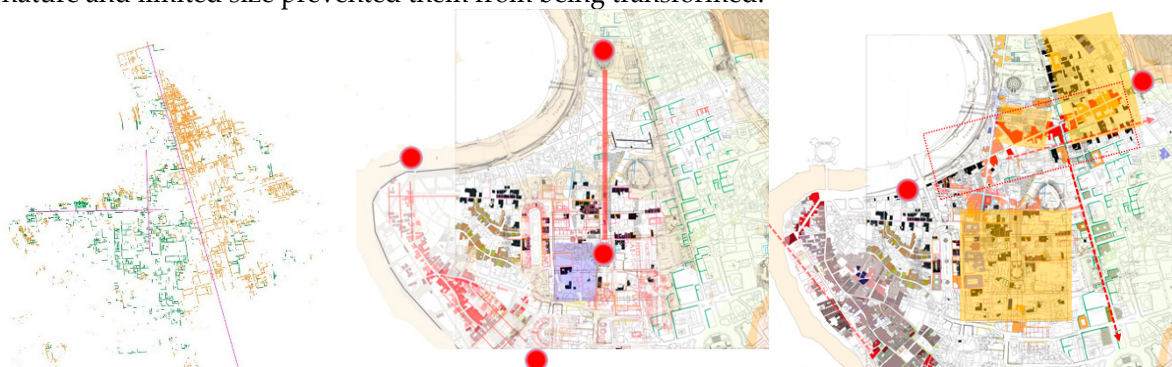


**Figure 6.** (a) Aymonino C., Paris Renovation Paths; (b) Transilvania, Medias. J.P. Legusy (1984), *La rue au Moyen Age*, Ouest-rance; (c) Roma, Irregular blocks due to the construction of Via Giulia.

The irregular shape of a block or parcel, somewhat irregular or highly irregular, will express the ultimate phase of an urban landscape fragment. Parcel geometry indicates transformations undergone (Caniggia, 1988) but also suggests the merging of multiple units and the existence of an older layer. It can indicate which elements have been added and which paths, nodes, or traces have guided the transformation process.

Although the design of the parcel aggregate generally originates from the relief and topography characterizing the natural site, more often, when the plasticity of the terrain exhibited an extensive and flat nature, roads were hierarchically organized due to the intentions of those who invented and arranged the building fabric, drawing the fundamental axes and poles.

To a discerning eye, those seemingly inexplicable traces of masonry from the pre-existing fabric, hidden within the complexity of the current design, cannot escape notice. Those remnants of minor constructions, mainly consisting of elementary structures (single-cell or double-cell), whose private nature and limited size prevented them from being transformed.



**Figure 7.** Morphological Analysis of Fabric: (a) Geometric analysis of the alignments; (b-c) Overlay of news roads (III and XVI century) over the matrix settlement (I century).

#### 4.2. Connections, nodes, and strips of relevance

The cadastral parcel, from its origin, maintains a close relationship with the path. It becomes a matrix when specific morphological, economic, and environmental conditions allow for their anthropic structuring. Proximity to a crossroads of paths establishes hierarchies with other paths, leading to subsequent specialization (plazas or buildings).

The foundational path, like the primary paths, establishes the initial rules for the city's design. A series of complex factors (distance from the pole, quality of the poles, etc.) regulate the development and subsequent design of the built environment along the relevance strips of the paths, and the resulting form will be what the building elements require. The formation and specialization of certain parts of the built fabric (construction of special buildings: palaces, convents, churches, etc.), modifying the value of the poles within it, often lead to new paths (sometimes designed counter to the grain) and the genesis of trapezoidal shapes of the lots in the built fabric. Elements and structures must necessarily reconcile, as Quaroni (Quaroni, 1969) in the aptly describes for the urban project of Via Giulia during the pontificates of Nicolo V and Pope Perretti, with an existing design: "*in the Fontanian idea*" (...) "*there is a design seeking a reinterpretation of the city that already existed (the main poles were already marked in history) according to a new, broader, and architectural vision of the entire urban fabric*".

#### 4.3. The osmotic relationship between fabric and building type

An osmotic relationship links the basic building fabric to the special building, commonly referred to as a palace. It represents a continuous genetic mutation of the building within the urban fabric, altering the rules for aggregating basic units within the building fabric, proposing different, sometimes simpler or more complex alchemies over time. The transition to a special architectural unit is generally determined during the procedural history of the architectural type, through a simple and paratactic juxtaposition of building cells.

They align linearly along a path, on the inner perimeter of a sacred enclosure's peristyle, or organize within a block along the perimeter of an empty space (courtyard) following a diachronic order and succession borrowed from the same rules that determined the distribution of lots and buildings in the urban block. This evolution is commonly found in the historical fabric of many cities, often coinciding with changes in residential use and the urban role the architectural organism plays in the location. This initial metamorphosis is often followed, particularly in continuously inhabited urban centers, by a more complex one that could metaphorically be described as the crystallization of the basic building fabric. Its serial character morphs into a new organic architectural unit, where external paths become internal, following a hierarchical sequence borrowed from the compositional rules of the building fabric. This transformation can remain open or be enclosed, altering the original

distributive nature of the building into an architectural expression more akin to a basilica-type structure.



**Figure 8.** Urban fabric and building: (a) Landshut: recomposition of the building fabric; (b) Florence, Palazzo Vecchio in the current aggregation, which includes a block and the Sala del Cinquecento built along the pathway.

This continuous and complex mutation of the fabric and building type reflects within the building fabric itself, which contains and envelops it. The formation of a palace establishes a significant point within the urban system. New buildings, new paths, all in a different relationship between parts and the whole. This progressive mutation demands a hybrid rethinking between type and fabric in the moment of design. The parliamentary palace is like the prince's palace, a special building among special buildings. Just like Florence's Palazzo Vecchio in its sixteenth-century transformation, the "government" building requires specific spaces and rooms acquired from the fabric and paths. Over time, it gains unique dimensions and complexity, imposing itself on urban space. Or additions that flip the facade and hierarchies in the urban building fabric, as seen in Turin's Palazzo Madama. Symmetrical and specular doublings, duplications, and specializations are elements of a metamorphic game that leads the basic fabric to crystallize into the palace, establishing organized nodal spaces, adding relevant spaces to redesign a new order within the city.

## 5. Conclusions

Imagined as the final frame of a movie, the shape of the contemporary city appears as the ultimate chapter of its architectural narrative. Like an "urban text," a collective and dynamic "writing" that fades just an instant after another new transformation takes place.

Houses, streets, buildings – all elements composing the city – physically express, in three dimensions, the life and relationships between people. Stories and events within the city are recorded with ink on paper, documenting what has become inherited. Each "discrete unit" (building particle) represents, through its form, a part of the narrative, an outcome of mediations between what has been inherited and what has more recently been produced. However, what has been transformed, partly or entirely erased, can only be imagined based on the form it had. Yet, we can reconstruct it by interpreting those residual graphic traces, ancient and modern, that still linger in the geometric marks on cartography, capturing the essence of time and the spirit of the people's culture.

Contemporary topographic maps, repositories of the total reality of human and architectural events, can be a mentor for the future through those graphic signs, sometimes jealously guarded within the building fabric, in the shapes, in the residual elements and particulars of a material history, devoid, however, of the contour that characterized their essence. They are discrete units, signs of a past sometimes organized on premises diametrically opposed and imagined by modern society.

The complexification of the territory and the city has over time generated increasingly intricate forms, often identifiable solely by their irregularity. Geometries that modern culture is adept at representing and that today we can attempt to interpret in semantic significance, in order to understand the rules that have determined other forms in its past.



A correlation between expression and content, between form and meaning, reveals how meanings and rules emerge with each change in form. It underlies a shift in significance, a change in scale, a new morphological adaptation, and consequently, a redefinition of "urban rules."

The cadastral map, metaphorically assumed as the city's narrative, encompasses all urban forms that have continuously innovated it, *"adjusting" and updating it until the present, "(...) the form of expression or urban form can be understood as the spatial language through which the content form is manifested."* (Levy, 1988)

Forms, meanings, continuous and discontinuous processes coexist in the concepts underlying interventions of Urban Acupuncture: *"We know that planning is a process. As good as it may be, it doesn't determine immediate transformations. It's almost always a spark that starts an action, which then propagates. And this is what I call good acupuncture. True urban acupuncture."* (J. Lerner, 2010)

Processes and events that change its course, the foundation of urban acupuncture, analogous to the concept of process in urban morphology, and interventions that have understood the significance and role of the part within the whole. Profiting from corrections to heal wounds is what morphological studies seek to explore through the study of form. However, not all interventions manage to achieve this, lacking that touch of genius. Others, on the other hand, seem to have both this touch and the ability to meet the goals set by morphological studies. One such project led by Francesco Cellini at the Augusteo managed to blend different historical layers of the city of Rome with the demands of the most recent contemporary layer. This was achieved through connecting pathways, scalar connections that reinterpret the ancient by inventing the new. The city, in its continuous transformation, preserves in the forms of its original structure the imprint of its future, often linked to the original plastic conditions of the soil that continue to suggest tactical and strategic interventions, acupuncture points characterizing new points of an archipelago (Ungers, 1977).



**Figure 9.** Cellini, Augusteum: Requalification Project for Piazza Augusto Imperatore: (a) The project and the historical superimposed layers; (b) Render.  
[https://cdn.archilovers.com/projects/b\\_730\\_22560af3-f691-413c-a615-01786e13dd48.jpg](https://cdn.archilovers.com/projects/b_730_22560af3-f691-413c-a615-01786e13dd48.jpg).

The project, the outcome of a competition in 2006, aimed to restore the archaeological area to the contemporary city, engaging in a dialogue with the preexistence in a way that respects the "archaeological fragment," bridging the gap to reintegrate it into the urban project of the area, enabling users to comprehend and live within the space, rejuvenating the area and the entire urban district. It could be described as a tactical and strategic project and an acupuncture intervention simultaneously. It's an urban project that looks at the larger scale, that of the entire urban space and the extended territory.

The first phase of the competition, concluded in 2014, focused on the arrangement of the lowest level of the archaeological stratum, while the second, yet to be completed, dealt with arranging the area surrounding the building, reinterpreting the relationship between historical memory and the contemporary city.



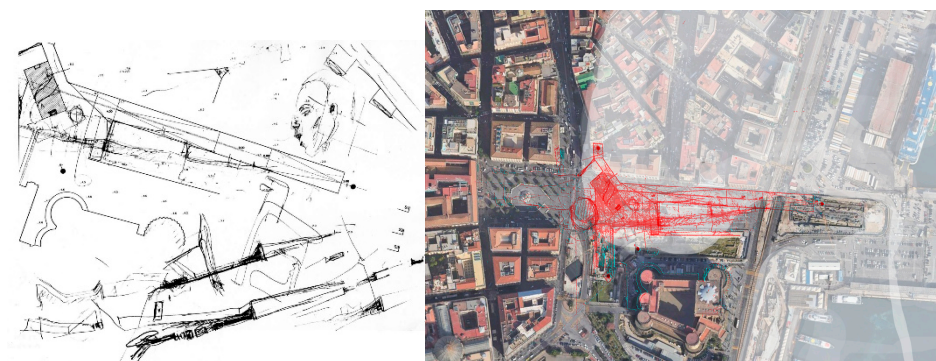
The masterful and unique effort by Chipperfield and Schwarz in imagining the entrance to the museum complex in Berlin is contained and calibrated within the compositional grammar of nineteenth-century masters (Schinkel, Stulher, etc.) for a complex building meant to celebrate the weight of civilization.



**Figure 10.** Chipperfield and Schwarz A., Berlin Neues Museum: (a) Sketch of the project; (b) Render of the design proposal; (c) Internal connection pathway between the various buildings and museums.

A new gallery connects the museums together, the Neues with the Pergamon just behind Schinkel's Altes Museum. However, the intervention is more than that; it holds a larger-scale tension, engaging the city and aiming to redesign its center. As Alexander said in a conference held in Rome in 2020, "The reunification of East and West Germany and particularly the two parts of the city of Berlin provided the opportunity to re-establish the unity of the city. In the museum island, the reconstruction of a wing of the new museum (Simon Gallerie) offered the possibility to restore unity to the museum complex on the island and to the city." This tactical and strategic intervention, an acupuncture similar to Lerner's, had the value of reinventing an ideal center for the city.

Different but equally expressive of an acupuncture design tension, halfway between urban design and landscape rewriting, is the one by Siza and Souto de Moura for the Municipio station in Naples, still unfinished, which has united fragments of Naples' history. A complex project where, once again, the fragment, the gap, and urban regeneration find a masterful synthesis in the redesign of a node belonging to the city system and through the metro station to the wider territory. "(...)a project of 'historical continuity.' Not figuratively, but in the way of working. Christian architects of the Middle Ages, for example, used to take Roman columns to build churches. Well, we use archaeology not as a field of investigation, not as material for scientific contemplation, but as material useful for our projects." (Souto de Moura, 2022).



**Figure 11.** Siza A., Projects: (a-b) Sketches for the "Piazza Municipio" Metro Station. "But Naples is not only what is seen, in glory or in degradation. One can almost feel, beneath one's feet, the breath of an invisible or hardly visible world that has been building the present city for many centuries. An enormous and fragmented foundation of many layers, materials often overlapped, placed by people from different regions and religions. Thus magnificent monuments emerge, which sometimes men uncover while digging. Such accumulated matter conditions and directs what is being built today" Laurea Honoris Causa Dell'Università Federico II Di Napoli | 2004 Discorso Letio Magistralis di Álvaro Siza.

## Notes

1. "The city is regarded as a multi-dimensional sensitive organism where energies interact, a living environment."
2. Caniggia and Maffei began to connect geometric forms like the "path of restructuring" of the urban fabric—parcels and blocks—to urban events and parts of a graphic narrative of urban history.
3. Almost all colonial logic between the 1800s and the end of the Second World War (and perhaps even today—considering Somalia and Afghanistan, the two countries previously inhabited predominantly by nomadic populations until a few decades ago) was based on the "replacement" of the territory's culture, often the source of wars and improper land appropriations.

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