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## Towards a metropolitan design

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More than attempting to bring to the fore issues of a social nature or pertaining to the civitas, a set of questions regarding the condition of the urban element - the urbs - on the physical and spatial aspects of the post-industrial European metropolis phenomena are to be addressed. For that matter, a debate on the production and design of metropolitan space was envisaged by addressing the following topics:

- the epistemological dimension of metropolitan morphology, urban fabrics - rural, or natural environments;
- the idea of a Metropolitan Design, rooted in the industrial Urbanism, but including multilevel aspects of planning through the need of large-scale projects;
- open space as the functional element with the highest capacity for shaping contemporary cities.

**Keywords:** open space; metropolitan design; urban theory; contemporary city

### A Metropolitan Morphology

The issue associated to a definition of morphology of the contemporary metropolis came up in the last decades due to the need to adjust concepts, vocabulary, and techniques to the specification of territories, which have become more diverse in terms of configuration and rationale.

The development of approaches aiming to systematise and introduce methodologies appropriate to the constitution of the morphology of post-industrial metropolitan territories contribute, and in this context offer, an opportunity for research on the epistemology of contemporary urbanism.

By following the various trends that reacted to the modern model, and an attempt to recoup the understanding of development of the city over time –by identifying patterns and elements that would allow to systematise and represent the city in time and space, i.e., its morphologies - were particularly advanced in the 1960s, and, above all, in the 1980s.

Urban morphology lies basically on a morpho-typology of urban fabrics' basic elements– plots, roads and blocks – and on their relationship with public spaces, particularly consolidated ones, from a cultural perspective. Nonetheless, present day cities are formed by distinct and dynamic situations, which require critical answers and adequate evaluation methodologies.

Accordingly, other authors have systematically drawn attention to the need to align the concepts of form,



morphology, and typology with the circumstances of today's cities, avoiding the privilege once offered to erudite urban fabrics or those considered heritage. They propose that studies should be extended to the entire territory, and accept the existence of very dissimilar situations, which have been observed and studied with the help of comparable design techniques (Oswald & Bacini; Viganò, 2001; Secchi, 2005; Tatom, 2009).

In the study of the current metropolis, nowadays extended to practically all cases of the urbanised world, the territorial understanding of the phenomena that transform and configure the city is most appropriate (McHarg, 1969; Dematteis, 1999), and often leads to extremely innovative approaches (Busquets, 2005).

It must equally be mentioned that studies recognised internationally as seminal, in terms of the urban morphology and design, had already been carried out at Laboratóri de Urbanismo de Barcelona<sup>1</sup> (Barcelona Urbanism Laboratory). The work of Manuel de Solà-Morales *Las formas del crecimiento urbano* (published later, in 1997) deserves special mention due to its very innovative approach typifying transformation processes that opposed a more static stance relying on an urban typology, and portraying distinct types of urbanisation from an understanding of its core elements – parcelling, infra-structuring and buildings.

These approaches represent well the need to interpret emerging metropolitan morphologies – urban, rural, and more ambiguous ones that are fast forming in areas more peripheral to consolidated urban centres, both in terms of time and space. These works are considered to be pioneering in their innovative approaches, and contribute towards a culture of European planning.

In what concerns the morphogenesis of metropolitan spaces, more recently, authors such as Antonio Font (et al 1999) and Carles Llop (1995 and 2009) must be mentioned for insisting on the importance of landscape and on the need for a Project for the Metropolis. These works introduced a systemization of occupation forms of the metropolitan area of Barcelona, and extended this comparative study to thirteen metropolises in Southern Europe. *La Explosión de la ciudad/The Explosion of the City* posed questions regarding the condition of the contemporary metropolis, in the search for a lexicon of configurations, and pointing to a future systematisation of morphologies that are larger in scope (Font et al, 2004).

In this light, the traditional city is understood in the wider context of the metropolis, and its morphologies are identified in parallel and without distinction to those pertaining to suburbanisation or atomisation of more recent metropolitan territories. The progressive urbanisation of territories on the edge of more recent urban fabrics has also been taken into account. In the approach to metropolitan morphology, tools from the urban morphology - parcelling, buildings, infrastructure and public space - were considered valid as well. However, adjustments had to be considered: differences in levels and scales and the need to introduce other aspects such as large physiographic elements, functions and socioeconomic dynamics as drivers of development. This allowed, also acknowledging the importance of the open space system in a metropolitan morphological approach.

In fact, this stance proposes an equitable vision of the space of the metropolis. It confers importance to open space, and marks the temporal stratification of the metropolis, which had become dissociated from the urban element as a result of spatial disjunction and of the functional specialisation proposed by the Modern City.

Various studies on Landscape Ecology have led to interpretations also systemised around morphology, although they did not have a symbiotic view (between urban and non-urban) of metropolitan territories. This line of thought has its origins in the beginning of the 20th century German Landscape Planning and Design tradition, later recouped by Forman (1995); however, a one tier focus in the ecology of the natural and rural landscapes failed, to some extent, to explore the interface between different fabrics – ranging from urban to rural -, where the main questions regarding contemporary metropolises are believed to lie.

These various references offer a wide spectre of knowledge on the current metropolitan phenomena but miss crucial issues such as how to develop new concepts to designing it at different levels.

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Urbanised landscape, whose origin often results from a rural-based anthropization, has progressively developed as a consequence of territory and modern city infrastructuring. Even quite specific geographical situations, where the natural environment predominates, are affected by the dynamics of the urbanised world, creating synergies and complementarities of a metropolitan nature.

However, it was the profound changes starting in the middle of the 20th century, peaking with the oil crises of the 1970s and 1980s, which led to a rupture that had widespread impact on several features of contemporary society. These circumstances account for increasingly complex changes that are already paradigmatic, both in terms of territory and of the challenges posed by its planning.

Due to shifts in aesthetic and cultural values, and to the development of new social and economic practices, the city is changing its face and in scale, and is increasingly perceived as territorial, tending to become metropolitan.

Metropolis is now a reality in the form of a landscape that includes not only what is urban, in its distinct facets, but also rural and natural environments, in rapidly changing multifaceted functional structures. Something several authors had already envisaged this developments, in almost prospective manner from the beginning of the 20th century (Geddes, 1915, and Webber, 1968).

The period known as post-industrial basically saw the emergence and maturity of a culture relying on analysis, planning, and project. It privileges interconnection and holistic approaches that are natural to an urban environment undergoing permanent transformation and readjustment to new conditions – challenges and risks.

### **Towards a Metropolitan Design**

The post-industrial period is characterised by fundamental changes in the renewal of the concept of urban, and in the innovation of choices and strategies regarding their spatial and urban planning and design. On the one hand, it has a critical component of major impact in terms of socio-cultural conceptualisation and an architectural-based approach to a territorial design. On the other, the functional dynamics that the developing of new planning approaches indicates already consistent trends:

1. Configurations and morphologies indicating the definition of models and concepts, from a design and cultural perspective. In addition to identifying the distinct metropolitan configurations and phenomena (such as extensive city, Portas; diffused city, Indovina), the literature review has highlighted the need for suitable intervention, and proposed a definition of the Project for the Metropolis (Font, 2004) or of Landscape Urbanism (Waldheim, 2006). The emergence of the concept of Metropolitan Urbanism (Tatom, 2009) has equally contributed to the advance of research and practice.
2. Dynamics and phenomena that bring about functional issues, in terms of regional and urban planning. Territorial dynamics marked by polycentrism, (Faludi, 2008), shrinkage (Oswalt, 2006), and a fracture between major infrastructures and rustic or urban configurations (drosscape, Berger, 2006) are also of major importance, as they propose forms of mitigating and combining distinct situations by resorting to multilevel policies, planning and projects.

At this point, a research line gains stronger evidence towards the practice scope:

- 1) Urbanism is a two tiered discipline - architecturally based on morphology and on design - born from the effects of industrialization in the form and development of the city, and
- 2) metropolitan morphology is generally acknowledged (however not yet clearly identified as a systematized line of thought as urban morphology is already), then, beyond urban and regional planning, a Metropolitan Design concept is gaining consistence and legitimacy, with a peculiarity since it is specially addressing the open space system in its close interrelationship with the urban, specifically by reinventing the range and qualities of the public space realm.

After the identification of this new field called Urbanism in late 19th century and with some roots in a

classical past, Urban Design would emerge as a separate professional activity, in Europe and America, after the Second World War (Shane, 2011: 9). This term (coined by Abercrombie and Forshaw, cfr Shane) would fill in the need to face the damaged cities and new agendas that would transform the urban world, such as the automobile. Abercrombie would develop one of the most important metropolitan spatial elements that may already refer as pertaining to a metropolitan design idea: the green belt – an open space tool of urban containment.

The planning of open space, in metropolitan terms, has essentially played the role of containing urban growth and avoiding the fragmentation of natural and agricultural coherences, contributing to a clear definition, albeit negative, of urban delimitations. It was in this light that the English greenbelts came into being, the London one deserving special mention, and where this specific issue was explicitly pinpointed by Abercrombie as early as 1945. After 1931, the initial ideas advanced by Raymond Unwin and the London Society were published in the Report on Open Spaces, published by the Greater London Regional Planning Committee. The LCC had the merit of promoting the Green Belt Scheme in 1935, which became a law when the Green Belt Act was passed in 1938<sup>2</sup>.

More recently, besides aspects related to containment, and, later, to environmental and ecological preservation concerns, it has become clear that, in terms of a project for a metropolis, large open spaces have moved away from a strictly functional zoning. Indeed, they start to denote qualities of a design nature, recouping urban concepts after the major elements of composition of open space, like the ones Olmsted introduced in American cities such as Chicago or New York at the end of the 19th century.

As a result of industrialisation, European cities have experienced increasing urban growth, which rapidly rose above the area, structure, and configuration of conventional cities. This led to the emergence of previously inexistent forms of urbanisation, such as suburbanisation, which were either highly dense (e.g. Grands Ensembles in some French cities, such as Muraille de Chine, in St Étienne, demolished already) or low-density landscapes (e.g. Sun Valley in the USA).

This situation, generally addressed as sprawl, albeit its local peculiarities, became more complex with the decline of Fordism, the introduction of the just-in-time models, and the development of a knowledge-based economy, which, from the 1970s, started to expand in the urbanised world. More recently, a creativity-based economy is being called for as a means of intervening in more qualified urban spaces. On the one hand, the activation of rural patterns within the metropolitan territory, on the other, population and functional decline leading to central areas becoming obsolete and deserted, contribute to the proliferation of residual areas – no longer merely rural – in-between historical zones, compact suburban areas, and major infrastructures.

Identical phenomena, even though with distinct configurations, occur in Europe, particularly in Southern metropolises, such as Lisbon, Barcelona, and the Veneto region (Portas, Font, Indovina, 2007), and transnational metropolises like Øresund (Copenhagen in Denmark and Malmö in Sweden), Basel (France, Germany and Switzerland), which have experience of urban management and planning based on international institutions.

However, and for the time being, the study of configuration, structures and rationales, from a large scale morphology perspective lies on what is metropolitan, a condition that surely will be soon overcome.

It is in this context that interpretations and interventions associated to the phenomenology of the metropolitan territory arise, such as Zwischenstadt (the city in-between, Sieverts, 1997) or Netzstadt (network city, Oswald and Baccini, 2003), referring, respectively, to the German and Swiss examples, forming a spatial-based concept applied to the contingencies of an urbanised territory.

Against a passive idea of a readymade metropolis which will inevitably correspond to a mosaic of urban, rural, natural, and boundary components, in which predominantly built or open areas alternate, a metropolitan design approach would, clearly, make the difference.

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<sup>2</sup> The first draft project for the Green Belt was established by the Home Counties Greenbelt Act of 1938, with the purpose of controlling metropolitan growth in the outskirts of London. The need to preserve countryside landscape areas was a result of an initiative of several associations such as the Garden Cities Movement.

## The open space system as a key to designing the metropolis

In several European cities, one notices that metropolitan interventions converge into a combination of scales and projects – in space and not by resorting to mere schemes – towards what was referred to as the need for a notion of a Project for the Metropolis. In these circumstances, it may be interesting to have a territorial definition of the Project [or Design] as the main tool for the materialization, in terms of space and from an architectural base, of strategies and intervention trends, in which the regeneration of forms of occupation and use are fundamental in a metropolitan structure context.

These types of instruments have expanded and been updated, the most important examples being the English, French, and German planning systems (Greater London Plan, Plan d'Urbanisme of Lyon and IBA Emscherpark, among others). They find that qualifying open space as an essential instrument, both in terms of planning at a metropolitan scale, and of intervention in the actual city. Examples include planning based on agricultural and metropolitan parks in Barcelona (Clos, 2008; Llop, 2009), and the concept of Metropolitan and Regional Design, set up at the School of Architecture of the Technical University of Delft in several projects, or at a national level, such as the programme Dutch Delta Design (DDD-2012). Additional examples include the interventions fostered by the agency Design for London from 2004, as well as various studies by Secchi and Viganò, with a special reference to Paris (2009). In France, the tradition of an urbanistic trend was even reinforced by the changes in the law, which introduced the concept of GPV/ Gran Project de Ville. In Portugal, more precisely in the Metropolitan Area and in the city of Lisbon, identical issues have been tackled in recent planning reviews (CML, 2010 and CCDRLVT, 2009).

In this light, it has been possible to consolidate the perception that, between the middle and the end of the first decade of the 21st (Morgado, 2010), there has been a change in paradigm regarding planning and management, in which the following have become evident:

1. Effective integration of open spaces in city projects, namely by including the urban element, infrastructures, and ecological networks in the same instruments;
2. Acknowledgement that functional and strategic planning lacking the necessary spatial component is not appropriate to a variety of distinct situations undergoing permanent transformation, and in which the public realm has a leading position in the links among the various agents intervening in the city;
3. Coordination between diverse types of plans, levels, and hierarchies in metropolitan space is essential.

These concerns point to the need to clarify requirements that comprise distinct qualities of an urban, infrastructural, rural, and natural type, and to the necessary capacity to intervene. In this light, intervention normally means adjusting – or updating – in terms of instruments and lexicon, the morphology of the metropolis, for which classical urban morphology lacks the necessary arguments and vocabulary.

The circumstances of the actual transformation must also be taken into consideration, for which a study of the morphogenesis of places is more appropriate than morphology in itself, as the latter is relatively static in terms of the temporality of the object of study. The same applies to the analysis and methodologies, and to the need for specific references beyond those pertaining to the canonical city. This means an on-going epistemological challenge that contributes to our understanding of the extensive city based on a duly founded architectural approach.

Throughout the first decade of the 21st century, there has been a considerable evolution regarding the definition of the major elements of the Project for the Metropolis. This is based on open space and on new urban concepts of recognition of the metropolitan landscape, and not just on derelict and residual spaces in accordance to the determinism of urbanization associated to the terrain vague in obsolete industrial areas, as pointed out by the critics in the 1980s and the 1990s.

Production on the metropolis is beginning to show new approaches to dealing with discontinuous metropolitan spaces, winning over the views that somehow conveyed the aesthetics of the banal and the ugly, and portrayed it in an exhaustive and nihilist manner. Besides identifying the raw material of the territory and the ways it evolves, at last projects for the metropolis, or, at least, for the contemporary metropolis, are finally starting to appear.

The adaptive nature of actual plans and the need to integrate programmed projects at successive scales shows the need to plan a territory according to distinct intensities and origins. It also points to the need to bring together the actual possibilities for metropolitan space planning, and to align national interests (such as the national ecological and agricultural reserves, coastal planning projects), national plans, and the role of urban projects within municipal urban plans.

We can even conclude that one of the main topics in the regional plans of those cities was always the issue of urban containment, or its opposite, control of human occupation, and a clear definition of functional open space as opposed to a duly infrastructured and equipped urban area.

In Portugal too, a more spatial-based approach to metropolitan planning has been emerging, addressing a somehow lack of instruments at a national level. Examples of the latter include REN/Reserva Ecológica Nacional (National Ecological Reserve) or RAN/Reserva Agrícola Nacional (National Agricultural Reserve), which, generally speaking, did not translate into appropriately programmed and designed areas at a local level. Contrary to previous documents, the introduction of the Rede Ecológica Metropolitana (Metropolitan Ecological Network) in 2002 brought some innovation and is more efficient, at municipal level, in the reviews of the PDM-Planos Directores Municipais/Municipal Master Plans (CCDRLVT, 2002). In this case, the progressive integration of 1990s Green Plans in municipal planning has been achieved, from an ecological and environmental perspective, and also as a key feature of municipal land use planning and design, and part of a project of an idea for the city. With regard to Regional Plans, another innovation was the study of the delimitations of land use patterns (CCDRLVT, 2002 e 2009), which introduced the morphological and spatial dimension of the metropolitan territory. This approach takes into account a landscape ecology perspective, and sees the territory as a land mosaic, regardless of its urban or rural nature. This is the basis where REM/Rede Ecológica Metropolitana (Metropolitan Ecological Network) stands and finds its spatial development characteristics and subsequent implementation through the Municipal Ecological Networks, which have now been incorporated as qualified open spaces in their Municipal Master Plans. The reassessment of the Lisbon Municipal Master Plan is an example of this (CML, 2009).

Similar issues were addressed at the PROTAL (Algarve) and PROT in the North – based on a designed view of metropolitan space in which open space has a major role, the same as in other European cities, like Barcelona (PEMB, 2008). The PEMB/ Plano Estratégico Metropolitan de Barcelona (Metropolitan Strategic Plan of Barcelona) establishes several priorities and offers a model identical to that of Lisboa 2020 uma estratégia de Lisboa para a Região de Lisboa/ Lisbon 2020 a strategy from Lisbon for the Lisbon Region (CCDR-LVT, 2007). PEMB strategically advances several proposals, including the Plano director de corredores verdes (Master Plan for Green Belts) (2007) and Parque Agrário Llobregat/ Llobregat Agrarian Park (2004). In this case, planned projects reflect issues that show the cleavage between urban and non-urban, by qualifying derelict areas (urban reform of Besòs and its linear park), or introducing new metropolitan forms of interface between infrastructures and residential areas (e.g. the agrarian park and the Mediterranean Highway, Santa Maria de Gallecs). There are also authors who propose a cohesive project between the distinct types of open spaces, suggesting a garden of the metropolis (Battle, 2003).

This trend is relatively recent and occurs as a result of a time marked by some conflict between the urban, the natural, and the rural, whose objectives, in regional terms, often opposed each other.

The recognition of environmental values in the metropolis and the actual need for spatial planning help promote the complementarities between open spaces, urban fabrics, and large infrastructures.

Examples include the emergence of agrarian and metropolitan parks (Barcelona, Milan), and the clear definition of roles in an extremely infrastructured conurbation around a green heart (Groene Hart) with major limitations, in terms of landscape, and with water and drainage related problems, such as Randstad Holland.

This is a form of containment, inverted with regard to the greenbelt concept, which was introduced in Holland's first regional planning policy in 1960. It has been coordinated alongside more recent policies, particularly in new residential locations (Vinex, from the mid-1980s) or through the development of multiple centres according to models pioneered by Sweden introduced at the end of the 1990s.

More recently, the Randstad 2040 strategy, integrating the Randstad in the context of several European policies, aims to encourage the protection of open spaces, especially those connected to water, and considers the possibility of including more houses in the Groene Hart. Several examples followed suit, which modern urban models have considered, after all, to be issues of a metropolitan nature, given that the urban always happens in a wider territory marked by specific landscapes. Nonetheless, they were only developed in part, and always favoured urban expansion at the cost of the rural, in detriment of a global and metropolitan approach.

So far, it is getting quite clear the prime importance of the open space in the Design of the Metropolis. However, the most immediate appropriation of the production of city space – where the main social and cultural values and economic forces are concentrated – reduced the importance of open space, relegating it to a state of absence or scenery, of residual importance compared to the major role played by the built environment. Until now, its cultural, landscape and environmental worth had not yet been clearly acknowledged. This acknowledgment gave it back the leading role in the transformation process and project of the metropolis.

As the contemporary metropolis includes several levels of land use, the consolidation of some key aspects for the understanding of the various forms of urban transformation and production, and in which open space assumes growing importance:

1. for the environmental issues associated to the preservation of nature and risks connected to climate change,
2. for the critique and innovation of the projects proposed, of a larger scale, and the potential darning of the distinct pieces of metropolitan landscapes and
3. for the potential explanation regarding the forming of the actual metropolitan fabrics, resorting to the definition of a metropolitan morphology.

From the viewpoint of urban intervention models and ideas, one notices that the more persistent ones focus on the relationship between urban and open space, at a metropolitan scale, and are often more suitable to better define areas. In the case of the latter, one should mention the major elements of territorial composition, or the Project for the Metropolis for purposes of containing urban sprawl, such as the paradigmatic English Greenbelt or the Dutch Groen Hart/Green Heart.

With regard to a critique of urban planning, one cannot but notice the existing dissociation between urban and open space in planning and management instruments, and that the urban has prevailed over the remaining territory. This has contributed to the proliferation of residual open areas with deficient protection, unless the open space was, in itself, a relevant economic activity.

This situation has taken place essentially in modern times, whereby productivist models allied to large-scale agricultural production have contributed to the maintenance of vast exclusively open spaces, in addition to a zoning perspective of city. The city models with the highest impact on urban fabrics have caused conflict and stiffness in their integration with the open space, concurring for discontinuity and fissures in the morphological and functional coherence of the most fragile areas.

Above all, this was the result of a progressive view that was particular to the mid-20th century, and of special needs in terms of housing, which privileged urban growth according to zoning and functional specializations in detriment of a correlation between urban patches and an idea of the whole for a city of metropolitan scale and inclusive of larger open spaces.

In addition, the presence of a metropolitan governance structure lacking the capacity for direct execution and with a weak relationship with municipal authorities, gave origin to inefficiencies in terms of metropolitan planning.

In Europe, priority has been given to issues related to coordinating several levels of planning, and to the recovery of a better informed type of planning, from the viewpoint of the territorialisation of phenomena, thus complementing more strategically oriented perspectives.

Following a type of physical planning marked by zoning and a strategic approach, particularly after the 1980s, which did not favour spatial views of the whole, it is particularly interesting to notice the

emergence of new practices, which, due to the fact they are still in progress, cannot yet be evaluated.

### **From in-between to a designed open space system**

On a wider scale, the main areas of concern focus on transition areas between dissimilar situations. On the one hand, it addresses the ambivalent characteristics of its fabrics, and, on the other, the need for a disciplinary approach that, in terms of projects, answers trans-scale situations and allows working in areas with scientific and conceptual borders that simultaneously encompass urbanism and landscape architecture.

Accordingly, and in the light of recent works, we are probably looking for designs that instead of attempting to mend urban splinters aim to reinvent a fabric composed of many distinct pieces, conveying the city a territorial coherence through a public realm oriented structure of metropolitan characteristics.

These concerns raise the need to clarify the nature of current metropolitan fabrics, as they hold different qualities - from urban and infrastructural to rural and natural - and the indispensable skills to intervene in them. In this process, the growing importance of the space in-between cities is highlighted. As a result, literature and practises keep on emphasizing the same topics: Open space is a key element for the full understanding of current metropolitan and urban morphogenesis and The most flexible design component in the articulation of different and scattered elements (infrastructures, buildings) in the metropolis. After privileging an urban expansion that granted wealth, through often, overrated real-estate urban developments – a comfortable certainty, recent events in the US and America economic and financial crises made crumbled as a castle made of cards.

Research should now focus on a multi-scarcity conjuncture of people, resources, and tools. This is when the rural grows over what once used to be urban, inverting planning and design agendas.

How to address a recessive city when the known tools are prepared to tackle with growth, if not by resorting to a designed open space system?

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