



# TESTING GROUND

## 04 SUPRA SCALAR

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# Editorial

by Altan R. Dervish

In about 5 billion years, the sun is expected to become a red giant that will expand to engulf the earth, wiping out all terrestrial life [1]. Within the next 15,000 years, the precession of the earth's poles may move the North African Monsoon far enough north to eventually terraform the Sahara Desert into a tropical rainforest [2]. Shifting baselines of global averages over the last two centuries have masked rapid biodiversity declines and have accelerated climate change.

In contrast, today, the decisions that define our worlds are limited by trending political terms, news cycles, and quarterly profits—facilitated by accelerating technologies and challenged by ever-shortening attention spans. However, what if we collectively commit to an alternative modernity of existing, one in which we explore dimensions of time, energy, and distance outside of our current human scales of understanding? How could these alternative perspectives reshape our worlds?

Supra Scalar, the fourth issue of TESTING-GROUND, explores landscapes at extremes of time and space. Questioning the knowledge and methodologies needed to engage with unfamiliar temporalities, with landscapes beyond conventional lines of sight, and with worlds accepted as "less-than-human".

[1] Tillman, N. T. 2022. Red giant stars: Facts, definition & the future of the sun. In: *Space*. <https://www.space.com/22471-red-giantstars.html#:~:text=In%20approximately%20five%20billion%20years,to%20the%20red%20giant%20sun>. (Accessed 24 July 2022)

[2] Marsh, S. 2011. Will monsoons once again return to the Sahara? In: *BBC*. [https://www.bbc.co.uk/blogs/23degrees/axial\\_tilt](https://www.bbc.co.uk/blogs/23degrees/axial_tilt) (Accessed 24 July 2022)

# **METRO-SCAPES:**

## **Metropolitan Cartography for mapping Hybrid Landscapes**

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Nowadays, the metropolitan process of spatial fragmentation and spatial heterogeneity demonstrate how Metropolitan Landscapes shall be understood as spaces for changing the practice and cultural expression of those who inhabit them. At the metropolitan scale, hybrid landscapes are plastic spaces and transitional membranes that connect nature with territorial infrastructure networks according to trans-scalar visions, from a rural environment to historic centres to urban districts and neighbourhoods. The Supra-scalar dimension of Metropolitan Landscapes undergoes sudden changes: the spatial relationships between 'local/global/hybrid', 'urban/rural', 'culture/nature', and 'traditional/contemporary'; this is the investigation issue of Metro-scapes through Metropolitan Cartography maps. Specifically, the research aims to dynamically set up open-data and open-source Protocol Maps to make them interoperable, combinable, and scalable through modelling Metropolitan Landscapes. They are Figural Landscape Units since they are defined by their geographical structure (section) and durable cultural permanences (name). Therefore, Metro-scapes propose a new taxonomy of Metropolitan Landscapes in which the metropolis's tangible and intangible cultural heritage declines according to new spatial categories aimed at shaping Metropolitan Landscapes of Infrastructures, Exchanges, Transitions, and Obsolescences. In conclusion, as Metropolitan Landscapes are complex systems of space networks, Metropolitan Cartography contributes to rethinking the spatial form of specific hybrid urban-rural metropolitan contexts, their spatial ecology and public spaces' average linkage according to new land-use patterns of URLs. These new spatial interactions thus open up the city's design to a range of creative agents and to an array of new spatial typologies and their corresponding effects able to stand despite the incidental spatial pressures generated by physical phenomena of uncertainty and vulnerability from the metropolitan scale.

Keywords: Metropolis, Cartography, Hybrid Landscapes, Supra-scale image

### **1. Introduction**

## Needing Maps as tools for exploring and interpreting reality

Nowadays, the territory of the metropolitan city is incommensurable with the measurements of human beings, which as a finite body, can only be conceived through a mental gaze. In order to pre-see it, the elaboration of a more complex mental image is necessary because the metropolis can grow by integral additions that require subversions in the paradigms of the urban form and the tools to imagine it. The mental image of a metropolis is obtained from a movement at different speeds that allow the perception of innumerable information; it is more complex because it is the set of innumerable 1:1 maps articulated by the metropolitan architecture that builds the nodes of the Net-city. The spatialisation of information about perceived metropolitan territories in transition synthesises multidisciplinary and vivid knowledge of physical space. Our research stems from “new metropolitan landscapes” definition, “other hybrid landscapes” where the semantic relationships between *'local/global/hybrid'*, *'urban/rural'*, *'culture/nature'*, and *'traditional/contemporary'* are Supra-Scalar relationships.

At the metropolitan scale, the unprecedented notion of proximity, which results from the new technologies, multiplies physical proximity given the temporal equality that infrastructures determine. One can reach places nearer and farther apart in half an hour regardless of spatial distance. The infrastructure disengages from the ground, and a new form of communication emerges immeasurable to the human body. People move through the real and virtual world to meet others, work and experience that can also be of 'other times'. This process is nourished by the construction of the literary, film, photographic and theatrical images to determine the affective image, which comes alive and becomes an adventure within a territory to be explored. The question we will ask here then is: how does the exploration and interpretation of reality change with new technologies that increase the capacities of our bodies and minds?

Our experimental tool related to the main question is Metropolitan Cartography (Contin, Galiulo, 2021).

We propose a qualitative mapping project for metropolises through robust, evocative images (Mangani, 2006). It presents the conception of new generation maps capable of critically analysing, representing in a dynamic and renewed way, the physical and temporal complexity of the new territories, the knowledge and translation of stratified knowledge, the construction of informational ecology (Shane, 2011), to produce "sensitive" images that activate the understanding of their design value rooted in the intertwining of different scales.

## 2. Mapping Supra-Scalar

The concept of “supra-scalar” introduces a question about the construction of the modern image of the metropolitan city, which for us must take place through an object with a poetic reaction (Le Corbusier, 1936). For us, the architectural project at the metropolitan scale is the genesis of the event that originates a new city's history (Focillon, 1923) and demands a different form of reception and representation than the literary one. We say that our project is a map, a non-verbal narration. Supposing that the city is like a theatre (Simmonds, 2003) the metropolitan architecture project is an actor that is preliminarily a witness in a complex action that includes the field of action. After its construction, the field of action will be the object of exploration: an actor's bodily and mental action. In the course of experience, one acts on perception by acquiring a competence (in the sense of Chomsky and Choay), i.e. learning to practice the world. It is as important a practice as learning to speak: an action that evolves in the sphere of learning. Choay calls it competence to build and inhabit (Choay, 2000). *"What time is this place?"* (Lynch, 1960), which as a field of action should exploration arise, and how should perception? (Lynch, 1960). We are looking for the iconic and memorable images that make themselves indicative of remarkable positions within the map scaled according to the size of the metropolitan city incommensurable with the measurements of the human being.

Exploration is a dual process. It is a real journey and a flow of instants of consciousness, marked by the reiteration of two operations: walking/looking/touching and laying down signs/landmarks or herms; it is a temporal course in a spatial field, in the course of which the mental map is formed in the mind that these times, the present, the future, the past but also the timeless times of archaeology must knit together.

To this end, the exploration, as it proceeds, articulates the ground crossed: to explore, it organizes the context in fields arranged around a few chosen points and marked by herms/landmarks. They are landmarks (Lynch, 1960). Insofar as they hinge at their site of appearance, the landscapes (Le Corbusier's Menhir), i.e. the horizons with which they react in elevation and thus signal a memorable image through their relationship with the ground. This process flows into constructing a higher-order mental map (Suprascalar) that selects the icons of all known and marked landscapes to place them in the spatial

relationship indicated by the sign on the map. Each sign constructed with its icon stands in a 1:1 map (ratio of "real" relation field to representation of space projection). The task of the Metropolitan Cartography maps is to articulate each other (spatial dimension of Bigness: XXL, XL, L, and M dimensions of the city and its territory) with the other signs and icons of the metropolitan city and its landscapes (from the S, XS, XXS) through the architectural imprints of the "grounds floor of the city" (Lynch, 1960). Through the relationship between maps, ground section and elevation to the horizon, the projection of a place allows its users and discovers to re-construct their own memorable, civic and robust image (Lynch, 1960) of the city, finding what they were looking for through a new cognitive process that starts from the map.

The images then become icons of the marked fields (places) that thus rise by coordinating with the higher scales. In turn, through the baptism of a name (Farinelli, 2009), the places recalled in absence to the mind form a constellation of cross-references between landmark, landscape image, icon and name. Moreover, the event of discovering the metropolitan landscape by memorable landmarks found held and selected in mind.

The mental map corresponds to staking out of the field from landmarks to new metropolitan landmarks. Thus, the paths taken at different scales are considered the arrangement of the entire field of scaled exploration between the actual and project plan of action.

### 3. The power of Metropolitan Supra-Scale image

Cinema image represents a contemporary way of connecting science and art. Aldo Rossi's Theatre of the World and De Chirico's Muses, reacting to the environment of Bellagio (Fig.1), indicate how the type/theatre of the world must integrate an artistic dimension to respond to the photographed panorama.

The modern architectural image exists because it is rooted in a place and reacts with it, creating a third reality. That is the task of a Poetic Reaction Object: a photo (Bellagio) reacting with something deeply expressive and affective: figures out of scale and out of time. However, we do not return to the archetypes of Rossi as casts of the form of the project. We deal with a type understood as a relational figure given by its form that interacts with the context through a localised image, a vivid and sensual image (Lynch, 1960), a desirable and memorable place to go to understand the work of architecture that does not end with the drawing.

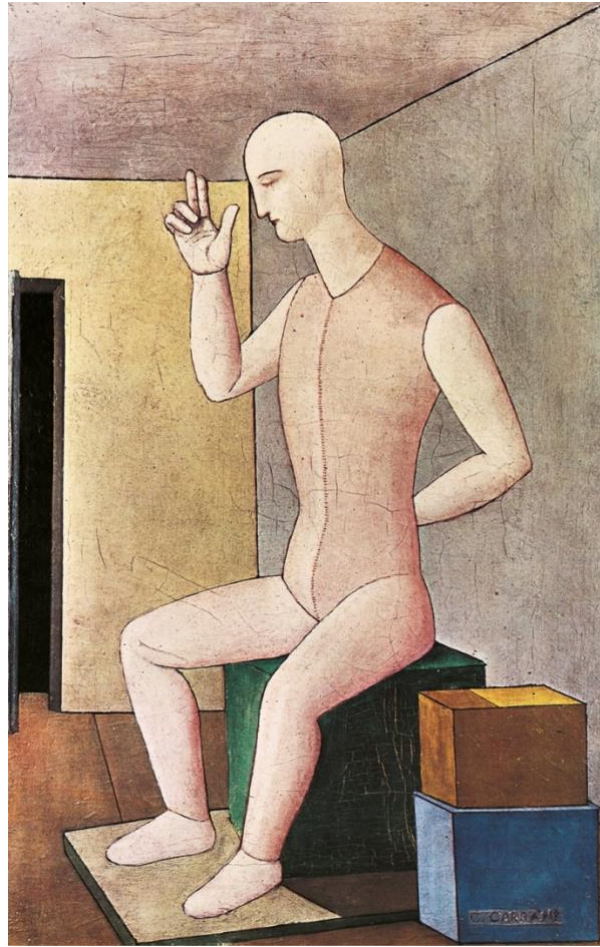
The image is interactive with the horizon, relating to space's time (the Sun) and the ground (background). The affection is incorporated to achieve a poetic reaction to a place. That is the subject of modern architecture that we will call New Urban Morphotype (Contin, Galiulo, 2020).

The L'Idolo Ermafrodito by Carrà (Fig.2) represents the supra scale situation of the New urban Morphotype's body. The hermaphrodite with his/her supra scale body as a higher expression of the human spirit is presented with concrete objects and figures. These, in the composition as a whole, and as a result of that alienating presence, are taken out of their usual context and recomposed with an effect of estrangement in a new nature. An intense nexus link the figures. These new relationships are 'matters of fact' (landscapes' figures with shaded textures, thickness and density). This direction toward the figure is the sensible form referring to sensation. It passes from one order to another, from one level to another and from one field to another. The sensation is thus the agent of deformation of the architectural body and its heterogenous context (Deleuze, Bacon. 1995).





*Fig.1 The power of supra-scalar image: Aldo Rossi's Theatre of the World and De Chirico's Muses, reacting to the environment of Bellagio. Contin, 2022*



*Fig.2 The power of supra-scalar image: L'Idolo Ermafrodito by Carrà, 1917.*

#### **4 Metropolitan Cartography: methodology and knowledge needed to face unknown supra-scalar spaces and temporalities**

In the scientific debate between technical and humanistic disciplines, there is a clear need to transfer and inform the narrative infrastructure of supra-scalar city spaces through inventive knowledge approaches supported by technology. With Metropolitan Cartography (MC), a methodological and technological tool, it is possible to construct an image of the narrative metropolitan landscapes by manipulating and spatially representing open-source data, from global data to the modelling of local data.

However, Metropolitan Cartography is also a tool for modelling and designing the backbone of cartographic information packages (with Glossary and Metropolitan Data Set for Geographic Information Systems). The MC is a tool that uses maps to recount the affective image of a ground project (Secchi, 1986) and the long-lasting evolution of the complex metropolitan territorial and urban system, as well as the involvement of metropolitan citizens in map-making practices.

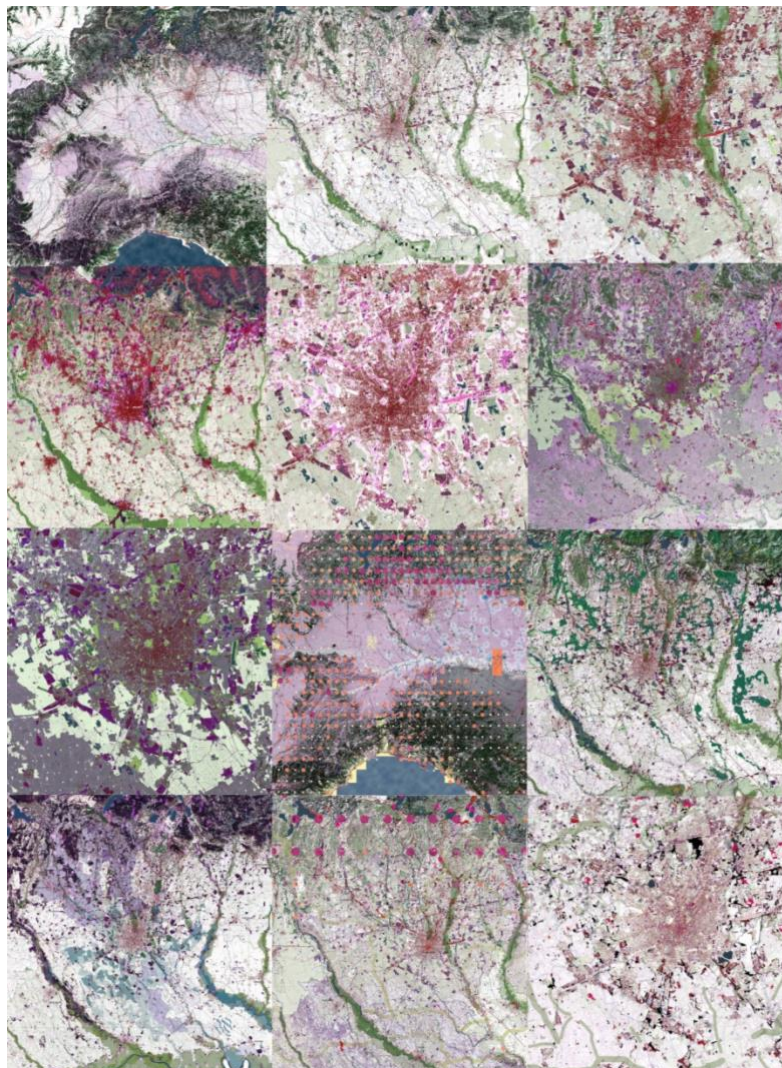
A new approach to the design of Metropolitan Landscapes (METRO-SCAPES) must move towards a projective design proposal through cartographic maps. Moreover, through the methodological experimentation of Metropolitan Cartography and the construction of cartographic projects in GIS systems, the research includes the possibility of detecting, imagining, and modelling new spatial relationships between landscape spaces (Galiulo, 2021) through data mining, data setting, and data semiotics in open-source map-making (Fig.3).

Metro-scapes proposes the methodology of Metropolitan Cartography as a tool for the design of metropolitan landscapes' space, necessary to use open data in the construction of the image of the territory and of the metropolitan city.

In particular, Metro-scapes research arises from the need to investigate the quality of *metropolitan urban-rural interface spaces*, specifically between agricultural ecosystems and infrastructures that are now subject to the accelerated dynamics of Urban-Rural Linkage (URL) transformation.

The urban-rural interface, in the metropolitan city, is a morphological space, linked to the structural and formal conditions of the land, in which the attributes of environmental and social unsustainability are reproduced and transformed according to a close relationship between the time of acceleration of the city and the cyclical time of production and consumption of the countryside. Therefore, urban-rural interface areas are time-space expressions whose hybrid configuration admits different approaches of analysis and interpretation given their complexity in the physical, social, economic and land management dimensions.

Therefore, the narrative of these areas, in which multiple landscapes at different scales are superimposed, determines the need to define a new code of representation of hybrid spaces through the identification of spatial information to represent landscapes of urban-rural transition (Berger, 2007) by means of cartographic projects that can narrate processes of modification of public, private and private-public space.



*Fig.3 Synoptic map: a set of open-data and open-source Protocol Maps in a dynamic process. A sequence of images across the scales and dimensions for Milan's Metropolitan Landscapes case study. Galiulo, 2022*



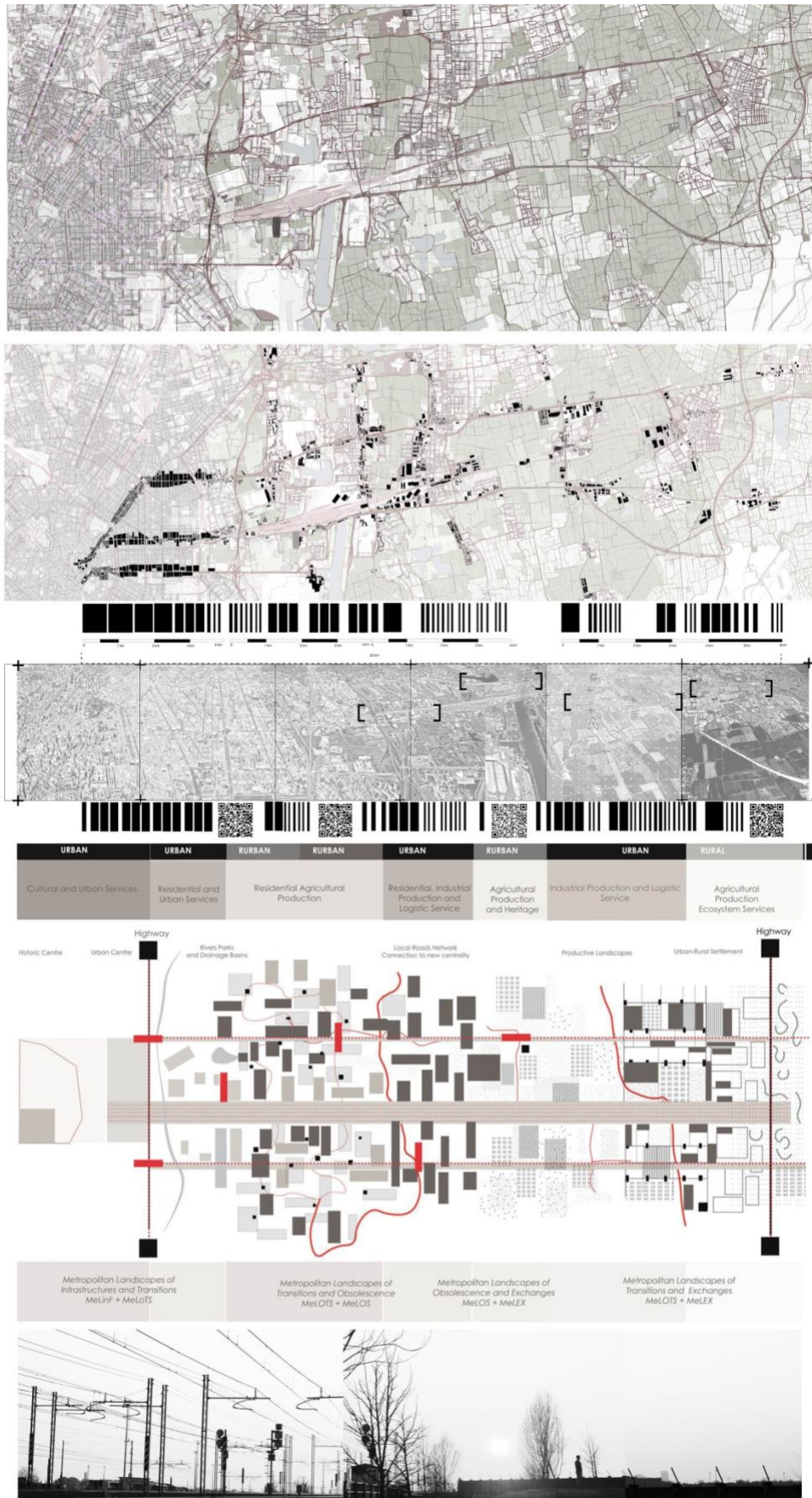


Fig.4 From Metropolitan Landscapes of Infrastructures to Urban-Rural Linkage Interfaces. Metropolitan Field of Action in the case of Milan. Galiulo, V. 2022

## 4.1 Metro-scapes through Metropolitan Cartography maps

Metropolitan Cartography proposes a new taxonomy of Metropolitan Landscapes mapping projects, in which supra-scalar relationships between heterogeneous spatial categories are declined according to:

- Metropolitan Landscapes of Exchanges (MeLEX): They are eligible landscapes for the Re-articulation (Lyster, 2006) of the interstitial space between the infrastructure network and ecosystem services from the metropolitan regional scale up to the landscape unit scale.
- Metropolitan Landscapes of Transitions (MeLOTS): They are spaces for commuting and transitions of flows of people, products, services and information. Metropolitan Landscapes of Transitions are places of compression and decompression between the infrastructural arteries of the Net-city (Shane, 2005), the agricultural productive fields and rural wastelands where landscape time has different rhythms. They are spaces where the clash of heterogeneous spatial characters and consistencies takes place.
- Metropolitan Landscapes of Infrastructures (MeLInf): they are technological landscapes made up of grids, patterns, matrixes, infrastructures, networks and working ecologies intensively compacted into dynamic systems that are shaped and designed to be systematic and conceived as a unit. They are outlined as places where the looming presence of high-speed road and rail facilities, and new large infrastructure projects, make the interstitial spaces of network neglected and limited in terms of Green-Grey Infrastructure continuity. It is precisely these spaces that are most vulnerable to the logic of logistic real estate speculation and land consumption.
- Metropolitan Landscapes of Obsolescence (MeLOS): They are obsolete spaces and landscapes related to landfills, abandoned areas not ecologically revalued or in the process of recovery, which could be understood as new drivers of the spatial continuity of the Green-Grey Infrastructure continuity. (Fig.4)

Metropolitan Landscapes Protocol Maps are Figural Landscape Units (Contin, 2021) since they are defined by their geographical structure (section) and durable cultural permanences (name). Therefore, Metro-scapes proposes a new taxonomy of Metropolitan Landscapes in which the tangible and intangible cultural heritage of the metropolis is declined according to new spatial categories since Metropolitan Landscapes are complex systems of space-networks.

Considering that Metropolitan Landscapes are a complex system of spatial networks, Metropolitan Cartography map-projects could contribute to rethinking the spatial form of hybrid metropolitan contexts as well as their ecology and the provision of public space according to the land use patterns of URLs (UN-Habitat, 2019).

Cartography for Metropolitan Landscapes, explored through mapping projects at different scales, could be supported and implemented through new connections between spatial information and relations that can trigger design predictions related to the future habitability of hybrid spaces in extremely vulnerable metropolitan territories.

These new spatial interactions thus open up the design of the city to a range of creative metropolitan landscapes' agents and to an array of new spatial typologies and their corresponding effects able to stand, despite the incidental spatial pressures generated by physical phenomena of uncertainty and vulnerability starting from the metropolitan scale.

## 5. Conclusion

### **The disciplinary issue related to Metropolitan scales. Towards new Operational Landscapes**

Among the complexity of the management fields and spatial design practices, the metropolitan process of spatial fragmentation and spatial heterogeneity shows how nowadays, Metropolitan Landscapes shall be understood as hybrid spaces for changing the practice and cultural expression of those who inhabit them. We must design hybrid Landscapes through digital map-making design systems that respect plastic spaces' nature and transitional membranes that set nature in connection with territorial infrastructure networks. That allows the Green-Grey Infrastructure (Galiulo, 2021) systems project according to trans-scalar visions of landscapes.

In order to preserve natural processes as such, we must go beyond the New Urban Bauhaus, which for Europe, represents the project of future generations. Agriculture today must be the prerequisite for the

preservation of natural processes. Therefore, the agricultural industry, necessary for the sustenance of the metropolitan city, must not undo agriculture in its natural processes, which must not cost more in energy than natural energy would. Furthermore, ecology should go beyond architecture by incorporating it into its design. Our research direction, profoundly linked to a cognitive and verbal approach enshrined in the relationship between Map and Glossary (Contin, Galiulo 2022), is profoundly based on Operational Landscapes (Corner, 1999). concrete projects linked to dynamic metropolitan processes.

Our focus on words and concepts in the Practice of Metropolitan Discipline (Contin et al., 2020) is the moment when we make a series of concrete operations intelligible. Our map is born from operations, and its semantic meaning content is the value of operations concerning possible different behaviours or project approaches: this is our concrete goal. The intelligence of maps demands the *words-image-words-map-mind map*. Without taking anything away from the importance of factuality, the conceptual part is crucial because it adds mental operativity. It means working for concepts and values and not only weighing the functioning and efficiency of an area.

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