Chapter 8
The Memorable Image of Metropolitan Cartography as a Symbolic Trigger for Metropolitan Landscape

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8.1 The Image of the Metropolitan Cartography as Symbolic Trigger of Multi-Scale Cycles of Change in the Metropolitan Landscape

The need to draw maps comes from the journey: it is a reminder of the succession of stages, the layout of a route. That is what Italo Calvino wrote in his Il viandante nella mappa in 1984. Though the representation of the world arises from a practical instance, the need to represent an aesthetic matter also exists. Cartography and landscape painting meet in the representation of the territories of the world in the great painted scrolls of antiquity. According to Calvino (1984), the simplest form of a geographical map is not the one represented by the surface of the ground, but rather a linear image, which can only be given in a long scroll. For example, in the long scrolls of Roman maps, or the precious Japanese scroll that in the eighteenth century represented the route between Tokyo and Kyoto.

Nevertheless, Calvino's most exciting discovery is that at the origin of cartography is the need to understand the dimensions of space and time in an image. "The map, in short, even if static, presupposes a narrative idea, it is conceived in the function of an itinerary, it is an Odyssey". That is what Metropolitan Cartography, which is the instrument born from the Metropolitan Approach to Complexity, also affirms. The narrative of territory must be communicated by a logical structure and a

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powerful image in a map. The map must be able to capture the attention of even the most distracted metropolitan travellers (Benjamin, 2007) so that they too feel as immersed in the map as in the territory, even if at the metropolitan scale. To reach that goal, we refer to the Muses, history, and memory (Contin, 2014). This means understanding the profound reasons for contemporary space. It is the possible answer to constitute new values for the inhabitants of the Metropolitan Landscape in transformation; it means recalling the world of semiology and the new figures of meaning that allow the definition of an innovative image that is not linked to temporary use and consumption but is the vehicle of a revolutionary symbolic identity.

The contemporary metropolitan city is an agent of rapid cycles of change that involve important mechanisms of transformation due to the progress of technology, infrastructure, information, and culture. These are conditions that deeply alter the contemporary Metropolis' topography. Currently, these alterations of the geographical dimension of the territory significantly affect the usability and accessibility of the metropolitan territorial space by the inhabitant, temporary users and commuters. The analytical framework of our investigation refers to crucial questions such as:

– What knowledge is needed in the theoretical and practical research context to read and interpret the contemporary Metropolis and its Metropolitan Landscape? What representations are essential to understand the inter-scalar change of the city in the processes of accelerating change? With what tools is it possible to interpret the current and future transformation factors of the Metropolitan Landscape?

These considerations support the multiple objectives of the research, including that of testing the practical-theoretical methodology of Metropolitan Cartography - to experiment with a new tool to support the analysis and interpretation of conflicting urban and rural territories.

This research aims to define Metropolitan Cartography as a flexible and necessary tool to identify the factors of change in the Metropolitan Landscape through the generation of multi-scale maps capable of communicating the logical sequence of choices in the Map-Making phase, to open new topics of multidisciplinary comparison in the decision-making processes in the field of urban planning and architectural design. Besides, the research intends to expose a new strategic, operational approach through a design methodology that interfaces with the complexity of metropolitan transformation phenomena related to the shrinking city, from global to local and vice versa; a complexity that has affected our territory facing the change of typologies and morphologies not only of the public spaces of the city but especially of its landscapes.

Architectural and urban planning projects can, therefore, build a suggestive scenario of connection with the geography and temporal stratification of the city's ground. It is fundamental to refer to the archetypes of the past by connecting to the local and territorial intelligence that can facilitate the knowledge of dynamic processes of cultural transition, which in turn allow for the implementation of a metropolitan identity in change. According to this objective, the evocative power of the identity image of the local is considered significant and with a global echo, using the

map as a constructive agency that can be acted through the cartographic practice in the fields of architecture, landscape and urban planning (Corner, 2011).

Metropolitan Cartography produces a map-image which is the result of a technological and creative process that encapsulates the trigger of a metropolitan context symbolic value, i.e. a powerful and memorable image. Cartography allows the connection, through the mental perception of the map, of a place to a specific event. For this reason, the map takes on a priority position of mediation in the context of multidisciplinary communication, becoming a form of transition between the temporal and physical dimensions. The new scale of the contemporary metropolis form requires a trans-morphic and sign-symbolic transformation. Dino Formaggio in his essay Forma, paradigma, trans-morfosi spoke of: "a process of radical morphic transmutation, as a principle of the foundation of every class of events in culture" (Formaggio, 1987, pp.6). He meant that the form, in order to survive, must be based on an image, causing a break in the limit between object and function; the image becomes the result of a process, produced by the inter-relational connection of structural elements of hybrid spaces animated by the movement of the observer that constituted the typical configuration of the modern urban image (Fig. 8.1).

Currently, cartographic production is a matter of substitution of the real through signs (Boudrillard, 1983). The territory, therefore, it is not the model for the map: it is the map that precedes the territory; it consequently generates the territory.

This theoretical assumption is also relevant for analyzing what is happening today in the contemporary social dimension. Today the inhabitants of the territory risk losing physical contact with it, relating exclusively to the simulacrum of the

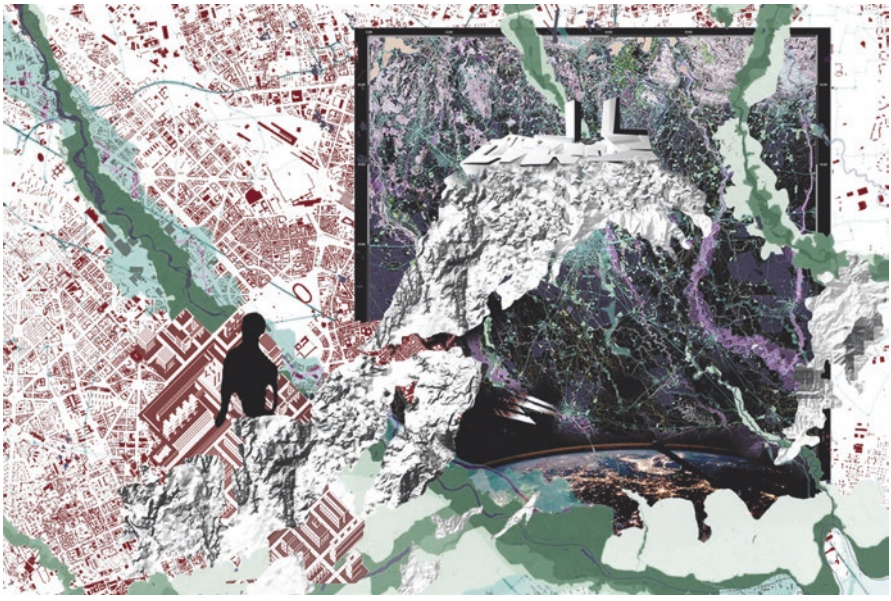

Fig. 8.1 MSLab – Metropolitan Cartography Manifesto. Own Elaboration, 2020

image of capitalist society represented by data and algorithms that define the meaning of a map. Instead, the map must be understood as an instrument of representation and interpretation of the landscape that hides not only a technical and functional matrix but also a creative one which allows to identify the human and cultural dimension of the metropolitan landscape.

8.2 Metropolitan Landscape as a "Drama Palimpsest" of Dynamic Interaction Flows

The Metropolitan Landscape is a multi-dimensional condenser that must be redefined according to its metropolitan unit, understanding its relationship between quantitative and qualitative interaction flows. There is a broad debate about the definition of the boundary and the control of the shape of the Metropolitan Landscape, especially in the urban-rural transition space. Thomas Sieverts (Sieverts, 2003) in Cities without Cities, explicitly described the processes of fragmentation of the discontinuous urban-rural patterns and the expansion of settlements, due to the dynamics of the globalised evolution of the contemporary city, that exists in a state of space in between local and global, space and time, between city and countryside. Sieverts defined the "in-between" or "intermediate" city, as a negation or absence of the characteristic and distinguishing traits of the traditional dense European city: Zwischenstadt.

Zwischenstadt is the place where specific strategic action sites of nations are concentrated: cities and communities. It is strongly influenced by the local and international market logic, in which the speed of information and connections are linked to space. Here, the old contrast between city and country dissolves into a city-continuous movement for a new interpretation oriented to the cultural project of the landscape.

Different configurations of change for new spatial relationships and new interlaced cultures need a new image of the landscape, concerning the city and its marginal spaces.

In the Landscape Urbanism Manifesto (Waldheim, 2016), Waldehim presented the new discipline as a supportive ideology to urban practice. The author argues that the landscape is the goal through which it is possible to read and build the contemporary city; for these reasons, the city of today must be imagined, conceived and designed as if it were a landscape (Shane, 2004). The idea advocated by the author rejects the city-country dualism. It suggests an innovative way of understanding complex systems and the relationships between nature and culture, declaring that the landscape should be the driving force for the sustainable development of the city. As Corner wrote, Landscape Urbanism goes beyond parks, public spaces, and gardens, suggesting great interdisciplinarity between planning sciences and ecology, geography, anthropology, cartography, aesthetics, and philosophy, suggesting a multi-scale approach.

Landscape Urbanism focuses on the study of the interrelations between human activities and natural landscape, considering potential interstitial infrastructural spaces. These are spaces for a model of performative urbanism (Corner, 2006), or on the other hand, they are the field of action of urban processes. We can consider them places of observation of the dynamics active in the ground space of the city in which the relationships and interactions of the chains of consumption and land use are manifested. That vision emphasises the need to build new collisive sites (Lyster, 2016), or new public spaces intended to be points of ecological balance between built and not built. Still, metropolitan ground space is also the place where social events take place that makes it common, for new performative practices (Shane, 2005).

The critical thinking of Alan Berger that contributes to the definition of the concept of "Drosscapes" (Berger, 2006), that is landscapes that are the result of natural and anthropogenic processes of relationship, is particularly relevant. Dross is waste, but it also represents the natural component of any city that develops dynamically. The city-dross relationship can be considered as an indicator of the health of urban development. Focusing primarily on the empty spaces of the city, the author argues that the waste landscape consists of interstices, spaces between the urban fabric of the city, neglected lands, marginal rural areas waiting for development, seemingly endless surfaces, not interrupted and their perimeters. These are areas of accumulation produced by the traces of socioeconomic use and the consumption process of deindustrialisation, post-Fordism and technological innovation. They are territorial stripes, buffer zones with indefinite edges that make the transition of the status of the Metropolitan Landscape from urban to rural implicit.

Preparing the new urban and architectural scenes of the Metropolitan Landscape involves planning the composition of a hybrid space in which fragmented urban areas, agricultural spaces and infrastructure generate new places seemingly devoid of identity. The marginal landscapes of the Metropolis are interstitial environments in suspension in which the interphase spaces represent a liminal state, a program of heterogeneous flows that produce a physical state of transition and perennial dynamism. These unstable places between nature and artifice, formal and informal, structure and organicity, are also intended to be spaces of the Metropolitan Landscape characterised by the multi-scale relationship of hybrid territories, those which are not yet connected to the regional territorial network (Fig. 8.2).

Metropolitan Landscape can be understood as the space in which the drama of the dynamic interactions of flows of goods, people, habitus and capital that determine the management policies of Linkage Urban-Rural, leave marked traces of vulnerability on the ground. For this reason, multi-dimensional images generated by urban density, infrastructure nodes, productive agricultural land or waste, can be included in the Metropolitan Landscape. Therefore, the need arises to promote strategic design programs capable of re-forming indefinite and heterogeneous spaces, composed of different grains and textures, offering the opportunity to conceive a new global image that can declare itself as a new cultural mediation code for the Metropolis.

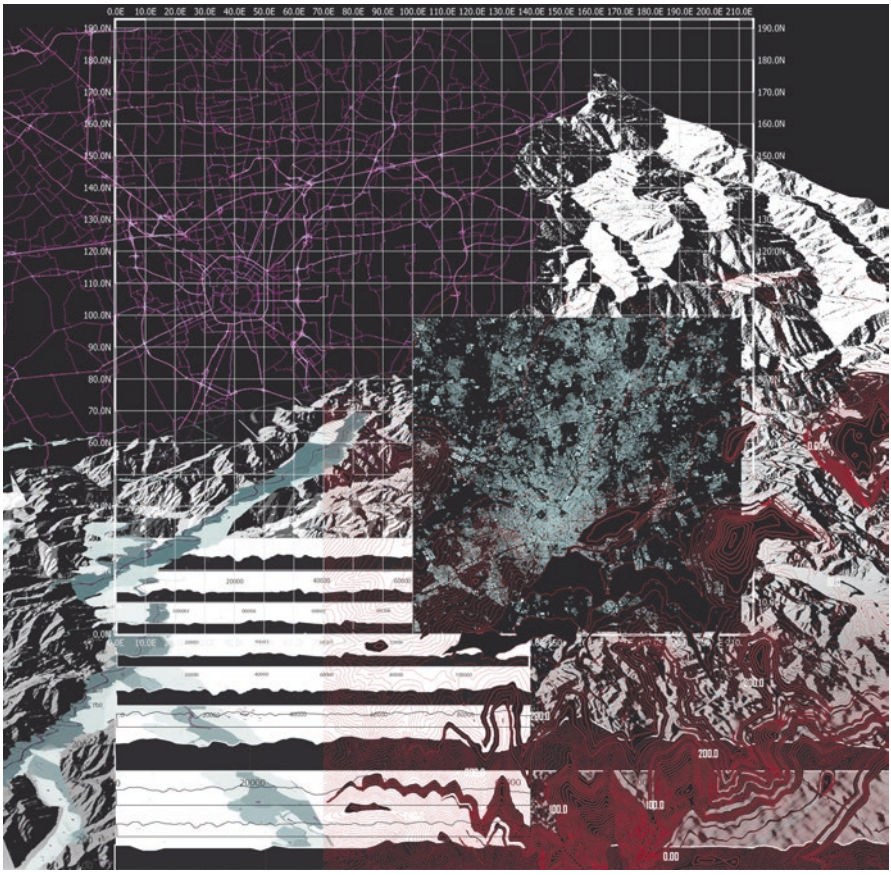

Fig. 8.2 MSLab – Metropolitan cartography based – drawing. Own Elaboration, 2020

8.3 Metropolitan Cartography: Technological Implementation Strategy Tool to Be Engaged in a New Dynamic Narrative

In recent decades, mapping dynamic urban processes through open digital interactive platforms have become particularly important to facilitate the dynamics of self-management to face the lack of city services (Contin et al., 2014). For this reason, cartography is considered one of the most fertile research arenas in the field of architecture and landscape. The representation of the map would need a return to traditional cartographic techniques to reinvent the land manipulation of the contemporary city. Metropolitan Cartography aims to converge the precision and instrumentality of the technical plans with the geographical and territorial interpretations of the map.

Recently, mapping practices have been considered not only as functional to the transmission and sharing of information and graphic data, but also as methodological actions for the construction of a cartographic project that can facilitate the critical reading of the territory.

The visualization of the data in the culture of the design is proposed as an innovator tool introducing new projective representations of cartographic practices due to the evidence and the modification of the material and immaterial components that constitute the condition of metropolitan complexity; this representation is transferable and repeatable through the intersection of the digital component, the computer data, mediated by the experience and spatial intelligence of the architect and the planner.

Cartography is not only functional to the quantitative measurement of the indices of socio-environmental variation of the Metropolitan Landscape, but it is used to research what is implicit in physical space and has not yet been investigated. Metropolitan Cartography, therefore, intends to experiment with methodological processes and new correspondences of form/meaning, which can convey the subjectivity of the urban agent. For this reason, cartography needs a powerful cartographic image to engage the viewer in a dialogue through a visual map that will reveal new narratives.

Within the representation of hybrid landscapes that need to be reclaimed, renamed, ordered and re-formed by new rules of form, the contribution of experts in the figuration of the multi-dimensional landscape that try to break away from the conventional cartographic representation canons is particularly notable.

Asserting the need for reclaimed landscapes (Berger, 2002) involves aligning cartographic information with new mapping categories that reveal, compared to the structure of the existing local Green-Grey Infrastructure, new cumulative alteration factors of Landscapes that belong to the geographical and social dimension of the Metropolitan Landscape.

This experimental objective has been applied during the 3 years of study by the research unit MSlab of the Polytechnic of Milan for the project European Co-funded TELLme (Training for Education, Learning and Leadership to a new Metropolitan Discipline). Metropolitan Cartography firstly analyses the metropolitan bibliography and narrative-based references for the definition of new concepts of the Metropolitan Discipline. Then, applied in heterogeneous metropolitan contexts (Argentina, Spain, Italy and Mexico), it has allowed the development of a methodological tool and a new architecture of Information Design System prototype. In short, it can express the semantic relation glossary/category, concept/level of information, setting it into the system of practical-theoretical correlation of the Mental Map (Contin et al., 2017) and the cartographic project in GIS (Geographic Information System). After this experimental process, it was possible to define a new Sémiology Graphique of Metropolitan Cartography (MC) (Fig. 8.3).

The metropolitan city and its landscape constitute a complex narrative. It needs a story to be communicated and a language that can be understood by heterogeneous users. The task of the MC research is to work on the difficulty in entering geo-referenced quantitative data, provided by different disciplines, in a new model

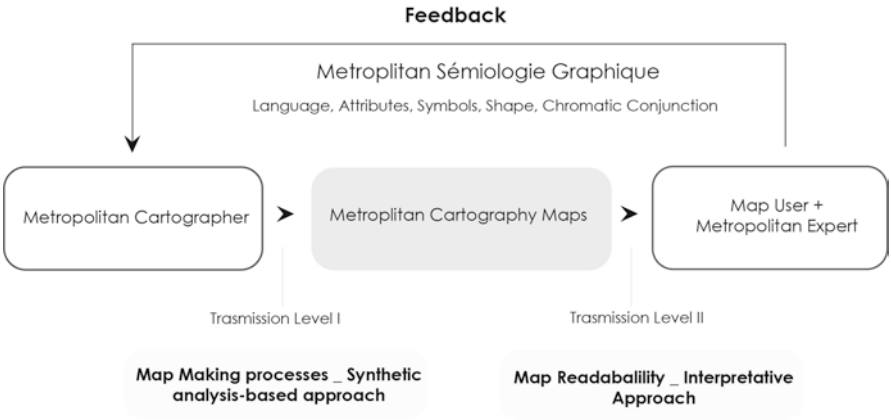

Fig. 8.3 Descriptive diagram of language, attributes, symbols, shapes and color level transmission through the new Metropolitan Sémiologie Graphique. Own Elaboration, 2020

of poly-vocal reading, and urban and territorial translocational readings (Eagleton, 1986) according to new signs of metropolitan semiology.

The coding of a new semiology, which differs from the one used by the European cartographic standard or geographical disciplines and environmental science, facilitates the understanding of the dynamics active on the territory, restoring a memorable image of the Field of Action project. This step could allow to open up a common field of debate in the international mapping context.

Our maps construction project is the result of a methodological approach which aims at structuring the logical processes of information selection to share comparable and similar project strategies with other sciences.

The European cartographic standard proposes static models of cognition for the understanding and reading of the territory.

We incorporate the Maps European technical production rules into our cultural rules of production for a memorable territorial image. Nevertheless, restoring a memorable and sensual image (Lynch, 1960) of the metropolitan field of action launches an open field of debate in the context of global mapping.

Cartography thus becomes the theoretical and practical body of knowledge that designers and mappers should develop in an alternative way of persuasive representation (Mangoni, 2008), hyper-local and global, by a logical succession of choices determined by steps.

The Metropolitan Cartography decision levels are Selection, Abstraction, Simplification- Classification in hierarchies (Harley, 1989). Thus, we give relevance to visuality in shaping mental structures, repeatability, and we reinforce the sense of belonging in a place in the world. These steps contribute to giving the image of the Composite Landscape (Waldheim et al., 2014) the memorable formal quality able to emotionally engage the designer and the end-user. Cartography is a tool of knowledge within the evidence of the real. It changes its rules according to the society in which it is produced. Consequently, the Metropolitan Cartography maps are the

result of a factual image reproducing the anthropological, temporal, and spatial dimension of architecture and the city.

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