

Geo-Morphological Matrixes within the Urban Landscape of Lower Nera Valley in Umbria

by Marco Falsetti & Fabrizio Toppetti

Sapienza – University of Rome

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Abstract: In Italy, the networks of small historical towns and the cultural landscapes associated with them, play a role of great importance for the territorial structure, both from a qualitative and a quantitative point of view. In a morphological perspective, the image of Italian territory can, in fact, be assimilated to a constellation of local micro-settlements, closely connected to the plastic conformation of the geological support.

The Lower Nera Valley, in Umbria, represents, from this point of view, an emblematic episode, where the hydrographic system played an important role in the development of urban centers. Moreover, the exploitation of hydraulic energy encouraged the formation of productive settlements and, since the early industrialization, it oriented the transformations of the landscape. The process of industrialization that, since the end of the nineteenth century, shaped a landscape marked by the Roman traces and structured through fortified hilltowns, has produced artefacts nowadays recognized as examples of great urban quality.

The Lower Nera Valley represents a noteworthy case because it is paradigmatic of the Italian historical landscape and of its possible future evolutions. Furthermore it allows to test different morphological approaches, comparing the results even with distant territorial realities. The recovery of a geo-morphological matrix of the territory, which takes into account the topographical invariants that outline its physiognomy, constitutes the theoretical assumption of this work, in which the role of morphology assumes the character of a hinge between the urban structure and the form of the territory.

1. Introduction: the territory

The drainage basin of the Nera river is made up of a wide set of landscapes. The upper Valnerina, a poorly accessible internal area¹, is widely known and celebrated, while the part that from Marmore Falls reaches the confluence with Tiber –more marginal and disadvantaged in terms of economic development despite the nineteenth-century descriptions – is very little known. The reasons are immediately obvious to those who, with a minimum of experience, examine a topographic map of the area. In fact the territory that, to the west of Terni, stretches out in a

1. It is the Valnerina internal area of the Umbria Region identified by the National Internal Areas Strategy (SNAI).

sheltered and protected plain and, with the sole exception of the Gorges of Narni, reaches Orte, enjoys a natural centrality. This configuration, was consolidated in Roman times with the construction of the Via Flaminia, which own here it divides to rejoin in the north, near Bevagna. The barycentric position, the geomorphological conformation and the water resources, in modern times, have favored infrastructure, industrialization and urbanization. It is a destiny common to all the so-called “territori facili” (easy territories) where, in little more than a hundred years – from the mid-nineteenth century to the end of the twentieth century –, very significant transformations have occurred, both in terms of quantity and quality, with a progressive acceleration that has undergone a progressive setback only at the dawn of the new millennium. To these modifications, usually interpreted through the filter of a bourgeois-romantic aesthetic, it has normally been associated the negative idea of the loss of a presumed original integrity: this is, all in all, true even if inevitable. Moreover, this attitude led to liquidating recent interventions as errors, and disregarding the new emerging physiognomy, result of the alteration of a territory that was changing.

This also happened for the Conca Ternana and its surroundings, a portion of territory in which the deposit of historical signs appears as a very rich mine, covered by that very thin veil constituted by the last layer – at a first look much more present than the others –, a palimpsest with a much deeper and more rooted consistency. To fully understand the frustrated potential of this composite landscape, it is worth referring to the impressions of nineteenth-century travelers who, although spoiled by preconceived expectations respect to the natural, antiquarian and artistic marvels of the territory, are all in all an essential reference and, in this case, are unanimously convergent. What surprises in the stories is not only the inevitable interest for Marmore Falls or for the ruins of Augustus Bridge, but the sense of enthusiastic amazement towards the great “theater of landscape”, considered as a whole: if Goethe speaks of the Gorges of Narni as beautiful places characterized by *valleys and chasms, nearness and distance*², other writers capture the solar splendor of the lush valley of Terni, assimilated to a lost paradise (by Abbé Jérôme Richard) or even to the *Garden of Eden* (by Pierre Brussel³), protected by the crown of surrounding hills, which favors the fertility of the land and the mild climate.

These are literary descriptions, often supported by representations, undoubtedly far from the current reality, but there is no doubt that they constitute a powerful and present imagery, a landscape that through a sensitive and careful project it is possible to evoke, where the conditions allow to relate it to what happened later. Naturally, by abandoning an a priori idea (that risks to become a cultural conditioning), it is possible to read recent transformations as evolutions (sometimes extreme and excessive) of an ancient vocation, tracing them back to the continuity of living, even if sometimes they appear to us as stretches towards the natural order of things.

On the other hand, the destiny of this territory was already marked since Antiquity: it is known that Marmore Falls are the work of Romans who, with their technical intelligence, by order of the consul Manio Curio Dentato, diverted the course of Velino -which upstream of the Nera formed a stagnant and unhealthy marsh- channeling it towards the wall on which, with a total height difference of 165 meters, reaches the valley. The strength given off by water is therefore, historically, the *raison d'être* of a development that in the First Industrialization Era – concentrated in the places of energy production – has had its most flourishing moment.

2. See, J. W. Goethe, *Viaggio in Italia*, 1828, Mondadori, Milano 1983.

3. For a brief but comprehensive overview on this topic see: A. Brillì S. Neri, *La Flaminia. La via che cerca il mare*, Edimond, Città di Castello 2011, in particular the chapters: “Da Roma a Terni sulla via Flaminia” pp. 35-40 and “Quando la Flaminia attraversava la valle dell’Eden”, pp. 41-45.

The river Nera originates at 902 meters above sea level, on the Sibillini Mountains district. Under the hydrological profile it is the seventh Italian river in terms of water flow in relation to its basin. The river bend is 115 km long, and it covers fourteen municipalities spread over four provinces and three regions, of which 70% belongs to Umbria. It is evident that such an articulation is linked to a sequence of different landscapes, schematically corresponding to three homogeneous areas:

- the apical tract, that mainly flows in the Marche region, where the river collects water from various springs, considerably increasing its consistency;
- the first Umbrian segment, with the biggest landscape and environmental value, largely protected by the Nera River Park (which extends for 1900 hectares from Ceselli to Papigno);
- the last part which includes the Terni basin up to the bridge of Augustus, in correspondence of gorge created by the Narnese promontory,
- the wide plain that opens to the southwest towards the Tiber.

In this last field, the exploitation of water in modern times has encouraged the formation of productive settlements and led the remodeling of a landscape strongly characterized by production and work. The proto-industrialization phase was superimposed over a landscape historically linked to subsistence agriculture, and conditioned by the remains of Roman settlements and infrastructures. Another important feature is the role of low promontory (and sometimes high promontory) centers -that guard the territory according to precise directions- that generates a complex ensemble, often difficult to read. This aspect, combined with a heavy and deregulated urbanization, has determined a cumulative character to which we finally recognize a marked landscape-territorial identity.

This identity, for a long time, has been considered of minor interest exactly because of the frictions generated between consolidated value judgments and quality criteria not yet codified and shared.

2. Geo-Morphological matrixes as design tools for a sustainable development

The Lower Nera Valley is a territory in which the river has played an important role in development. The exploitation of water energy is responsible for the creation of productive settlements and, since the time of the First Industrialization, it has guided the transformations of a landscape characterized by production and agriculture. This phenomenon, together with the urbanization of the Terni basin, created a well-defined landscape, despite the area has been for long considered scarcely interesting due to the frictions between different fabrics and new morphological parameters.

The interest of the local case is remarkable because it is paradigmatic of the Italian system and therefore allows to generalize methodologies and results. The recovery of an eco-morphological matrix of the territory, which takes into account the geo-topographic invariants that outline its physiognomy, together with the physical continuity of the material structures, constitutes the theoretical presupposition of the work.

The first significant element of innovation relates to an approach that intends to go beyond the sectoral and single-issue view. We are often faced with researches, strategies, policies

that tend to bring out the dominant specific values of the territories (such as the new-created “Roads of Wine”, Oil, etc.), underestimating their richness and variety, understood as values.

The second aspect of innovation lies in the attempt to work on the cultural chains of the territorial heritage with a transcultural approach, taking as a working basis the continuous comparison between expert and popular knowledge. The cultural community and the citizens will participate in the debate on the elaborated reflections, with the aim of developing participatory and shared planning and management methods. In terms of innovation, the research, beyond these two general criteria, therefore sets itself the goal of developing a strategy.

3. Methodology: complementarity as a strategy

The research identifies the criterion of complementarity as the main strategy to adopt in these territories, overcoming a logic of “parts”. The identification of a governance model based on the complementarity between ancient urban centers and other territorial resources, will serve, in this case, to provide answers to the following questions:

- what is the role of small historic centers today, in a global world that tends to the growing expansion of the metropolis, but in which, however, modern technologies allow decentralized living?
- What can be the advantages, in terms of sustainability, of a return to the habitat models represented by the small villages and communities, that still have a relationship of proximity and direct continuity with the territory?
- how to “re-educate”, according to new environmental and social balances, the historical economic relationships between villages and production areas at the bottom of the valley, in the light of the collapse of the prevailing chemical and steel sectors, but also of the presence of a small, prevalently artisan business?
- can the model of the small village, beyond any revivalistic escape in a picturesque past, respond in an innovative way to the problems and aspirations of contemporary life?

To give a positive response to the questions set out above the present research evaluated as necessary:

1. to improve / optimize the use of local resources, by enhancing the “territorial capital” as a motor capable of reactivating virtuous and sustainable local economies;
2. to increase the welfare of local populations, in order to create conditions able to invert the phenomena of abandonment and marginalization;
3. to strengthen local development factors by generating new job opportunities, and therefore employment;
4. to reduce the social costs of the de-anthropization of agricultural areas, industrial sites and small towns.

4. Proto-cities: Morphological segments with an urban vocation

From a morphological perspective, the Lower Nera Valley testifies an interesting phenomenon – also noticeable in other Italian realities – represented by the processual formation of city

embryos. The latter, in this phase, have been identified in the form of “transects”⁴, precisely to favor a “sampling” of geo-morphological situations from which to derive a general logic of the transformations in the area. The morphological reading of each transept allows to verify the relationship between various components of the urban-territorial organism and, at the same time, to establish the nature of a whole series of structural elements (route hierarchy, orientation of the plots and the fabric, presence and weight of geomorphological signs, phases of building development) that define the relationship between the different parts. In this case, the morphological reading has allowed us to identify five transects, which define as many spatial situations similar to proto-cities (settlements that are processually becoming urban organisms). The proto-cities, prototypical (and pretypical) forms of agglomerates that are being defined within the five urban transects identified in the thematic map, constitute an abacus of possible, further developments of the fabrics of the Lower Nera Valley (and in particular of the Conca Ternana).

Naturally, all the urban forms in question possess the syntagmas (or more correctly some of the syntagmas) proper of the autonomous settlement – a reason for which they have been defined, at the cost of a certain exaggeration, “protocities” – and yet, in other ways, they lack of those more properly urban elements (polarity, nodality, identity) that normally identify both the city and the small village. The reasons for the choice of such cases lie in the typology of the same considering that, if on the one hand the morphological analysis leads us to recognize elements common to all five transects, on the other, it recognizes a plurality of configurations indicative of as many spatial situations present in the territory of the lower Valnerina.

The transept T₁ (Orte Scalo), for example, identifies a segment with a linear structure, developed by the end of the Nineteenth century on the site of the current Provincial Road 150 in relation to the construction of the railway yard. The building fabric that forms the T₁, although partly historicized (from the historical photos it emerges how, already in the mid-thirties, Orte Scalo was defined as an urban organism) lacks of polarities that clearly define its limits and clarify the system, settling on an urban model preparatory to a territorial axis that direct – but at the same time prevents- a further development. A similar argument applies to the other transects, each of which is characterized by a prevalent phenomenon, but that can always be traced back to a dualistic relationship between consolidated fabric and evolving organism (or in morphological terms between the top settlement and the valley bottom settlement).

If the transects indicate the progression of territorial phenomena from an organic perspective, on the other hand, it is necessary to consider (apart from the areas already included in the historical / historicized fabric) the presence of urban expansion segments characterized by “functional specialization” but morphologically non-autonomous. It belongs to the latter category the urban area between Lungonera Savoia (Savoia riverfront), Viale Filippo Turati and the SS3, a true fringe-belt of the southern sector of Terni, as well as the threadlike built branches that are distributed along the Narni tails (SP20-Strada Narni-Sant ‘Urban), Terni (Via Ippocrate and Strada di San Rocco) and Orte South (Petignano district). These segments, in spite of the large area that they occupy in the territory are configured, more often than not, as headless bodies, lacking the necessary potential to give life to a self-sufficient urban model.

4. According to a parallel between urban morphology and biology, the transept theory has borrowed a sampling technique used by zoologists, the so-called linear transept. It is a method designed for the census of wildlife. By tracing an axis through the territory it is possible to sample living species and plan repopulation, avoiding the introduction of specimens that do not conform to the characteristics of each place. The application of this theory to the urban project has been widely tested by the New Urbanism school.

5. Taxonomies. Diachronic and spatial configurations of contemporary fabrics

The sampling of territorial “cells”, indicative of a plurality of situations, but carried out “a posteriori” with respect to the morphological reading, allows to deepen that analytical process on the fabrics that a reading on a vast scale leaves -for its own nature- only mentioned as regards the territorial works. In this case, we can observe singular episodes in relation to Carone and Rivo, such as the presence of hinges responsible for different phenomena, such as the commercial specialization or the definition of monotypical fabrics. The identification of a taxonomy (or more correctly of taxonomies) is, in this sense, considered as the necessary step to draw up a list of the most eloquent case studies, in order to identify the general character of the phenomena in progress. The work on urban fabrics is considered, in this phase, and in parallel to that on the geomorphological system, as the indispensable component for understanding a whole series of phenomena, still under study, including the use and possibilities of industrial heritage.

6. Analysis: a proposal for design

Today we can consider all the landscapes related to the river, including those of more recent formation, worthy of the same consideration, recognizing the values that need to be protected and made legible, in the same way as those connoted by nature and history. The time is ripe to propose the construction of a Nera park which, in continuity with the upstream section, can redesign the role and meaning of the river landscape up to the confluence with the Tiber near the ancient town of Orte – dear to Pier Paolo Pasolini – fundamental junction between the two water basins, and also of significant material and symbolic presence. Within this field we can recognize the co-presence of different species of landscapes. We have indicated here four of them as possible interpretative keys for a theoretical use:

- natural landscapes,
- cultural landscapes,
- habitat landscapes,
- landscapes of labour

all of them characterized by the corresponding thematic gradients, with respect to which we can plan specific intervention actions.

To the first correspond the themes of land and water, therefore the wooded and protected areas (for flora and fauna), the wetlands, the natural waterways, the canals and artificial basins, the areas of hydroculture and fish farming, the valuable landscape episodes, like the waterfall or the gorges, but also the agricultural landscape. To the second aspect refer history, memory and heritage, considered as the anthropic traces of the ancient archaeological past, but also the medieval, Renaissance and modern punctual emergencies spread throughout the territory (parish churches, abbeys, towers, fortresses, sanctuaries, villas, and the quality industrial heritage now in disuse). The third is associated with living and therefore moving and producing. Here are taken into consideration the complementary factors that contribute to the maintenance and promotion of an active and vital landscape with high levels of aesthetic quality. The category includes the building heritage of the towns, of the small historic centers and rural villages, but also that of modern districts; we also need to consider as an integral part of the heritage the heavy infrastructures as railways, stations and roads, but also the light ones like cycle paths and bridleways, linked to

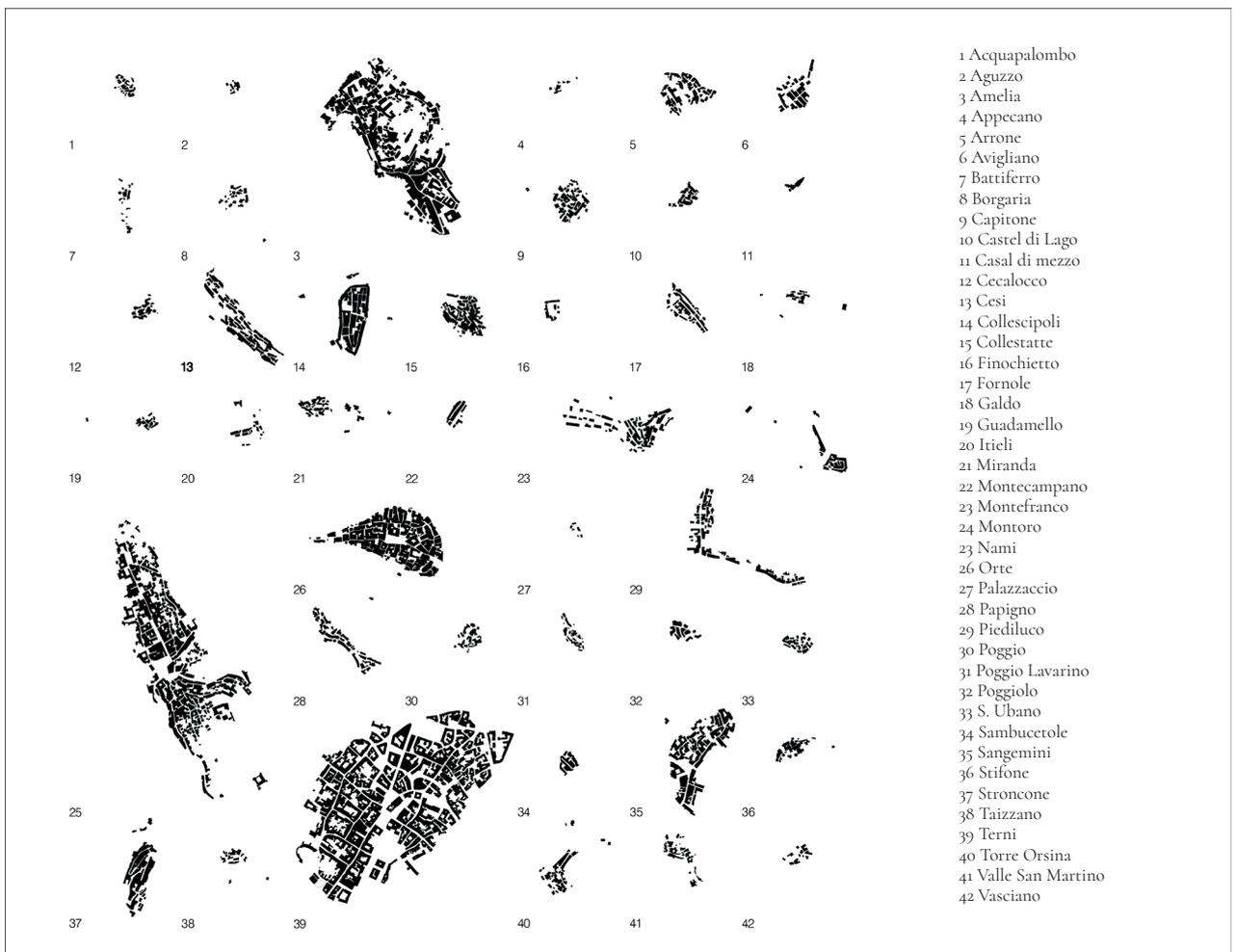


Figure 1.

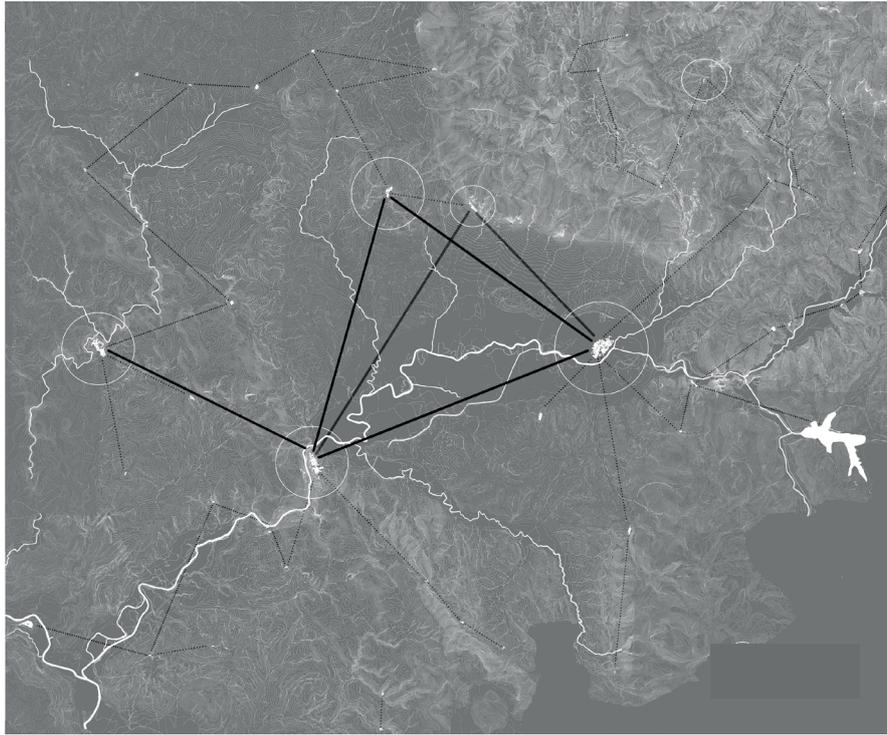


Figure 2.

the tourism and leisure time economy. To the latter are connected the themes of regeneration, innovation and therefore all the ones related to the future. This category brings into play strategic elements, both in terms of policies that of intervention on physical structures. Those elements are able to activate virtuous processes of regeneration and, at the same time, to play a leading role in the development of the territory, by identifying its vocations and projecting it towards a post-industrial phase. Here are considered the large production complexes, built along the river, from the Terni steelworks to the Nera Montoro petrochemical, imagining what could be the ways to integrate this industrial heritage within an ecosystemic vision, in some cases proposing a conversion towards new uses, compatible and sustainable, in relation to local and global needs.

7. Conclusion

The overall idea of the research is to systematize the existing resources, from natural to agricultural areas, as well as centers, buildings, artifacts with monumental and historical value (from the industrial archeology artifacts to the active settlements), and, through its geo-morphological matrixes, to reconfigure a territory nowadays discontinuous and fragmented.

This project, which originates directly from a scientific research, aims to bring out the under-represented potentials through a set of actions guided by the redefinition of the continuity declined on different registers: ecological, morphological, spatial, temporal, functional.

The definition of an overall landscape dimension for this area of the Nera valley can represent a common frame of reference, a horizon to aim for and, at the same time, a design tool, capable of directing and coordinating policies and actions with material and immaterial results. The recovery of an eco-morphological matrix of the territory, mainly based on the geo-topographic

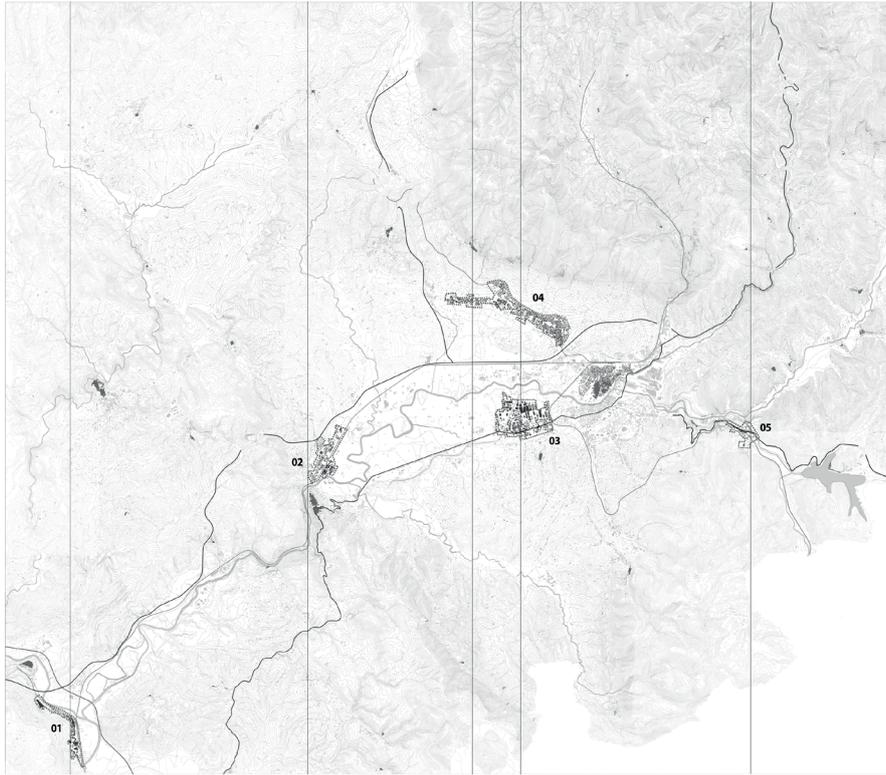


Figure 3.

invariants that delineate the physiognomy of the territory, and the physical continuity of the material structures, constitutes the theoretical presupposition but also the intended purpose developed through this research.

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