

## ARTICLES

# URBAN BIOREGION: THE CONCEPTUAL AND DESIGN TRAJECTORY IN THE TEXTS OF ALBERTO MAGNAGHI

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### Abstract

*Contained within the discussions on contemporary urbanization, critiques of the center-periphery model of the metropolis form, and debates on current environmental challenges, Alberto Magnaghi (1941-2023) proposed a paradigm shift, replacing the regulations that govern contemporary urbanization with a new approach centered around the concept of the urban bioregion. Through an analysis of Magnaghi's seminal works, this article aims to present the conceptual development of the urban bioregion, both in its theoretical and practical aspects, underscoring its significance within an ecoterritorialist framework and proposing a figurative representation model. Thus, the unifying nature of the urban bioregion is emphasized, since it places equal importance on both humans and nature, while its revolutionary character challenges prevailing economic, political, productive, and habitational logics. Moreover, the article proposes adopting minimal bioregional units to identify urban bioregions, and highlights the reflective, complex, and relational nature of the concept through a figurative representation model.*

### Keywords

*Methods Techniques and Planning Instruments; Regional Planning; Urbanization; Alberto Magnaghi; Urban bioregion; Ecoterritorialism; Figurative representation.*

## ARTIGOS

# BIORREGIÃO URBANA: O PERCURSO CONCEITUAL E PROJETUAL NOS TEXTOS DE ALBERTO MAGNAGHI

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### Resumo

*Inserido nas discussões acerca da urbanização contemporânea, na crítica ao modelo centro-periferia (manifestado na forma-metrópole) e no debate referente aos problemas ambientais da atualidade, Alberto Magnaghi (1941-2023) propõe uma mudança de paradigma, substituindo as regras geradoras da urbanização contemporânea por outras geradoras da biorregião urbana. Por meio de análise das obras seminais do autor italiano, este artigo objetiva apresentar a construção do conceito de biorregião urbana, em seu sentido teórico e prático, evidenciando sua importância na abordagem ecoterritorialista, e propor um modelo de representação figurativa do conceito. Assim, destaca-se o caráter unificador da biorregião urbana, ao colocar o Ser Humano e a Natureza no mesmo nível de importância, bem como a ambição da proposta, que subverte lógicas econômicas, políticas, produtivas e habitacionais. Ainda, o trabalho propõe a adoção de unidades biorregionais mínimas para a identificação de biorregiões urbanas e ressalta o aspecto reflexivo, complexo e relacional do conceito por meio de um modelo representacional figurativo.*

### Keywords

*Métodos, técnicas e instrumentos de planejamento; Planejamento regional; Urbanização; Alberto Magnaghi; Biorregião urbana; Ecoterritorialismo; Representação figurativa.*

# URBAN BIOREGION: THE CONCEPTUAL AND DESIGN TRAJECTORY IN THE TEXTS OF ALBERTO MAGNAGHI<sup>1</sup>

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## Introduction

In building a second artificial nature, our technological civilization has gradually freed itself from the territory, treating it as an insignificant surface and burying it with objects, works, functions, waste and poisons. As a human environment, the territory is moribund. Our model of civilization has stopped caring for it, or increasingly does so only with surrogate technological devices. Yet something has gone wrong in the Promethean myth of liberation. The quality of the habitat has gradually worsened. The ‘metropolis form’ – with its tendency to devour environmental, human and territorial resources in the processes of accelerating the urbanization it has induced – is one of the main culprits for the environmental degradation of the planet and the exponential growth of ‘new poverties’ in the so-called ‘periphery’ of the world. (Magnaghi, 2005, p. 18)

Between the end of the twentieth century and 2023, Alberto Magnaghi, Italian architect and urban planner, dedicated himself to reflections and proposals on deterritorialization and its consequences. This process takes various forms and inflicts profound damage on the territory, at local, regional, or global scales. Understanding the territory as a living organism, constantly produced

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by the encounter between human beings and nature, the issues arising from deterritorialization encompass both anthropic and environmental domains. The discussions and solutions proposed by Magnaghi and the Italian Territorialist School<sup>2</sup> aim to be consistent with the complexities of this encounter.

Thus, as the ultimate expression of deterritorialization processes, the metropolis form, or its negation, inspired Alberto Magnaghi to seek ways of interpreting, representing, and planning, aimed at strengthening and reestablishing synergistic relationships between city and countryside. To achieve this, he followed a trajectory of theoretical and design proposals in contrast to the metropolis form and, later, urbanization itself, proposing a paradigm shift that replaced the rules that generate contemporary urbanization with others that generate the urban bioregion.

This article traces this trajectory, beginning with Ecopolis – the author’s initial design proposal in response to the metropolis – and culminating in the urban bioregion, the current conceptual tool for confronting deterritorialization and the operative framework of ecoterritorialism, a significant evolution in the theoretical and design approach of the Italian Territorialist School. Thus, it presents a bibliographic review on the conceptual construction of the urban bioregion in the texts of Alberto Magnaghi and, based on this, introduces a figurative representation model developed from the readings and attempts to comprehend this organism.

To trace Magnaghi’s theoretical and practical trajectory, three editions of his seminal work have been analyzed: (i) *Il progetto locale: verso la coscienza di luogo* (2000); (ii) *The Urban Village* (2005); (iii) *Il progetto locale: verso la coscienza di luogo* (2010); as well as the book *A biorregião urbana: pequeno tratado sobre o território, bem comum*<sup>3</sup> [The urban bioregion: a short treatise on territory, the common good] (2017). This analysis demonstrates how the author’s thinking evolved in constructing the urban bioregion concept and its current state, as addressed in the 37<sup>th</sup> volume of the *Territori* series, titled *Ecoterritorialismo* (2023). From this selection, *The Urban Village* (2005) has been adopted as a midpoint in the development of the urban bioregion framework, serving as the basis for understanding the changes in relation to the other two editions.

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2. The Italian Territorialist School, founded by Alberto Magnaghi at the end of the twentieth century and expanded into the Society of Territorialists, operates in a multidisciplinary manner in the investigation of territory, proposing a conceptual, methodological approach to promoting self-sustainable local development based on territorial heritage. More information is available at: <https://www.societadeiterritorialisti.it/>. Accessed on: November 6, 2024.

3. *A biorregião urbana – pequeno tratado sobre o território bem comum* is the Portuguese translation of *La biorégion urbaine – petit traité sur le territoire bien commun*, published by Magnaghi in 2014, and is used throughout this article.

## 1. From Ecopolis to the Urban Bioregion

In *The Urban Village* (2005), when discussing strategic scenarios, Magnaghi presented Ecopolis as a response to the metropolis, proposing the fragmentation of large urban centers into smaller units. He defines it as “the city of villages” (Magnaghi, 2005, p. 123), highlighting its contractional nature and opposition to the logic of conurbation found in metropolises. Magnaghi described Ecopolis as an implosive model aimed at reducing the ecological footprint and a sensible retreat toward self-sufficiency, with the goal of achieving self-sustainability (Magnaghi, 2005).

While the literal translation of *Il progetto locale* into English would be *The Local Project*; the author chose to title the new edition *The Urban Village*. This decision directly references the concept of Ecopolis, “the city of villages”, and underscores the operational aspect of the reterritorialization discourse, reflecting the experiences and debates that followed the first publication. The local project takes on more concrete forms through an emphasis on urban villages, which are given greater prominence in this edition, as well as discussions on new municipalities<sup>4</sup> and best governance practices (Magnaghi, 2000; 2005).

When discussing the theoretical development of Ecopolis, Magnaghi presented the evolution of the model, proposing the implosion of the metropolis and outlining how this process would take place: initially through the disintegration of peripheral conurbations and then through the gradual multiplication of villages in rural areas, which could form a regional constellation, as represented in Figure 1 (Magnaghi, 2005). Although the expansion of the project’s scale is present in the discourse, Ecopolis is understood as being primarily focused on the problem of the metropolis, at the scale of the city itself.

By incorporating the expansion of villages into a broader territorial framework, Magnaghi developed the concepts of region, urban region, and bioregion, ultimately formulating the notion of the urban bioregion. This concept emerged as an evolving thought process that bridged theory and practice, keeping pace with the expansion of inhabited territory and the increasing complexity of emerging dynamics.

Initially, the region, as defined by Ecopolis, is conceived as a project designed to reconnect the city with its territory by establishing virtuous relationships and the sustainable use of local resources. Thus, the regional project seeks to restore historical ties between the city and its surrounding territory, thereby reinforcing strong sustainability. The bioregion serves as a reference for determining the scope of the region and the limits of exploiting its resources (Magnaghi, 2005).

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4. Chapter 11 (“The New Municipium”) of “The Urban Village” presents updates regarding the charter for a new municipality, which was developed and submitted by the territorialists to various authorities in 2002.

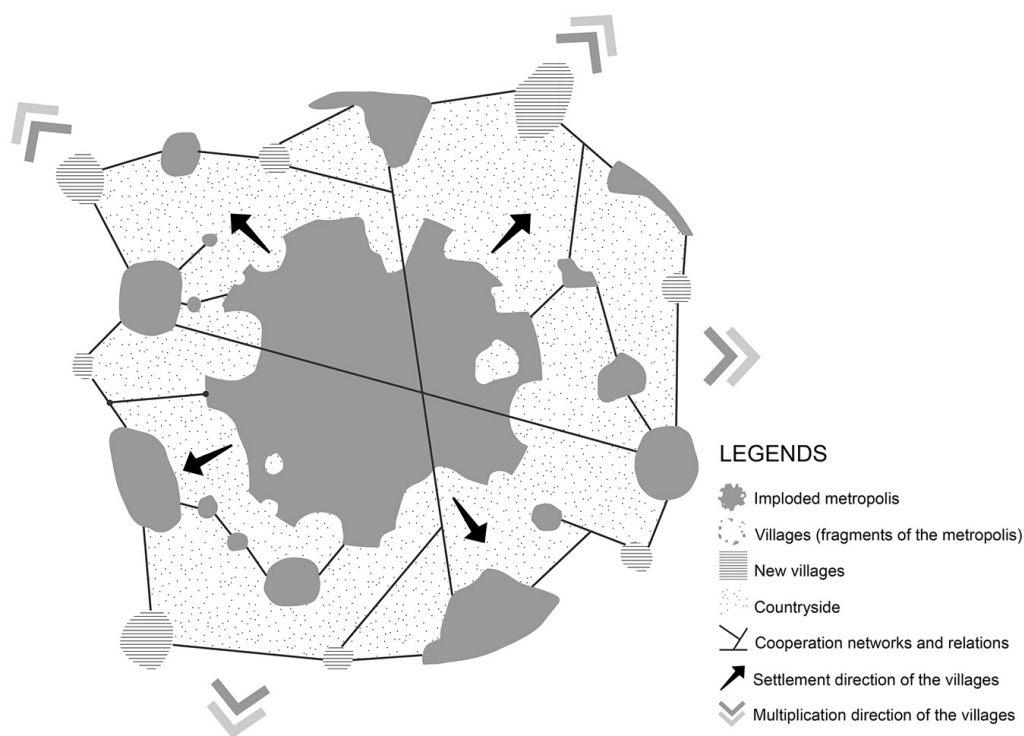


Figure 1. Representation of the Ecopolis model and how it expands  
Source: Own elaboration (2024).

Magnaghi thus proposes the bioregion as a territorial ecosystem, in contrast to the urban ecosystem,<sup>5</sup> to be adopted “as an analytical and planning reference [...] in which it is possible to deal with ecological cycles by adopting criteria verging on closed local resource cycles and self-reproducibility” (Magnaghi, 2005, p. 124). Drawing on concepts such as Patrick Geddes’ “valley section” (Welter, 2002, p. 68) and Lewis Mumford’s “region of the human community” (Magnaghi, 2014, p. 10), Magnaghi envisioned virtuous relationships on a broader scale, bringing the city closer to its “territorial and environmental heritage” (Magnaghi, 2005, p. 124).

It is important to briefly clarify the ideas of Patrick Geddes, a Scottish biologist and key figure in regional planning, who viewed the containment of urban expansion as essential. In contrast, he advocated for extending the countryside over the city, promoting the conservation of nature alongside urban planning. His approach sought to integrate the natural and the anthropogenic, emphasizing the recognition and promotion of ways of life. Geddes’ bioregion, therefore, referred to

5. “If we isolate, therefore, the urban ecosystem as an interpretative category [...], we cannot propose visions of self-sustainability, since we are dealing with an ecosystem which by nature is artificially fuelled from the outside” (Magnaghi, 2005, p. 124).

a geographical area characterized by ecological systems and closely integrated with human settlements (Ragonha, 2019). Bioregionalism, thus, calls for a redefinition of territorial organization with an expanded notion of well-being – not only for humans – and establishes boundaries based on the principles of self-determination and self-reproduction.

It is important to note the distinction between territory and environment in Magnaghi's (2005) discourse, since, at this stage in the development of the concept, the bioregion represents a significant addition to the territorialist approach, which also considers regional-scale ecology and the self-sustainability of territorial systems. Furthermore, in referring to the bioregion, Magnaghi introduced a discussion on the limits and boundaries of cities, highlighting the central role of open spaces in planning, and defining what constitutes the urban region from the perspective of bioregionalism.

I refer to the definition of an urban region as a system of highly anthropized local territorial systems bound by environmental relations characterizing a bioregion (valley systems, orological nodes, hill systems, coastal systems and their inland areas etc.) and typically containing various kinds of cities and rural towns. (Magnaghi, 2005, p. 135)

In formulating the concept of the urban bioregion, Magnaghi laid the foundation for counter-exodus by proposing a redefinition of both the qualitative and quantitative limits for cities, incorporating the concept of complexity, and prioritizing housing as the primary function of urban areas. His approach consistently integrated theory as the basis for the proposed strategic scenarios, thereby challenging the center-periphery model, which is especially prevalent in metropolitan regions.

Magnaghi adopted the notion of complexity from biology, understood as the “measure of an ecosystem's capacity for self-preservation and adaptability to environmental variations and the possibilities of reaching new states of ‘climax’” (Magnaghi, 2005, p. 140), and applied the same logic to cities. In this context, generating complexity entails reconnecting planning elements with local characteristics that enable the self-representation and self-reproduction of these systems (Magnaghi, 2005, p. 141). While directly linked to bioregionalism, this definition also resonates with Angelo Turco's (2014) concept of place, understood as an action-oriented framework capable of balancing use and exchange values. It is experienced in the present while navigating between history and future possibilities, serving as a source of identity and inspiration.

The incorporation of the urban bioregion concept in the revised edition of *Il progetto locale* (Magnaghi, 2010) underscores the theoretical trajectory traced by Magnaghi, and marks a significant milestone in his body of work. Following this edition, he shifted his focus away from revisions to author *A biorregião urbana: pequeno tratado sobre o território, bem comum* (2017).

In this final addition to the local project text, Magnaghi emphasized the design of open spaces as a fundamental element in reconstituting the post-urban territory of the metropolis form, using the term “urban bioregion” to indicate the direction to be pursued. Additionally, this edition also marks a shift from the concept of *Ecopolis* to that of the urban bioregion.<sup>6</sup>

The concept evolved from an ecological perspective to a territorialist understanding of the bioregion, incorporating socioecological, municipalist, and bioeconomic approaches that contribute to its development. Notably, Magnaghi grounded the territorialist perspective of the urban bioregion in the work of Vidal de La Blache, in the theories and experiences of the Regional Plan Association, and in a reinterpretation of Geddesian principles that define the bioregion.

Hence, it is necessary to briefly outline Vidal de La Blache’s thought, given its significance for the Italian Territorialist School. La Blache centered his work on the relationship between humans and nature, emphasizing four key categories: organism, environment, human activities, and way of life. Broadly speaking, the French geographer argued that concepts such as landscape, region, city, and similar categories should be considered in their entirety, without establishing a hierarchical distinction between natural and anthropogenic phenomena. Two other fundamental ideas in his work are synthesis and circularity, which refer to the fusion of forces shaping an environment and the continuous, self-sustaining nature of this process. His perspective underscores the symbiotic and transformative relationship between humans and nature (Gomes, 2007).

The Regional Plan Association (RPA), founded in New York in 1923, was heavily influenced by Patrick Geddes and shaped by figures such as Lewis Mumford. Its primary goal was to develop regional plans that enhanced the quality of life by decentralizing urban populations and creating cooperative communities in harmony with the landscape (RPA, 2024). The organization remains committed to this mission, and its influence is evident in the planning strategies adopted by territorialists.

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6. In the most recent edition, the author replaced *Ecopolis* with urban bioregion when referring to the ideal design scenario, suggesting that, at this stage of concept development, the urban bioregion is equivalent to *Ecopolis*.



Lastly, Magnaghi (2014) based the territorial project on the concept of the bioregion, drawing on a reinterpretation of Patrick Geddes' principles, framed within a territorialist perspective and aligned with the methodological approach of the Italian Territorialist School. This included the coevolution of place, work, and inhabitants (folk); the valorization of the distinct, singular identity (uniqueness) of each region and city; the implementation of long-term, morphological typographic studies (reliefs and contours) to identify coevolutionary relationships within each region; and a focus on the enduring coevolutionary principles (regional origins) to uncover invariant rules that ensure the reproduction of the bioregion's identity over time (Magnaghi, 2014, p. 12).

To approach territory as a common good and confront deterritorialization, territorialists propose a "return to place", with starting points being the knowledge and representation of local identity (Andrade; Almeida, 2016). Identity representation involves the description, interpretation, and depiction of territorial sediments that highlight the identity of each place and aims to facilitate plans that promote reterritorialization and, consequently, self-sustainable local development. In this context, the reinterpretation of Geddesian principles refers to the very concept of territory, approached as the coevolution of nature and culture, and to the status of places, a normative instrument that, based on identity representation, seeks to establish preservation and transformation rules that enable the valorization and perpetuation of territorial heritage. It is "a constitutional act for local development: a project for a socially shared future"<sup>7</sup> (Magnaghi, 2000, p. 125), which begins with an awareness of place and oneself as an inhabitant (Magnaghi, 2000).

Therefore, it is possible to observe the character of Magnaghi's main foundational principles in both the theoretical and practical domains of the concept in development. Thus, the author defines urban bioregion as

*[...] a multiplicity of local territorial systems organized into groups of small and medium-sized cities, each in ecological, productive, and social equilibrium with its own territory. It can be as "large and powerful" as a metropolis: in fact, it is more powerful than the center-periphery metropolitan system because it produces more wealth through the enhancement and formation of networks from each of its "peripheral" nodes; it also avoids congestion, pollution, and external diseconomies by reducing energy costs and environmental emergency costs, decreasing unnecessary mobility at the origin, and creating local ecological balances that, in turn, reduce the ecological footprint, that is to say, the unsustainability resulting from the extraction of resources from distant and impoverished regions. (Magnaghi, 2017, p. 187. Emphasis added)*

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7. This and all other non-English citations hereafter have been translated by the authors.

Thus, in light of the above, the urban bioregion is understood as a response to the metropolis form, with the new concept adopted by Magnaghi replacing that of Ecopolis as a tool applied at the city scale, although its influences on the construction of the binomial are clear. There is an expansion of scale and a transformation in the paradigm developed by the Italian Territorialist School, which was previously focused on the local level and is now directed towards the regional level.

With *A biorregião urbana: pequeno tratado sobre o território, bem comum* (2017), Magnaghi reaffirmed this transformation. In the introduction, he not only presented the central issue of his works – deterritorialization – but also foregrounded contemporary urbanization as a major issue to be addressed. He shifted the concept of the urban bioregion from being a response to the metropolis from to being a response to urbanization itself. Furthermore, he reinforced the project-oriented nature of the urban bioregion by defining it as “a conceptual and operational tool to initiate this process of return to the territory” (Magnaghi, 2017, p. 14). Magnaghi (2017, p. 85) also described it as “an interpretive, conceptual method for investing in the pathway of counter-exodus” presenting the central hypothesis of this work: a shift in the forms and regulations that drive contemporary urbanization toward those that foster the urban bioregion.

To achieve this paradigm shift, he proposed a concept that was capable of addressing the challenges of contemporary urbanization in a manner that encompasses the multiple layers of the territory and its complexities, while also advocating for new ways of “being on the land”, rather than simply “living in the world” (Turco, 2014, p. 149). This represented a “new form of urbanity” (Magnaghi, 2017, p. 87).

Thus, Magnaghi constructed the binomial by addressing two fundamental issues: i) the question of the “bioregion”, which refers to the expanded scale of dwelling, realized through multi-scalar relationships and manifested in a variable and potentially boundless geography; and ii) the “urban” question, which pertains to contemporary urbanization, originating from rules that benefit from techno-financial evolution while disregarding territorial limits (Magnaghi, 2017).

The very binomial highlights the dual nature of the urban bioregion, while simultaneously modifying the meaning of each word individually and encompassing both being and acting. “Bioregion” shows what it is: an extensive territorial system, crossed by multi-scalar relationships between human settlements and the environment. “Urban” shows how it acts upon itself, through its tools, in a design effort to restore its balances and rebuild its urbanity in order to reconcile the city and the countryside and reconstitute itself as a unit. In sum,

[a] the urban bioregion serves as the appropriate conceptual framework for addressing, in an integrated manner, the *economic* (territorial local system), *political* (self-governance), *environmental* (territorial ecosystem), and *habitation* (functional and living spaces within a network of cities, towns, and villages) domains of a socio-territorial system that fosters an *equilibrium* of *coevolution* between human settlement and the environment, reestablishing, in a new form, the long-standing relationships between city and countryside to achieve territorial equity. (Magnaghi, 2017, p. 89)

#### 1.1. The constructive elements of the urban bioregion

Beyond its conceptual definition, Magnaghi also emphasized the operational dimension of the urban bioregion, approaching it methodologically to define and recombine the elements that constitute it, thereby enabling territorial projects through multisectoral integration. He argued that territorial treaties must necessarily adhere to sectoral rules (ecological, hydrogeological, etc.) in order to respect the specific needs of each system, while simultaneously engaging with the bioregional unit to avoid project conflicts between different sectors (Magnaghi, 2014). This proposal positions the urban bioregion not only as a tool for identifying systems but also as a framework for territorial design, planning, and governance.

To this end, Magnaghi established new domains of territorial design and their compositional rules through an analogy with the structural elements of a house, namely: cognitive foundations; environmental foundations; polycentric and non-hierarchical urban networks; local production systems; local energy resources; agroforestry structures for new city-countryside pacts; and self-governance structures (Magnaghi, 2017).

In Magnaghi's view, an awareness of place forms the foundation for constructing the bioregion, with identity representation as the first step in restoring the relationship between people and territory. This is directly linked to cognitive foundations, which manifest through specialized contextual local knowledge capable of reactivating the art of culturally constructing places (Magnaghi, 2017). Thus, territorial and landscape cultures and knowledge, shaped by long-standing relational processes of coevolution between society and nature, can reveal the functional secrets of the bioregion and provide the basis for its identification and reproduction.

Environmental structures, as the material foundations of settlements, are those aimed at maintaining a hydrogeomorphological balance and the quality of ecological networks – essential preconditions for settlements that both define the cognitive foundations, and are also transformed by them. These structures function as structural invariants that shape livelihoods, neo-ecosystems which, despite

undergoing transformations over time, retain a determining role in settlements, as seen in mountain ranges and river basins. In the case of the bioregion, the pursuit of balance and quality in environmental systems is prominent, setting it apart from other territorial arrangements of an anthropocentric nature (Magnaghi, 2014).

In this regard, cognitive and environmental foundations must necessarily be identified and interpreted, since they serve as the basis for establishing the bioregion, even though they are subject to transformation by projects and plans. Building on these foundations, constructive elements play a key role in shaping a new model of civilization, being identified and assessed as potential drivers of the urban bioregional project.

Non-hierarchical polycentric urban networks and the construction of public spaces are proposed as alternatives to the center-periphery model, thereby fostering a relationship of collaboration rather than dependence. According to Magnaghi, the urban bioregion consists of: the inhabited countryside (rural life, comprising farms, rural ecovillages, and various rural structures); the city of villages (urban life reinterpreted as ecological neighborhoods); and networks of cities (linked by infrastructural corridors of roads, railways, rivers, and so forth). The author's reference to Ecopolis, *città di villaggi* (Magnaghi, 2014, p. 20), is particularly relevant in addressing the intermediate-scale relationships between city and countryside through neighborhoods.

The adoption of local economic and production systems that valorize the heritage of the urban bioregion is tied to “a development of functional economic systems for the reproduction of the life cycle of the bioregion itself” (Magnaghi, 2017, p. 150). This process involves control over productive activities aimed at the reproduction of the territory and the valorization of specific qualities of territorial heritage in each urban bioregion, within a dual system of requirements. By reinterpreting the relationship between territorial heritage and the local production system it seeks to generate lasting wealth. Achieving this goal requires reducing reliance on external productive systems in the energy, food, construction, and service sectors. According to the author,

[...] within this dual system of requirements (and regulations) governing the evolution of productive systems, the bioregional approach plays a crucial role in determining which goods should be produced and in what quantity, considering environmental resources and their cultural interpretations, as well as territorial resources, both material and immaterial. (Magnaghi, 2017, p. 150)

Building on this, the focus on local energy resources, integral to the self-reproduction of the bioregion, emerges as a key element, due to the specificity

and significance attributed to it by Magnaghi (2014). He not only underscores the underlying demand for energy autonomy among European countries, the context in which this proposal was developed, but also the energy dependence to which contemporary ways of life have been subjected. Nevertheless, this element advocates for the redistribution of energy production into smaller units better suited to territorial needs and resources, thereby fostering the self-reproduction of the urban bioregion into which they are embedded, and developing settlement systems characterized by low consumption and high energy efficiency.

Additionally, agroforestry structures, endowed with multifunctional values, are also proposed as a means of forging new city-countryside pacts through a radical rethinking of design methodologies. This involves the relationships between built and open spaces, as well as encouraging inhabitants to take responsibility for the stewardship of their livelihoods and the landscape. The role of farmers is also emphasized as “producers of the territory” in open spaces (Magnaghi, 2005), alongside urban and peri-urban agriculture, which act as barriers to the city’s expansion and promote quality of life by qualitatively requalifying these spaces, redirecting them toward food, leisure, and recreation.

Finally, the urban bioregion is composed of self-governance structures and the social production of territory, in which the process of participation evolves toward the “social production of the plan” and, ultimately, the “social production of the territory” (Magnaghi, 2017, p. 173). This necessitates a transformation in the underlying logics of understanding, design practice, and planning, shifting them toward a model of collective construction. In this proposal, the collective embodies the social demand for well-being and public happiness through participatory democracy, organizing development strategies based on the valorization of heritage assets as common goods. This unfolds autonomously and across multiple scales, facilitated by networks of solidarity and cooperative exchange among various territorial arrangements (Magnaghi, 2017, p. 176).

Building on an understanding that the urban bioregion is established to enable self-governance of the territory through its environmental, economic, housing, and political resources, it can be inferred that the minimum bioregional unit – defined as the smallest territorial unit comprising the previously described elements in which self-governance is feasible – serves as a key parameter for identifying urban bioregions.

The urban bioregion exhibits a progressive increase in autonomy within its constructive elements, beginning with the existing foundational components and advancing toward equitable relationships between inhabited areas, productive and energy sovereignty, and shared responsibility for the stewardship of livelihoods, ultimately culminating in self-governance.

Thus, Magnaghi offered a revolution in the production of territory by subverting the prevailing economic, political, productive, and habitational logics, urging us to conceive of a territorial project centered on public happiness. His vision is for a “planet of urban bioregions,” interconnected through networks that foster a higher quality of life by introducing new ways of inhabiting and generating lasting wealth (Magnaghi, 2017, p. 197).

## 2. Figurative Conceptual Representation

In an effort to bring a figurative dimension to the concept of the urban bioregion, a representational model is proposed, highlighting its two-dimensional nature, theoretical and practical, while demonstrating its reflective, complex, and relational qualities. It is reflective because the urban bioregion is understood as a subject, formed by the environmental, economic, habitation and political domains, and thus capable of acting upon itself. This allows it to feedback into its systems, adapting, developing tools, and using its resources for its own development. It is complex in two ways: the first, brought from biology by Magnaghi (2005), relates to the adaptability and self-preservation capacity of an ecosystem, which can reach new climax states, referring to the stability of a community in ecology; the second, in the more common connotation of the word, refers to a set composed of interdependent and difficult-to-understand relationships. It is relational because all domains are subject to organizational movements with distinct and coexisting rationalities, determining the reach, scale, and power of each urban bioregion, in segments and partitions in an incessant process of entropy. These rationalities promote distinct organizational arrangements according to spatial articulations of greater or lesser proximity or distance in relation to the actors and their scales of action, manifesting themselves in areas of aggregation or fragmentation. The urban bioregion values the relationships manifested in contiguity, and it is considered necessary to make a constant effort to ensure that horizontal spaces do not remain confined to verticality.<sup>8</sup>

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8. In its propositional dimension, aimed at creation and reiterating the importance of the urban bioregion in planning practices in Brazil, this section reflects a conceptual approach to Brazilian critical theory through the thought of geographer Milton Santos (1926–2001). From this perspective, understanding the relational nature of the urban bioregion is influenced by the notions of horizontalities and verticalities that Santos developed (Santos, 2013). Accordingly, regional organization is subject to segmentations and partitions – spatial divisions – referred to as verticalities and horizontalities, which correspond to global purposes and endogenous counter-purposes, respectively. From this, it is possible to understand horizontalities as being associated with everyday life, the complementarity between different types of production, and solidarity-based existence, whereas verticalities are linked to circulation processes, the distance between actors and the areas influenced by their actions, and the overall functioning of society and the economy.

Understanding the uniqueness of urban bioregions, it is understood that their representation must also be unique. The model presented in Figure 2 is proposed as a starting point to be modified, adapted, and reworked according to the characteristics of each urban bioregion.

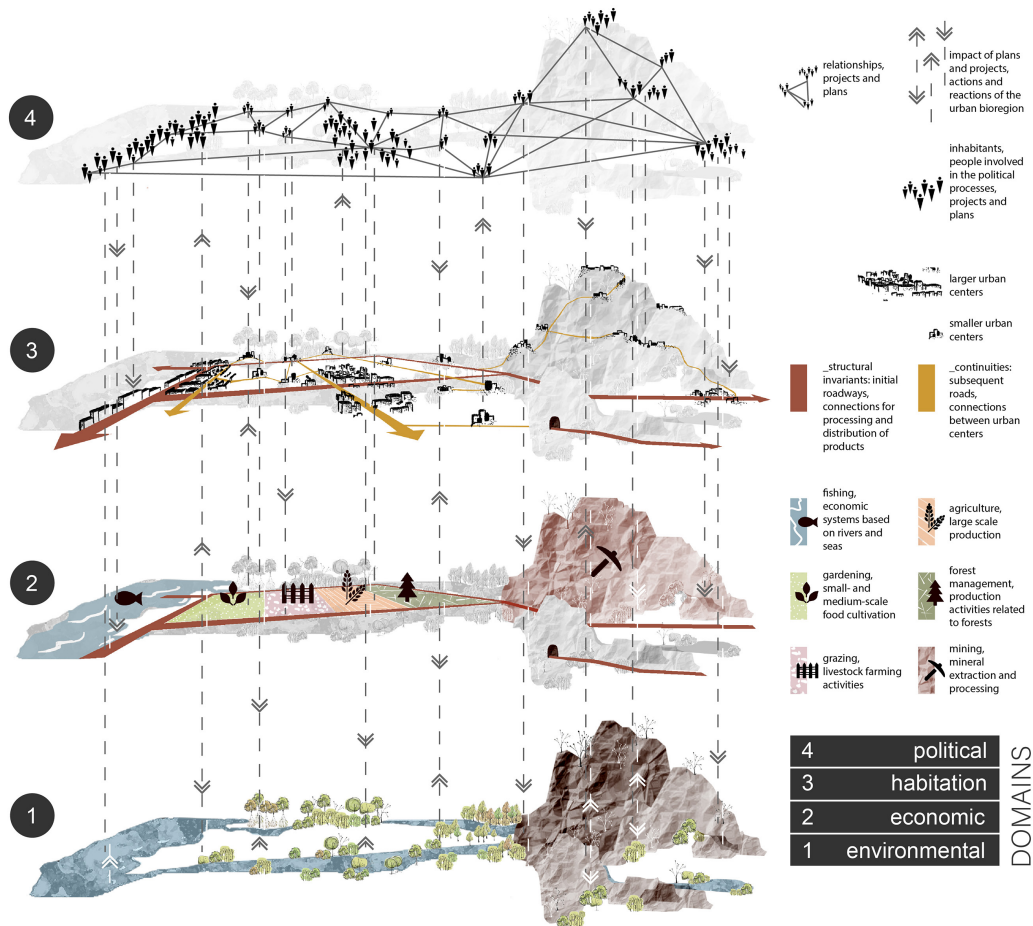


Figure 2. Representational Model of the Urban Bioregion  
Source: Elaborated by Pimentel (2024).

It is proposed that the model be read from bottom to top, starting with the environmental domain. This layer is the material base for the territory, since it is both where the processes of territorialization begin and where they are nourished and transformed. Its form may vary according to the characteristics of each bioregion, and it is understood to be the domain most subject to delimitation due to its hydrogeomorphological characteristics, which are more visually apprehensible.

The second domain, economic, directly depends on the environmental domain and is primarily influenced by the valley section by Patrick Geddes (Welter, 2002), presented in Figure 3. In this case, there is a direct connection between the economy and natural resources, which form the basis for production processes. Therefore, this domain is positioned immediately above the environmental domain, as it is understood to be dependent on the first domain and conditions the third, which relates to settlements.

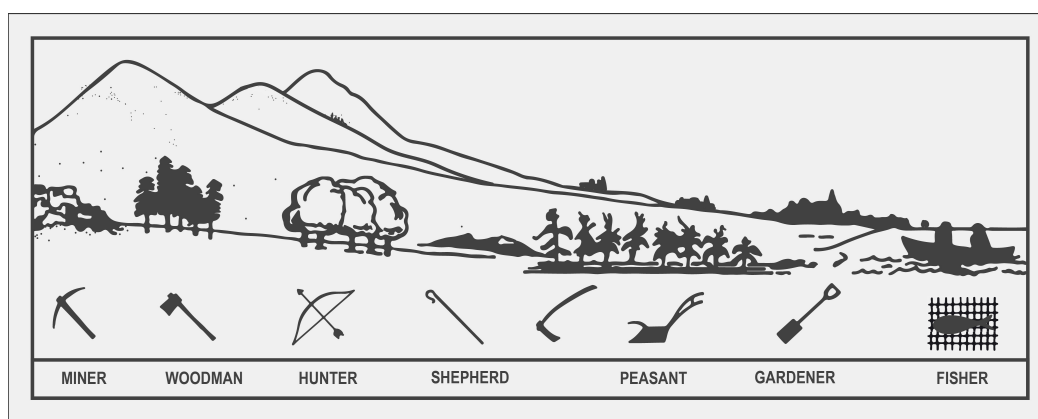


Figure 3. Valley section

Source: Welter (2002).

The third domain, that of habitation, addresses settlements, places (Turco, 2014), and structures related to human existence in the territory. It is positioned above the two previous domains in the representation in question, since, in the logic of the emergence and growth of cities, human settlements are intrinsically linked to the availability of resources in a given place and to the economic activities made possible by them. In the model proposed in Figure 2, such structures correspond to urban clusters and roads, but they could also include various built elements, such as ports and bridges.

The fourth domain, political, is represented by human figures connected by horizontal and vertical lines, visually depicting the social relations between the inhabited centers and the impacts they generate in each domain, which can be more or less extensive. In addition, the reflective nature of the urban bioregion is represented by vertical arrows, demonstrating the actions and reactions of this system. The political domain is understood as the most abstract layer and also that with the greatest potential to transform the territory, as through plans and projects carried out within this domain, it is possible to modify the rules of transformation that act on the urban bioregion as a whole.



Although each domain has been stratified for didactic purposes, the proposed model represents a cohesive, integrated system. As a concept that simultaneously demonstrates what the urban bioregion is and how it operates upon itself, it requires a visual representation that captures both these aspects: first, through the domains, depicted to highlight their characteristics; and second, through arrows and lines, illustrating the relationships and their capacity for interactions and to transform over time.

In this model, structural invariants are represented in the economic and habitation domains but can also appear in other domains. In this hypothetical model, they correspond to roads, but they could also be environmental, built, or anthropic elements, depending on the territorial heritage of each location.

### 3. Urban bioregion: the operational horizon of ecoterritorialism

Following the conceptual evolution presented, Magnaghi and Ottavio Marzocca introduced a new structural axis for territorialists: ecoterritorialism. This movement was driven by the growing dissemination of alternative practices of territorial intervention in response to the environmental crisis, the pursuit of self-sustainable development through patrimonialization, and the complexity and multi-sectoral nature of contemporary challenges (Magnaghi; Marzocca, 2023).

In light of this scenario and the recognized failure of sectoral and fragmented approaches to addressing socio-environmental problems, ecoterritorialism calls for the construction of a new civilization. As Magnaghi and Marzocca (2023, p. XI) asserted, “the territory requires a convergence of knowledge capable of solidly addressing complex multidisciplinary issues,” engaging researchers and professionals from diverse fields related to the territory to define a new culture of inhabiting, living, and producing.

Hence, the urban bioregion is adopted as an analytical and planning tool of ecoterritorialism, and its reflexive nature becomes fully evident in Ottavio Marzocca’s definition:

The urban bioregion is an eco-geographic formation that must be both recognized and actively promoted, taking into account the ways in which human settlements and the environment interact – whether in harmony or in conflict – depending on the varying densities of human presence, on the one hand, and natural systems, on the other. (Marzocca, 2023, p. 12)

He further states that this entails dismantling the space of unlimited urbanization in favor of multiple urban centers, regenerating the relationships

between urban and rural areas through the necessary connections and boundaries between city and countryside, and recognizing and reconstructing synergistic relationships between urbanity and the environment within a bioregional structure (Marzocca, 2023).

With respect to the methods and instruments of ecoterritorialism, Magnaghi presents the urban bioregion as a “multidisciplinary instrument of the ecoterritorialist project” (Magnaghi, 2023, p. 89). In his most recent published work, the author both conceptually and operationally defined this instrument, which is explored throughout this section, while also establishing the territorial principle for addressing ecological challenges from the perspective of bioregionalism.

Although the ecoterritorial approach primarily addresses socio-environmental issues, the central concern in Magnaghi’s work remains unchanged: deterritorialization, as manifested in the contemporary process of urbanization. He believed that this process is the root cause of major socio-environmental disasters on both local and global scales. Therefore, territorialists view the urban bioregion as the most effective tool for tackling the complexity of regional space production and for promoting the “development of evolutionary relationships between human settlements and the environment capable of confronting the global ecological crisis” (Magnaghi, 2023, p. 91).

He therefore advocated for the territorialist approach due to its integrated, complex, and multisectoral nature. Furthermore, he also distinguished the use of the prefixes “bio” and “eco” in the context of territorialists, emphasizing the need to overcome segmented ecological approaches, understand the territory in an integrated manner, and propose profound transformations in the relationship between human settlements and the environment (Magnaghi, 2023).

Thus,

[...] the conceptual device of the urban bioregion is viewed, in its operational aspects, as an appropriate tool to “re-territorialize the ecological question”, developing “self-sustainability of the local”, reigniting co-evolutionary processes between the functions of human settlement and the peculiarities of natural elements. In doing so, it activates the relational components that enbale autonomy from “global flows” and their destructive characteristics. (Magnaghi, 2023, p. 91)

In this context, the territorial principle is established along three main fronts: the fundamental role of territorial heritage in planning the urban bioregion, the integrated and synergistic activation of the elements that make up the territory, and the self-governance of the territory as a common good (Magnaghi, 2023).

These three fronts, to a certain extent, encapsulate the constructive elements of the urban bioregion and underscore the substantial relevance this concept has gained over time for territorialists, who have now fully integrated it into their methodological framework. Furthermore, there has been a notable shift in both conceptual and practical terms, with the urban bioregion serving as a unifying element – primarily by positioning human beings and nature on an equal level of importance, thus addressing socio-environmental issues in all their complexities.

#### Final considerations

Adopting the urban bioregion as a conceptual and operational tool for urban and regional planning presents a significant challenge, particularly due to the transdisciplinary approach required for its implementation and its divergence from contemporary urbanization patterns. However, in an increasingly turbulent context, seeking an approach that meaningfully engages with these challenges at a deeper level appears not only reasonable but necessary. Magnaghi is unequivocal in asserting that our model of urbanization, and, one might argue, our way of life, is destined to failure. A closer examination reveals a stark reality: dam failures, floods, extreme heat and cold waves, violence, environmental and war-induced displacement, housing shortages, and more.

Interpreting the territory as an urban bioregion can serve as a counterpoint to this scenario and, in some capacity, contribute to a reterritorialization more attuned to human existence on Earth. The tool proposed by territorialists is not merely theoretical; it has always been conceived alongside strategic scenarios as a means of addressing socio-environmental challenges – problems, which are becoming increasingly evident both in the lived experience and in ecoterritorialist thought, where the urban bioregion is positioned as the primary tool for designing a new civilizational model.

However, given the contextual differences between the Italian territorialists and Brazilian researchers and professionals, it is essential that such a powerful tool be incorporated and studied within our reality in a way that aligns with the plurality of such a vast and complex country.

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