

# Urban bioregion concept: from theoretical roots to development of an operational framework in the European context

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## Abstract

In urban planning literature and practice, a growing attention is paid to the possibilities of enhancing the interaction between rural and urban domains and 're-embedding' of cities within their surroundings. In this sense, the concept of 'urban bioregion' could play a pivotal role for application in practice through peri-urban integrated policies of the territorial planning. Although the bioregional approach emerged several decades ago, mainly in the North American context, the bioregion concepts need to be further developed in planning domain. It turns out to be especially remarkable in the European peri-urban context where the city-countryside relationship historically underpinned the human settlements form.

In this framework, the paper shortly reviews and resumes, starting from the seminal contribution of American regionalism, the key concept of bioregional paradigm as a reference framework in theory and planning domain, especially in relation to the European context. Then, we continue by analyzing and assessing some key criticism raised to bioregionalism. Finally, the paper sets up a set of key elements to define a conceptual framework aimed to assess the "bioregional thickness" of planning and design experiences and spatial policies, especially in the light of actual challenges, such as climate change adaptation, local food system planning, reduction of soil consumption and urban sprawl.

**Key words:** *Bioregional planning; urban bioregion, re-embedding; self-reliance, territorialism*

## 1. Introduction

In urban planning literature and practice, a growing attention is paid to the possibilities of enhancing the interaction between rural and urban domains and 're-embedding' of cities within their surroundings. In this sense, the concept of 'urban bioregion' could play a pivotal role for application in practice. Although the regionalist approach to planning emerged several decades ago, mainly in the North America context, the bioregion concepts represent a later articulation of the original concept and need to be further developed and clarified in planning domain. The bioregional framework is not a utopian project, and it not only refers to wilderness or rural areas but entails a set of key issues to foster enhanced practices for urban or peri-urban environment integrated policies, planning, and design. That turns out to be especially remarkable in the European context where city-countryside relationship historically underpinned the human settlements form and where the development was conceived as an integrated whole of nature and culture.

## 2. The main sources feeding up bioregion concepts: from environmental roots to urban bioregion

Bioregionalism represents a cultural and social movement, a “body of thought” constituted by many voices (Aberley, 1999) that is very difficult to reduce to a definitive and simple codification, “orthodoxy” or conceptual synthesis.

First of all, many of the main concepts of bioregional paradigm draw on the seminal experiences, reflections and propositions carried on either by the group of regional thinkers, practitioners and activists gathered during the 20<sup>th</sup> of the previous century around the Regional Planning Association of America and by the Southern American regionalism voice that developed around the outstanding figure of Howard Odum (Friedmann, Weaver, 1987). Although, at that time, still confident in the potentiality of a well-addressed use of science and technology to produce a “neo-technic” age (Mumford, 1938) where human well-being and development goals could be jointly achieved, American regionalists strongly upheld the necessity of recovering a meaningful and healthy living environment tackling with the yet evident negative effects of metropolitan diffusion. That accordingly with polycentric settlements and production/consumption patterns fitting with the resource, limits and regenerative capabilities of the regions where the settlements and urban/metropolitan entities themselves thrive.

Such a general assumption strongly draws on a cultural legacy that sees the natural regions and their original diversity or the original “indigenous” environment (Mac Kay, 1928) as the basic framework where the urban domain originated, settled and can continue to develop. Furthermore, Regional Planners strongly pointed out the “cultural”, educative, “revelative” (Mc Kay, 1928: 147-158) and civic role of regional planning that – allowing for the direct possibility to experience, on behalf of a community and singles, about the consequences of their habits and the way they manage their living environment – calls for reframing in bottom-up and federative terms also the political and administrative structure and policy-making processes. Notwithstanding regionalists expectations about technic and science effective support to a balanced regional development process were not fulfilled. On the contrary, at the beginning of the sixties in the face of the growing awareness of the ecological crisis (Carson, 1962; Goldsmith, 1972; Meadows D.H, Meadows D.L. *et al.*, 1972) and growing economic unbalances, a wide and various social movement arose proposing new critique, endeavour, and actions to cope with the considered by now evident unsustainability of the western growth model and lifestyle.

This period of environmental crisis, characteristic of various forms of civic disaffection taking place in North America and Europe, paved a fertile soil for the development of vast ranges of concepts of bioregionalism (Aberley, 1999, *cit.*, Hay 2002; Alexander, 1990) hinging on some key issues. Those were mainly based on reconnection or co-evolutive relations between society and region, better understanding on behalf of inhabitants of the places where they live and emanate through all of them. In this framework, bioregionalism addresses the goal of “reconnecting human socially-just culture with region scale ecosystems re-inhabitation” (Aberley, *cit.* p.13). Bioregionalism – in analogies with American regionalism - was a cross-cultural movement and it also found an important reference in various cultural fields and vanguards especially related to ecological and anarchic issues (i.e W.Berry, Roszak, Bookchin).

Relearn to “Live-in-place” and re-inhabiting places, as practice and awareness of regional of living systems at the different scale, are the key underpinning points of bioregional approach (Berg and Dasmann, 1977). Moreover, bioregional movement fosters a strong connection between place, ecology, and politics (Snyder 1969), a place focused, “territorialized” (M’Goonigle, 1999) re-distribution of power, underpinned by a strong critic of the actual nation/state-led government paradigm (Sale, 1985:89-110). Civic and political commitment for a not-hierarchical and bottom-up model of government is conceived as the base for a community centered – regionally polycentric - civic organization and willingness. Notwithstanding *place focus* purposes and community engagement are not aimed to pursue local closure. Cooperation between places and bioregion is also a basic point of the approach, according to a multilevel geographic model and a regional system of cooperating and (economically) self-relied communities (Sale, 1985:5-66; Scott Cato, 2012). These are but some of the key points that could be recalled to render a bioregional inspiration. An inspiration, nevertheless, that expresses an evolving concept through a “utopian thinking” but not a utopian model. A concept to unfold through a process of place and context driven adaptation (Dodge 1981).

As was written above, bioregionalism represents a diverse flow of concept and ideas. On the one hand, some ideas are being partially included into the main and environmental concepts like sustainable development or territorial planning theory and practice (Brundtland, 1987; Fanfani, 2018). On the other side, strongly environmentally oriented concepts are being still developed in parallel way, creating refreshing, but mostly

alternative ideas which do not touch mainstream society and rather stay on its edge (Pranskevičiūtė, 2015; Moretti, 2007). Moreover, some authors enrich art and artistic thinking by poetry, essays and other valuable literary production, crossing art, spirituality and environmentalism (i.e. Snyder, 1990).

To sum it up, Table 1. shows selected concepts and their potential contribution and enrichment to the elaboration of (urban) bioregion concept as well as some outstanding figures, “movement” ideas that inspired, triggered and developed bio-regional legacy.

Table 1. | Summary of selected concepts and their potential contribution and enrichment to the elaboration of (urban) bioregion concept.

<i>Period and indication</i>	<i>Main thinkers</i>	<i>The main ideas</i>	<i>Inspiration and enrichment for bioregion planning</i>
<i>20. century</i>			
<i>The twenties, thirties</i> Conservation of wilderness	Gifford Pinchot, Aldo Leopold, Benton McKay	- Focus on protection of specific type of territory, <b>wilderness</b> - Attempt to exclude human influence from natural processes	-Importance to take into account environmental and natural factors - Focus mainly on <b>nature protection</b> -Looking for the <b>appropriate size of the territory</b> in which nature evolves itself
<i>The twenties, thirties</i> City and place of living	Lewis Mumford, Regional Planning Association of America	-The idea of <b>human territorial design</b> , mainly in cities	-Balancing and reframing the metropolitan wave according to a <b>polycentric settlement system</b> in the context of regionally defined borders; the concept of regional planning as educational practice and aimed to “ <b>reveal</b> ” the very nature and natural project for the place
<i>The seventies – onwards</i> Concepts of Bioregionalism Sense of place	Peter Berg, Raymon Dasman, Planet Drum Foundation, Kirkpatrick Sale, Garry Snyder, Murray Bookchin	-The concept of bioregion as geographical landscape and a terrain of consciousness ( <b>Life-Place</b> ) -Grassroot/ bottom-up approach <b>Reinhabitation</b> /regeneration of disrupted places – live-in-place <b>-Watershead</b> as the base <b>-System approach</b> , integrating social, political and ecological dimension -Focus on <b>environmental stewardship</b> -Connection with Anarchist movement -Social and political Ecology	-Incorporating intangible values, <b>local knowledge</b> , and sacred dimensions into the concept of the bioregion <b>-The geographical cross-scale dimension</b> of the bioregion, which is conceived as the organizational unit for human activities and culture -The connection of <b>cultural</b> and <b>biophysical identity</b> of the home region - Multidimensional cross-disciplinary approach - Bottom up-governance.
<i>The seventies – onwards</i> Spiritual and environmental streams	Arne Naess, Deep ecology, New Age, Neopaganism, Gaia movement	- Creation of alternative, to some extent isolated communities and <b>eco-villages</b> operating out of mainstream society - The connection of alternative lifestyles and new/green religion - Focus on <b>non-human values</b>	-Inspiration by alternative and eclectic <b>spiritual streams</b> - The radical approach towards solving environmental issues -Not very much applicable widely, it is rather a matter of <b>alternative lifestyles</b> , isolated from mainstream society
<i>The seventies – onwards</i> Bioregion and economics	E. F. Schumacher; N.Georgescu Roegen (Bioeconomics);	-Focus on the appropriate size of <b>economics</b> ; productions and consumption <b>that respects human</b>	-Providing alternative <b>economic through</b> first incentives for sustainable development

	M.Scott Cato (Bioregional Economy)	<b>dimension</b> in the home region: small is beautiful; <b>-Self-reliance</b> and self-provisioning	-Inspiration by <b>ecological processes</b>
<i>The nineties – onwards</i> Sustainable development	Gro Harlem Brundtland UN	-Incorporating some bioregional thoughts into <b>sustainable development</b> concept -Moving bioregionalism into the mainstream policy and regional planning theory and practice	-Bioregionalism as one of the inspiration for elaborating policy of <b>sustainable development</b> (United Nation agenda, for example, Agenda 21) -Shifting attention to cities, urban regions
<i>The nineties – onwards</i> Environmental and religious inspiration from Eastern Europe	Vladimir Megre: Anastasia Movement	- Focus on wise cultivation of land, respecting natural principles ( <b>permaculture</b> ) - The basis unit is <b>homestead</b> (approx. 1 ha great) that might be joined into an autonomous community - New religion, vissarian visions	- <b>Agricultural</b> enrichment - <b>Homestead</b> unit rehabilitation - Matter of <b>alternative lifestyle</b> , isolated from mainstream society
<b>21. century</b>			
Bioregion as a synonym for life- place and spatial justice and fairness	Robert Thayer, Keith Pezzoli	-Indication and mapping environmental/ bioregional/landscape patterns, gaps and networks - Revealing <b>place-specific knowledge</b> of culture-land dynamics	- Combining territorial planning with community-based stewardship; respecting cultural and ecological sustainability. -Development of landscape planning by pointing out <b>bio.geenrative spatial patterns</b>
Alternative Bioregionalism in Italian version	Giuseppe Morreti, Sentiero bioregionale Rete Bioregionale Italiana	-Diverse flow of ideas and thinkers drawing roots from Gary Snyder, deep ecology and other alternative sources	- Attempt to live better life with the respect to nature and other living elements composing the whole territory
Urban bioregion design	Florence/Empoli school of territorial planning: Alberto Magnaghi David Fanfani Daniela Poli Claudio Saragosa Maria Rita Gisotti	-Elaboration of <b>urban bioregion</b> concept, that is based on principles mainly referred to : -protection and enhancement of specific historical integrated heritage of the local system (Patrimony); - local community empowerment and participation in building protection and ruling out development chooses (Place awareness building); - enhancing self-government and economic self-reliance in a federal prospect (bottom-up development); - implementation of participated and “heritage based” local planning tools	- Uphold urban bioregion as the vital part into <b>regional and participative planning</b> - Definition of long-lasting rules for territory evolution (Structural invariants) -Shared construction of the place resources rules of use an reproduction (Places Charter) - Rehabilitation of <b>peri-urban areas</b> by appraisal of their importance as cities embeddedness, creation of the so-called <b>pact between city and rural areas</b>

Source: Authors own elaboration, based on information sources mentioned in References

### 3. Bioregional planning approach

Bioregional advocacy, unlike the early American regionalism, was not promoted by mainly planning oriented and trained figures. Despite that, considering its place-focused and practice-oriented origin, bioregional thought and movement also entails some sustainable development policy and planning issues. Although sometimes according to the activists approach, bioregion was meant as an expression of living outside the mainstream society in an ideal alternative world, generally, as well pointed out by Sale, bioregional practices cope with the current state of affairs, the world as it is, by practicing a gradualist and evolutionary and not-revolutionary, although not adaptive, vision, whose perceptions are regionals, so (as) it is its canvas (Sale, 1985:169). Then, bioregion is related to various forms of cultural landscape, connecting humanity to the specificities of a place (Hay, 2002; Ryan, 2012), whereas bioregional planning approach explicitly addresses the need of maintaining ecological processes and functions within bioregion (Azizul, Kniht-Lenihan, van Roon, 2016).

According to Thayer (Thayer, 2003: 144-154) the bioregional planning, drawing on the legacy of thought and practices of the early American regionalism, deals with the necessity to overcome the sector bounded, single-layered and top-down current model of planning. A model that does not fit anymore with the growing restrictions and limits skewed to matter and energy depletion and with the related growing costs, either in economic and social terms. Far from endorsing a utopian model, the bioregional (or, according to Thayer, "LifePlace") Planning concept, proposes a "practical and necessary spatial delineation" (Thayer, 2003:154). In "LifePlace" planning land patterns draw on bottom-up and grass-root visions and not top-down and developers driven. In these visions, still according to Thayer, the planner plays a pivotal role in re-framing unbalanced power relationship that especially by fostering bottom-up coalitions that might anticipate issues that are not yet in the agenda of institutional planning and policies. Finally, assuming such a prospect entails reframing and recovery of inherited patterns of production/consumption and, especially, access to resources, in such a way that environmental justice can't be anymore separated from spatial patterns of bioregional redefinition (Thayer, 2003:164; Pezzoli, 2013).

### 3.1 Re-embedding human settlement and re-thinking the urban-rural divide: the urban bioregion prospect

In his general inspiration the Bioregional planning approach allows, furthermore, to best cope with the growing challenges stemming from the wide urban diffusion and metropolization processes that, despite their regional differences at the world scale, call for a general radical re-thinking of traditional conceptual categories –and separation- of rural and urban domain (Brenner, 2005) and of related planning tools. Starting from that challenge, bioregional planning contends with the necessity to re-localize (Thayer, 2013) or re-territorialize (Magnaghi, 2010) human settlements. Not only as a spatial pattern but also to support a specific, endogenous and self-sustainable or self-relied model of local development (Power, 1996; Magnaghi, 2010, Scott Cato, 2012). Moreover, starting from the challenges posed by an unprecedented urbanisation process, the attention moves from the countryside closer to the cities and their embedded surroundings to best appraise and consider the potentiality for the recovery of a co-evolutionary (Norgaard, 1997) relationship between urban and rural domain, especially considering the latter as a "mold" (McKay *cit.*, 1928) to "retrofit" the former (Church, 2015) in a self-reliance prospect (Berg, 1991). This prospect strongly hinges upon the earlier criticism of metropolization processes of American regionalists. It recognizes new challenges for planning theory and practice, stemming from the so far unscrupulous development of peri-urban areas (Atkinson, 2005). Urban bioregion concept and design, as was earlier introduced by Atkinson for the developing countries (Atkinson, 1992) and then articulated in several key publications by Magnaghi and Fanfani (Magnaghi, Fanfani, 2009; Magnaghi, 2014a, 2014b) and others (Paquot, 2018), brings up the need for developing new integrated planning models in this framework. Such a concept strives to recognize the value of the peri-urban area to be appreciated as a peculiar system of places endowed with ecological and cultural values, gaining from its proximity location to cities potentialities to re-mold the urban form itself and supporting a new metabolic relationship with the urban domain (Simon-Rojo, Duží, 2017). Urban bioregion starts from the same base, the physical and environmental features of the targeted region (morphotopology of the landscape), such as soil and terrain characteristics, geology, hydrology, land use. Further, these environmental settings, caught in their co-evolutionary history with human action, generated long-lasting structures that altogether serve as the starting point for bioregional territorial planning and a new balanced polycentric urban system. Accordingly, to create a comprehensive foundation of the region governance and planning needs to take into account some specific form of historical development, cultural and natural heritage and support an innovative approach in defining the new interpretative and design tools.

### 3.2 Definition of bioregional grounded issues, methods, tools: figures of regulations and territory design process

Since the outset, adopting a bioregional vision entailed reversing the traditional metropolitan or urban-centered prospect of spatial planning, and aimed to re-define territorial hierarchies according with the idea of a new *urban bioregionalism* (Church, 2015, *cit.*). That according to more balanced and fair settlements models where the surrounding region, with environmental and socio-cultural endowments, regains his underpinning role for the city. A new form of bioregional community and spatial patterns were raised and were pointed out as the necessary requirements to transform in practice bioregional vision. These were in general addressed by Berg - although in implicit spatial terms - as new "figures of regulations", as "assemblage of

values and ideas that can similarly be ingrained in patterns of activities”, or as a result of a process and new tools of bioregional mapping (Aberley, 1993) or, finally, aimed to define an “Agropolitan” model (Sale, 1985, *cit.*, Friedmann, Weaver, *cit.* 1979) suitable, also in global north countries, to reframe metropolitan urbanization.

Thayer went on in this direction, drawing on Alexander Pattern Language approach, and proposed a model of “lifeplace” planning based on “bio-generative” long lasting patterns. Such patterns emerge locally and regionally as an interaction of cultural elements, organic physiology and structural (ecological) physiography (Thayer, 2003:168) and are embodied in co-evolutionary regenerative living system, between nature and culture expressed also by locally advanced or - quoting Stuiver - “retro-innovative” technical/practical solutions (Stuiver, 2006). Although LifePlace planning is locally specific, for Thayer, it gathers some shared attributes. These are firstly related to the necessity to implement the bioregional planning process based on, and aimed to, in-habitants education and participation, civic empowerment as well as enhancing place awareness and competence. The last point, in a more substantive way, calls for a set of activities and tools in general aimed to built-up surveys of bioregional heritage and history, natural and ecosystem resources and criticalities. A contextual knowledge aimed to define planning and design decisions as place-specific bioregional “signatures”, and also suitable to keep resources use at a regenerative level and avoiding resources drawbacks (Sale, 1985, *cit.* p).

In the European context the above-mentioned Italian territorialist school especially in the seminal work of Alberto Magnaghi (Magnaghi, 2010, 2014a *cit.*) more appropriately, advocates for an “identity” approach to planning and territory design in the urban bioregion prospect. The urban bioregion hypothesis is in fact underpinned by the idea of re-building a co-evolutionary relationship between nature and human artefacts and activities, expressed in structural terms in the long-lasting territorial “Living” Heritage (Territorial Patrimony) and “evolving physical structures” (structural invariants). Acknowledgment, representation and description of such endowments turns out to be the disciplinary and social ground on which a co-evolutionary spatial planning approach draws on and regions can reproduce and thrive (Magnaghi, 2010, *cit.* pp137-172.). Moreover, acknowledgment of the structural invariants is a key step in order to define design territory re-generation and strategic design guidelines and some synthetic “territorial figures”, urban and rural morphotypes (Poli, 2014). Also, in the territorialist approach, civic mobilization and engagement in a bottom-up movement turn out to be pivotal (Fanfani, 2018). That along with a radical rethinking of the hierarchical structure of government and decision for a far more cooperative and participative model of the development based on a shared “place awareness” (consciousness of place) and community reconstruction. Finally, in analogies with the mainstream of bioregional planning, the territorialist approach conceives the urban bioregion also as a model of re-framing the local development according to a self-relied approach. Here, the urban bioregion is mainly featured as a “choral” economic system (Becattini, 2015), based on the territorial heritage, the latter being conceived either as environmental endowments and social contextual skills and knowledge. In this way the urban bioregion is also aimed to set conditions for the unfolding of processes of endogenous and placed-based development, a multi-purpose model underpinned by circular (Fanfani, 2014) and import replacing economies (Jacobs,1984).

#### 4. Discussion and some final remarks

As was briefly shown, bioregionalism is a multifaceted concept that ranges from the theoretical point of view of the philosophical revisionist attitude to a complex whole of experiences and practices. Due to its very complex nature, some criticisms to bioregional approach can be easily pointed out - and warn against – some weakness of the bioregional message itself. Nevertheless, just for the multifaceted features of bioregional movement, they really don’t grasp with a definitive and persuasive dismiss of the bioregional proposal.

Some scholars underlined bioregionalism being a naive branch of radical ecology, based on environmental reductionism, and deification the laws of nature and mystifying the concept of region itself (Alexander, 1990), others warn against an oversimplified concept of place based on natural borders, undervaluation environmental and cultural factors that makes up place in reality (Smith, 2001 in Ryan, 2012). In other cases it is underlined - because of its strong stress on community and environmental issues- the risk to underestimate - and assuming as given - power relationship between communities in term of spatial justice and resources access (Dobson, 1989; Menser, 2013).

We assume that in general terms such as criticism have to be framed and revised in the bioregional body of thought, which in its overall message calls for a general reframing of the unfair capitalist/technocratic development model, according to a complex and multidimensional concept of the region (Sale, 1985). Moreover, Ryan (2012) argues that instead of environmental determinism, opportunity and choice more accurately represent bioregionalism. He stresses two points: (a) participation in bioregionalism is a choice and (b) a given bioregion offers a range of practical possibilities and a process of an ongoing creation of place.

In this prospect we can contend that bioregionalism – according to the main authors gathering with various approaches around this concept – could be referred as a paradigm oriented mainly on practice, acting in a pro-active and bottom-up way, without refusing to cope with politics field and institutional counterparts.

Moreover in spatial planning fields, bioregionalism offers some theoretical and practical tools to cope with some compelling and no more negligible issues:

- The growing environmental crisis and resources depletion that calls for a new model of production/consumption patterns and related spatial organization, especially in the urban and peri-urban domain (Duží, Frantál, Simon Rojo, 2017);
- the related necessity of recovering and reframing of urban/rural relationship accordingly with a co-evolutionary prospect (Norgaard, 1997) and cooperative collaboration between self-relied bioregions for self-relied and endogenous development (Thayer 2013, Scott Cato, 2012, *cit*);
- New environmental challenges, such as climate change and necessity of feasible societal adaptation in order to reclaim resilience in general, and achieve climate-resilient cities as a key underpinning element of the urban bioregion (Scott Cato, 2012; EEA, 2016, Newman, Beatley)
- Recovery in spatial planning and regional design of issues related to long-lasting built heritage and social capital. That either in term of representations and ruling tools or as empowerment and awareness building on behalf of local inhabitants – be them urban or rural (Magnaghi, 2014a, *cit*) Fanfani, 2018).

In this framework, the Urban Bioregion concept represents a spatial planning model suitable to conceive and design the territory as “high complexity living system” (Magnaghi, 2010, *cit.*, Saragosa, 2005) where anthropogenic action and culture coalesce with the “natural genius”(Clement, 2012) in creating a fitting and abiding world.

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### **Attributions**

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