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BIOREGIONALISM AS A NEW DEVELOPMENT PARADIGM

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INTRODUCTION

The reasoning that proposed the magical triad of *growth, progress and development* through the 20th century have been gradually losing ground when confronted to phenomena associated to the expansion of the western model, such as the increase in risks and inequalities between countries and regions, or the tremendous transformation of a considerable percentage of global ecosystems, that characterizes the current worldwide ecological crisis. This, together with market hegemony, the intensification of economic globalization and the influence of transnational companies over national territories, have been eroding the notion of *governance*, based until today on the political concept of sovereignty.

This general context shows the relative depletion of some economic and social organization models, and the impasse that international policy seems to have fallen into when dealing with the limits imposed by the capacity of ecosystems to sustain anthropic processes without endangering the integrity of their constitution (Fernández, 1999; Leis, 2004). One of the few answers given by the paradigm of modern age to earth's limits has been the controversial concept of "sustainable development." The *bioregional model* is inscribed among diverse alternative strategies within its heart, capable of integrating economic processes with environmental services and community needs. Born in North America in the mid 1970's, from the ecocentric side of the environmental movement, Bioregionalism constitutes the first social movement that proposed a strong bond of principles put forward centuries ago by different currents of thought and disciplines against the scientific-mechanistic paradigm. It is defined as a body of knowledge and practices that responds to the challenge of reconnecting societies in a sustainable way with their local and regional natural matrix, the *bioregion*, an area whose natural conditions influence the forms of human occupancy, and that may exceed the inter-provincial limits, or those of two or more countries, when human and ecosystemic communities go beyond political limits, offering, according to its mentors, the most adequate spatial scale for human governance and socioeconomic development (Aberley, 1994).

The goal of this paper is to examine bioregionalism from the insights of authors like Berg, Dasmann, Sale, Dodge, Aberley, Mc Ginnis, Miller, Haenke and Gudynas, recognizing theoretical dimensions and operative concepts, as well as the key characteristics of bioregional planning from the adaptation of the landscape planning model offered by Frederick Steiner. The first part refers about the need for a new paradigm of development. The second part focuses on the analysis of central values and propositions that inspire the bioregionalism, as a new paradigm. A third part aims to identify the application of this body of thought in the categories that define bioregional practice, to demonstrate the potential of bioregions as a policy instrument for sustainable development, as well as to recognize the implicit challenges for its implementation. A fourth and last part explores the possibilities for the application of the bioregional paradigm in Latin America, from the breakthroughs on the subject that have been taking place in the region.

1 – WHY THE NEED FOR A NEW PARADIGM OF DEVELOPMENT

"Development", understood as a natural progression towards a unique final state, is rooted in the Christian concept of providence, that is, a continuous movement of improvement towards universal perfection, a gift offered by God to the world. In the 18th century, philosophers of the European Enlightenment, secularized the idea of providence and transformed it into "progress", and a hundred years later progress would be transformed into "**modernity**" (understood as a combination of liberalism, capitalism, industrialism, science based culture and the nation-state), presented as a universally valid formula for progress. The intellectual development matrix can be found at the combination of ideas and beliefs articulated around the so called "constructivist rationalism" (based on the Enlightenment and the ideas of authors like Bacon, Descartes, Hobbes and Newton), opposed to another intellectual tradition, also a western one, represented by the so called "critic or evolutionary rationalism." Even though until recent history in humanity the core of human experience seemed to be focused in the relationship between communities with their local and regional matrix, as "modernity" introduces new production and consumption patterns, man's destiny progressively separates itself from the territory at the same time that a broad spectrum of global or trans-national phenomena –ranging from the economic to the ecologic– characterizes the current times and produces a dramatic increase in interdependence among countries. According to Héctor Leis (2004: 9-10) the great lines of modern thought interpret this situation of interdependence from opposed visions: an optimistic or **idealistic** point of view –associated to the ideas of Grotius and Kant– affirms that interdependence guides

countries to **cooperation** and creates conditions for a more rational world order; while a different point of view, realistic –associated to Hobbes ideas— considers interdependence as a source of **conflict**, while it argues that war and power are the main elements that regulate the behavior of States. Even though a view from the perspective of the main events of the 20th century –signed by two world wars and a “cold war”— shows a clear dominance of the realistic view of politics, this seemed to tone down in the 80's, when profound demographic, environmental, technological, economic and cultural transformations of trans-national and global character took place, which were accompanied in the academic level by the theory of interdependence (Keohane y Nye, 1977), and in the political level by sectors that believed it to be reason enough to foresee the coming of an era of international cooperation. The end of the bipolar world, the presence of new global non-governmental actors, an unexpected threat of environmental character and a growing awareness that global realities require global solutions, constituted in the 90's the key elements of a favorable scenario to establish cooperation agreements. Even Joseph Stiglitz (2001) championed for the recognition of the idea that “with globalization comes interdependence, and with interdependence comes the need for collective decision making in all the areas that affect us collectively.” In this sense, the well known Brundtland Report and the wealth of information provided by the Rio de Janeiro Conference (Río-92) constituted world milestones of the 20th century with the announcement of the threats to long term survival of the human species as long as no substantial modifications were made to our civilizing model, to approximate ecologic criteria and social dynamics. However, even recognizing in Rio 92 a real landmark in the global agenda for sustainable development, its limited results in terms of cooperation –that to a great extent reflect resistance against global agreements, expressed at the time by rich as well as poor countries¹— could neither be overcome in Johannesburg 2002: “The absence of new compromises and innovative ideas was evident: solid and ambitious objectives for sustainable development with established timeframes would have constituted an important difference; however, the majority of governments could not reach an agreement in terms of new goals, (...) neither could they provide orientation or guidance on how to take the maximum out of the opportunities presented by globalization or about the way its challenges could be overcome. Divisions among governments, within the civil society, and between governments and the civil society, will continue as an obstacle to making progress on the tackling of environmental and developmental problems...” (WRI, 2002). These facts would be evidence, according to Leis, of two significant matters. In the first place the paradox, in spite of an increasing structuring of the global order, of political actors still acting and legislating from the perspective of an international order sustained on the principle of national sovereignty. In the second place, that international politics is undergoing a strong *impasse* regarding the global ecological crisis: “...a crisis associated to the anarchy of the international system and the complementary lack of authorities with real powers to take care of the management of natural goods common to humanity” (Leis, 2004: 12). The ecological crisis challenges us, therefore, to find integral and complex solutions that clearly go beyond the capacities of current science, technology and political institutions. Perhaps the first step to face this challenge is to understand its dual dimension: on one side, **ecoenvironmental**, that is, **ecological** (due to the lack of resources) and **environmental** (due to the lack of “pollutable” deposits), and on the other side, **ecopolitic**, in relation to systems of power that regulate the property, distribution and use of resources. Both dimensions are intrinsically related, because while the first one is characterized, basically, by extraordinary changes in production and consumption patterns, the second relates to the need of accumulating enough power to incorporate –and destroy– extranational environments in order to satisfy unsustainable consumption patterns. As Guimaraes and Maia (1997) have suggested: “The sustainability of a certain territory will be given, in its environmental expression, by its level of dependency in relation to foreign environments and, in socioenvironmental terms, by the distance between satisfying the basic needs of its inhabitants and the conspicuous consumption patterns of the elites.” In short, understanding the crisis needs recognizing the wearing out of an ecologically predating style, socially perverse and politically unjust, to surpass the paradigms of modern age that have been defining its orientation; particularly to modify the **ecocultural** pattern of the society-nature articulation. The contradiction presented to us by the old development theory, as an organizational myth, is its narrow relationship with economic growth: the conflict between the orientation to the endless reproduction of profits in the global scale, and the needs for reproduction of life in scale of the global biosphere. Counteracting this contradiction implies, therefore, thinking a new development paradigm –not one of growth–, as both terms are, according to this vision, mutually exclusive: “In its physical dimensions, the economy is an open subsystem of the earth's ecosystem that is finite, non-growing and physically closed. When the economic subsystem growths it incorporates a growing part of the total ecosystem, up to a limit of one hundred per cent or less. Therefore, its growth is unsustainable. The term 'sustainable growth' applied to the economy is a bad oxymoron; self-contradictory as prose and not evocative at all as poetry” (Daly, 1991, in Elizalde, 1996: 57-66). Furthermore, if economics is, in essence, the discipline devoted to assigning resources among multiple and mutually exclusive ends, by establishing the priorities that guide that assignment it becomes a political and moral matter. Thus stated the problem, we may well ask ourselves: How would operate an

¹ Such as the USA negative to signing the Convention on Biodiversity, or that of the poor countries to signing a forest protection treaty to, supposedly, guaranteeing the use of resources according to their growth strategies (Leis, 1993: 81).

economy that assigns more resources to the reproduction of life than to unlimited profit accumulation? Who and how would be the main actors in that construction of new priorities and which would be the human organization capable of being led by them?

2 – THE BIOREGIONAL PARADIGM

In "The Culture of Cities", Lewis Mumford argues that physiographic and vegetational regions prevail in the early stages of cultural development, but are gradually replaced by river valleys (hydrological regions), which, in turn, are replaced by city regions –with the region being the area which is integrated by its cultural, and particularly economic, capital-. There thus occurs a gradual shift from the predominance of natural factors towards social ones. With the deepening of the ecological crisis, directionality begins to shift back the other way. Once established, the role of cities as centers of economic, political and cultural life tends to augment, and eventually, to overshadow their geographical positioning. However, the severity of our current ecological crisis is forcing a renewed consideration of how cities relate to their surrounding natural regions. The importance of water as a life support and recreational resource, in our own post-industrial age, has strengthened the tilt towards **hydrological regions** as one particular focus (Mumford, 1970/38). Under these premises sketched thirty years before **bioregionalism** achieved some diffusion, a large part of its proposal was consolidated: "All people are within regions as a condition of existence, and regions condition all people within them" (Berg, in Sale, 1991: 39). Giuseppe Moretti, from the Italian Bioregional Network, defines it as follows: "The bioregional concept may be described as the vision of a human society connected to land geography as a part of the thread of life, as living and working while respecting rhythms and natural cycles of specific places. These places are the bioregions. Land itself is organized in bioregions, homogeneous territories defined by the continuity of landscape, climate or soil, or also by a whole river valley (...), but also by human cultures that in such place have known how to develop themselves in reciprocity with their surroundings. Mainly, the bioregional idea allows us to see and face social and environmental problems from a different point of view, considering the place in which we live, the bioregion itself, not as a material entity to be used exclusively for human wellbeing, but more like a group of beings and relationships" (Moretti, in Panzarasa, 1999).

In the early 1970s, the contemporary vision of bioregionalism started to take shape through collaboration between natural scientists, social and environmental activists, artists and writers, community leaders, and back-to-the-landers who worked directly with natural resources. But its origins may be tracked in the regionalism of Geddes, Mumford and Odum, and in five movements that represent North American and European traditions that through 250 years focused in principles opposed to the "Cartesian" paradigm²: utopians, geographers, anarchists, socialists and ecologists. This opposition, that continues with the resistance through most recent contemporary history by Utopian communities, ecology and ecological planning, inspired eco-development (R. Dasmann) and a series of independent movements such as deep ecology (A. Naess), social ecology (M. Bookchin), conservationism, eco-feminism, permaculture, etc. (D. Aberley, 1994: 5-9). Bioregionalism was one of the many currents of social change that originated and flourished in the counterculture environment of North California between 1950 and the beginnings of 1970. It was originated by Gary Snyder –a well known poet and activist– and Peter Berg, who thought about a new alternative capable of joining the radical politics from the New Left with the ecological conscience. In this nascent stage, the broader diffusion of the concept "place-politics-ecology" was possible due to the exceptional writings of Freeman House and Jeremiah Gorsline, but the final protobioregional evolution happens in 1972 when Berg travels to the United Nations Conference on the Human Environment held in Stockholm and integrates to a global network of resistance and decentralized political aspiration; and was consolidated in 1973 when, jointly with Judy Goldhaft, he created the **Planet Drum Foundation**, a clearing-house and bioregional activities center where Berg and Snyder influenced each other to merge that trend into a body of thought and teachings³.

The first important enunciation of the new philosophy was in 1977, when Berg and the renowned ecologist and cultural historian from California, Raymond Dasmann, joined forces to write "*Reinhabiting California*." At

² [1] utopist socialists such as Charles Fourier, Robert Owen and Ebenezer Howard; [2] geographers and regionalists such as Vidal de la Blanche, Jean Brunches, Carl Sussman, Friedmann and Weaver, Friedrich Ratzel and Patrick Geddes; [3] anarchists Pierre Joseph Proudhon, Peter Kropotkin, Elie and Elisée Reclus; [4] socialists such as August Comte and Frederic Le Play, and [5] the ecologist Ernst Haeckel. The principles they maintained can be summarized as: Systems, no loose elements / patterns, no categorical order / co-operation, no competition / processes, no prescriptions / quality, no quantity / connection, no separation / biocentrism, no anthropocentrism / decentralization, no centralization (Aberley, 1994: 6). These five lines of resistance continued through most recent contemporary history in three levels: On one side, through utopian communities proposed by Le Corbusier, Frank Lloyd Wright, Constantinos Doxiadis and Paolo Soleri; and the use of ecology as a central organizing principle proposed by George Perkins Marsh, Henry Thoreau, Aldo Leopold and the brothers Eugene and Howard Odum. On the other side, and at a less articulated level, all the traditions started to be combined from the pioneer works of Patrick Geddes in ecologic planning and bioregion surveying techniques that significantly influenced the works of Lewis Mumford, who, in turn, inspired Howard Odum. In third place, these lines of resistance fermented the social change in the 60's and 70's in which activists as Kirkpatrick Sale, Ian McHarg, Steve Bear, Theodore Roszak, Paolo Soleri, Abraham Maslow and Ludwig Von Bertalanffy took part.

³ However, the term "bioregionalism" was not coined by Berg and Dasmann, but by Allen Van Newkirk, who presented it as a technical process of identification of "culturally and biogeographically interpreted zones... called regions" (Van Newkirk, 1975). Van Newkirk founded the *Institute for Bioregional Research*, but he soon ceased to have any influence over the movement.

the time of his work with Berg, Dasmann was completing a United Nations-sponsored process of identifying and mapping how biophysical phenomena interact to create interlocking biogeographical territories across the planet. In that article, Berg and Dasmann (1977: 399) established the lasting principles of bioregionalism, introducing three basic concepts: [1] **Live-in-place**: satisfying the needs and living the pleasures of life as they are presented by a particular place, and guaranteeing its occupation in the long term; [2] **reinhabitation**: re-learning to live in an area that has been disrupted and injured through past exploitation, conscious of the particular ecological relationships that operate within it and its surroundings. Berg clarifies: "Within a bioregion there are diverse zones of human interface with natural systems: urban, suburban, rural and desert. And each one of them has a different and appropriate approach towards *reinhabitation*", and [3] **Bioregion**, "it refers both to a geographic terrain and to a terrain of conscience: to a place and the ideas that have developed about how to live in that place. Within a bioregion the conditions that influence life are similar and these in turn have influenced human occupancy. The final boundaries of a bioregion are best described by the people who have lived within it, through human recognition of the realities of *living-in-place*."

In declaring that it will be reinhabitants rather than scientists who define their "home place," bioregionalism was cut forever from the tether of a more sterile biogeography. And in sustaining that bioregional governance—democratically defined and ecologically decentralized—could only be established from grassroots movements, it irrevocably clashed with bureaucratic institutions. In 1985, the Sierra Club published ***Dwellers in the Land: The Bioregional Vision***, a fundamental treatise authored by respected cultural historian Kirkpatrick Sale, the first theorist to raise bioregionalism to the level of an **alternative paradigm** whose basic categories were exposed by the author against the industrial-scientific paradigm, as shown below:

Table 2.3 Events in the story of bioregionalism

	<i>Bioregional paradigm</i>	<i>Industrio-scientific paradigm</i>
<i>Economy</i>	Region	State
	Community	Nation/world
	Conservation	Exploitation
	Stability	Change/progress
<i>Polity</i>	Self-sufficiency	World economy
	Cooperation	Competition
	Decentralization	Centralization
	Complementarity	Hierarchy
<i>Society</i>	Diversity	Uniformity
	Symbiosis	Polarization
	Evolution	Growth/violence
	Division	Monoculture

Source: Sale 1985: 50

Sale describes the new paradigm with the following words: "But to become dwellers in the land, to relearn the laws of Gaea, to come to know the earth fully and honestly, the crucial and perhaps only and all-encompassing task is to understand place, the immediate specific place where we live. The kinds of soils and rocks under our feet; the source of the waters we drink; the meaning of the different kinds of winds; the common insects, birds, mammals, plants and trees; the particular cycles and seasons; the times to plant and harvest and forage –these are things that are necessary to know. The limits of its resources; the carrying capacities of its lands and waters; the places where it must not be stressed; the places where its bounties can best be developed; the treasures it holds and the treasures it withholds –these are the things that must be understood. And the cultures of the people, of the populations native to the land and of those who have grown up with it, the human social and economic arrangements shaped by and adapted to the geomorphic ones, in both urban and rural settings –these are the things that must be appreciated. That, in essence, is bioregionalism" (Sale, 2000/1985: 42).

The bioregional principles. Sale (2000/1985), as well as Aberley (1994), argues that bioregionalism is the first movement of social change that proposes a strong bond of principles put forward before by the aforementioned movements, but in a separate way. Aberley (1994: 9) summarizes them in four basic aspects:

1. Biologically and culturally defined regions –bioregions– offer the **most opportune spatial scale** within which a great variety of forms of human governance and development can be practiced;
2. Human governance within a bioregion should be democratic and responsible before local control, should nurture a **high quality of life**, and should be judged on its ability to achieve **social justice**;
3. Economic development within a bioregion should be locally regulated, should use appropriate technology, focus on **self-reliance with limited exports**, and should expand only to the extent that resident ecosystems can sustainably support their exploitation;

4. The political and economic interdependence of bioregions should be institutionalized at **state/provincial, federal, continental and global levels** through federation.

In relation to the first of these principles, several authors (Lipschutz, 1996; Czempiel, 1992) inquire into the relationship between the bioregion as a cultural and functional entity and the possibilities of global environmental governance, based on "bioregional governance" that can coexist and complement contemporary government units. Regarding the last two, it would be appropriate to say that bioregionalism is neither opposed to all forms of trade nor to remedial aid in times of genuine distress (such as famine). It does suggest, however, that the goal of development assistance should not be to draw a given region into the global economy but rather to enhance local self-reliance. In a global economy, decisions are increasingly taken by centralized economic and political institutions which show little concern for the consequences of their actions on local communities.

Bioregionalism offers a radical –but not a Marxist– alternative to the capitalist style of development. Regarding that, Richard Evanoff (1999: 61) explains: "Bioregionalism opposes both to the centralization of political power in governmental bureaucracies as well as to the centralization of the economic power in multinational corporations. Although bioregionalism respects cultural diversity and seeks to avoid the creation of what Berg calls "global monoculture", it is by no means insular or racist. Bioregionalists advocate not only the creation of decentralized political and economic structures that are democratically controlled by local communities, but also the need to build an international grassroots movements that links people together across racial, cultural and national lines⁴. The author contributes to bioregional theory from the perspective of bioethics, and establishes the difference between what he calls the "**paradigm of capitalist development**" and the "**bioregional paradigm**", arguing that the first is incapable of satisfying what he considers to be the three **principles on global ethics** in which the bioregional approach is based on that create the framework for a change in the civilizing model: [1] **A concern for meeting basic human needs on a universal basis**, [2] **A concern for social justice** and [3] **A concern for ecologic integrity** (op. cit.: 60-62).

3- BIOREGIONAL PRACTICE

In the late 1970's David Haenke was able to establish the Ozark Area Community Congress (OACC), the first broadly-based bioregional organization, which provided a template for the practical application of bioregionalism and an important evolution for the movement. Later, in 1981, Californian writer Jim Dodge synthesized a considerable body of bioregional thought in "*Living By Life: Some Bioregional Theory and Practice*", an article that illuminates the most powerful characteristic of bioregionalism, **practice**, and identifies two essential categories that sustain it: **resistance** and **renewal**: Resistance against "the continuous destruction of wild systems" and "the ruthless homogeneity of national culture," and the renewal regarding the need to achieve a complete knowledge on the working of natural systems, the perceptions of specific places and the development of appropriate techniques. Under the umbrella of these two categories, the two directions proposed by *Planet Drum Foundation* are simultaneously delineated as a practical guide for the application of bioregionalism: On one side, **ecological restoration**: "...restoring an urban creek is a major undertaking and is an essential activity for a reinhabitory perspective in a city..." (Evanoff, 1998) and, on the other side, **urban sustainability**, to which end it proposes following two directions: [1] Rebuild infrastructures to make the cities sustainable and [2] change urban identity of citizens so that they carry out sustainable practices⁵.

In the early 90's bioregionalism was "discovered" by politicians and natural resources management agencies, and the bioregional language was appropriated to assist the conceptualization of experiments in institutional and organizational reforms. However, these developments sponsored from governments have taken place with little reference or contact with the original base bioregional movement. Explicit uses of the bioregional terminology are present, for example, in the "*Memorandum of Understanding*", signed in 1991 between the leaders of federal and state resource management agencies acting within the State of California; or in the identification of the "*Greater Toronto Biorregion*" by a provincial-federal commission to optimize the management of a large metropolitan area in Ontario. In both initiatives the role of communities

⁴ When the town of Tepoztlán in Mexico was threatened with loss of traditional water rights and political autonomy by multinational land developers, bioregionalists from throughout North America assisted in mounting a resistance that was eventually approved by the Mexican government (Berg, 2002).

⁵ These directions are articulated in four fundamental writings of the Foundation, in which the bioregion is presented as a territorial container within which energy self-reliance can best be stewarded; the practice of ecologic design is explored in urban centers using support systems based in appropriate technologies, a technique is proposed, "figures of regulation", to regulate societal activities in each bioregion –without ideological, legal or religious coercion-, developing "customs" that promote the evolution of lifestyles consciously adapted to the limits and opportunities of localized ecosystems; and the path towards a "bioregional model" was described, as the process of planning and design to be used to decipher the ecologic load capacity, that is, the parameters within which the "figures of regulation" will guide cultural and economic activity in any bioregion: A bioregional model can identify balance points in our interactions with natural systems, and figures of regulation can operate to direct or limit activities to achieve balance. (Berg, 1982: 9-10).

wasn't adequately explicated within these alternative territorial regimes, and they were also disregarded at the time of defining the limits of the bioregion.

The implicit adoption of the bioregional principles was included in the restructuring of the regional government units in New Zealand to overlap them with the large basins in the country (Furuseth y Cocklin, 1995: 181-200). Also with national reach and aiming for ecosystemic protection, Australia is developing the Interim Biogeographic Regionalization of Australia (IBRA) program. The Australian land mass is divided in 85 bioregions and 403 subregions that act as information units for the evaluation of the native ecosystems and their protection, according to the National Reserve Systems of that country: to develop a "comprehensive, adequate and representative" system of protected areas (the "CAR" reserve system). The protected areas of the System are smaller than bioregions and sit within and across their boundaries, but in all cases are subject to variation as IBRA is progressively updated. In the Great Lakes, the Gulf of Maine and Cascadia, scientists and planners have also adopted bioregions as a territorial planning unit. Bioregionalism has also been useful for the recognition of ethnic community rights. In Nunavut, a new ethnic bioregion was proclaimed in the Eastern Canadian Artic sector, in 1999. At the same time, the Navajo Nation is developing a "dependant sovereignty" relationship within the United States of America. In Europe, since 1994, the Committee of the Regions has provided the almost one hundred traditional ethnic bioregions the chance to have a forum for recognized political proposals (European Communities 1994).

The main ideas of the bioregional vision have also been adopted by first line institutions, this can be seen as a strength for the movement, but at the same time may constitute a weakness, as they are initiatives that lack an crucial bioregional value, the redistribution of decision taking power to semi-autonomous territories. In this sense, recognized bioregionalist authors have expressed their fear that the public in general identifies bioregionalism with this initiatives, mainly sponsored by governments, more than associating it to its roots. For the World Resource Institute (WRI), for example, the choice of adopting a **bioregional management** implies the compromise to attend three needs: [1] assuming geographic scales of conservation and development to cover full ecosystems, [2] accommodating a complex mosaic of people and institutions and [3] synchronizing natural rhythms or time scales with administrative cycles. WRI accumulates an important experience of bioregional management, understood as an integral concept (Miller, 1996: 6-8), that includes the work done on the field of bioregionalism itself (Aberley, 1994, 1991; Sale, 1985), together with perspectives and teachings of diverse approaches to resource management: the "Man and the Biosphere Program" (USMAB, 1994), the "Integrated Conservation and Development Projects" -ICDP- (Wells et. al, 1992) and "Ecosystems Management" (Reid et. al, 1993). Each of these approaches is built on top of solid ethics centered in the "place" and resource custody⁶

Bioregionalism has also rooted in the United Kingdom, Spain, Italy, Japan, Mexico and Central America (Aberley, 1993; Miller, 1996). In Central America, precisely, takes place one of the most recognized bioregional planning experiences in the multi-national scale. It's the **Mesoamerican Biological Corridor (CBM)**, shared by Mexico and Central American Countries -Belize, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama-. The conception of the project has been evolving: originated as an orthodox strategy for biodiversity conservation (guaranteeing the flow of life between Mexico and the Darien Gap), it later took shape the proposal of core areas and core corridors that was finally conceived as a land use planning process that integrates sustainable use and environmental conservation with the satisfaction of the needs of the population. Its particular meaning falls on the broad range of institutions and social actors it involves. In South America, bioregional approaches are applied, for example, in Brazil, Colombia and Ecuador. An excellent example is the **bioregional project in the Ecuadorian coastal city Bahía de Caráquez**. Bahía experienced the "El Niño" phenomenon in 1997 and an earthquake in August, 1998. The city had to be rebuilt, and in February 23rd, 1999, as a result from an Official Declaration, it was born as an Ecocity (self-sufficiency, low impact, zero garbage, non-polluting urban agriculture, alternative energies and transportation). Since then, *Planet Drum Foundation* has established a field office and completed a great bioregional project for the re-forestation of a city neighborhood with native trees to control erosion against mudslides and to create an urban "wild corridor." They are currently working on additional revegetation of hillsides, water supply and purity, household ecology education, biological sewage treatment, alternative energy, and others.

Regarding planning, bioregions may comprise highly different areas and, as pointed out by Sale (1991: 56), they may often be seen as Chinese boxes, one inside another. This structural pattern becomes understandable when you look at them from the larger to the smaller scale, which Sale (op. cit. 56-60) defines as: *ecoregion, georegion, morphoregion*. But perhaps even more complex than defining the management scale is establishing the limits of a bioregion, a matter that spawns controversies given the amount of elements superimposed on them. Jamil Brownson (personal communication of 24/11/1997)

⁶ The characteristics of each of these approaches may be traced to Miller, Kenton, 1996.

illustrates the point: "There is no solution at this point. Contradictions are inherent to a post-modern condition. Take fractals as a theory that demonstrates the absolute change of any physical geographical feature at an infinite scale of change. That is, the closer to a 1:1 mapping the more complex the coastline, the smaller the scale (1,000,000,00:1) the greater the shape simplifies and changes. So too, bioregions are constructs of the human mind, and are much more cultural than scientific. Just as regional geography had to live with uncertainty and indeterminacy in defining regions and boundaries, so bioregional constructs will always be tentative and in flux."

Nevertheless, besides definitions of scale and limits, the practical implementation of bioregionalism requires **processes** that allow for the transformation of the city and the bioregion; but which bioregional planning process has been tested that could be adapted for a broad application? How can communities decide in bioregions about the use of land, water, soil and other limited resources, in a way that is equitable and sustainable? Aberley (1994: 125) argues that "... the objective is not to dictate an identical solution for all situations and places, but to propose flexible and inclusive processes of social change that may be adapted and applied to any bioregion." In this sense, ecological planning offers useful tools and has a large experimental knowledge. The seminal work of Ian McHarg in 1967, "*Design with Nature*" is a model for a sustainable bioregional development model that has inspired several similar proposals, as ecological planning processes proposed by Frederick Steiner and Reed Noss. Both look at sustainability from two different directions. Noss favors the protection of biologic diversity over the immediate needs of human communities. Steiner "... describes how particular human communities can identify social, economic and cultural objectives of sustainability and then match these aspirations to the limits and possibilities associated to the surrounding landscapes" (Steiner, in Aberley, 1994: 169). The superimposition of both strategies represents the fundamental choice of the bioregional movement, that is, unifying actions to transform societies immersed in a network of ecosystems to which they must protect.

4 - THE BIOREGIONAL VISION IN LATIN AMERICA -CEPAL AND CLAES

According to the Economic Commission for Latin America and the Caribbean –CEPAL-, bioregionalism finds potential spaces of insertion from the crossroad where political geography is at, as a result from supranational and sub-national pressures derived from globalization. Boisier (2001: 118) argues that the 21st Century geography will be marked by **complexity** and **diversity**: "In it will co-exist regions of the traditional type with new discontinuous spatial structures organized in networks and chains, reflecting the diversification of organized territories." And he estimates that multiplicity of possibilities of institutional arrangements would open up a space for **territorial meso-governments** and, particularly, for emerging concepts as **bioregions**, **virtual regions**, **ecoregions**, "**life regions**", **trans-border regions** to find their place, while "the systemic and structural complexity of the future world will render obsolete uni-dimensional visions⁷." Within this range of new concepts, CEPAL understands that the potential of bioregions as a policy instrument for sustainable development is linked to the *demand* and valorization the world market confers to environmental products or services, and therefore, it suggests the bioregional approach for planning and managing the protection of environmental services and biodiversity, (Boisier, op. cit: 132)10. At the same time, it identifies two obstacles for its implementation: The absence of institutional structures that correspond to each bioregion, and the lack of coincidence, in general, of territorial demarcation of bioregions with political administrative divisions. To overcome them he proposes "adapting bioregions to the limits of political regions of development, so as to reduce the need for interregional coordination and to make use of institutional structures and the social matrix of regions in favor of their bioregional 'component'" (Guimaraes, 2001: 28). Even though these critics seem reasonable for implementing public policies, CEPAL's view seems limited in relation to the concept of bioregion, as it ties its validation only to supply-demand conditions in the globalization arena.

In an almost opposite form, the bioregional vision is adopted by the Latin American Center of Social Ecology –CLAES- (Montevideo, Uruguay), through the concept of **Autonomous Regionalism**, an alternative proposal of regional integration that incorporates political, social and environmental aspects –such as the imperative for conservation and environmental quality-, as well as bioregion based planning. The main idea is to add a vision of development where different regions wouldn't be considered in isolation, but linked accordingly to their **ecologic and productive complementarities**, and to commercial relationships that ensure the **sufficiency and nutritional sovereignty** of the region as a whole, as an instrument to eradicate poverty. It aims to make use of productive flair of each bioregion, to apply productive processes with less environmental impacts and to optimize the use of resources. Under this concept, forest products, for example, wouldn't come from prairies, and meat production would be never conducted in tropical forest regions (Gudynas, 2002).

5 – SOME FINAL THOUGHTS

Since late 20th Century, the capitalist society as well as what's left of the so called "real socialism", or societies ruled by religious-integralist movements, are bringing to light all of their environmental, social and economic limits, proving the decline of a development model that has already, literally, pushed us "over the

⁷ For an extended description of each of these notions, please see: Boisier, Sergio, 2001.

"limits" of ecologic sustainability (Meadows et al, 1992). At the same time many global dynamics simply ignore national borders, this reality implies a challenge to governance in all levels –global, regional, national and sub-national-. The bioregional alternative argues that, to counteract crisis, **real sustainability can only come through recognizing the bioregion**, because every human community exists within a specific and unique bioregion consisting of natural features that *maintain* the life of that place. Under this light, **bioregional planning and management** -that Toledo (1999) has defined as a **natural-social vector** of sorts, that is, the synthesis or resultant (with its resulting spatial expression) of the encounter of "forces of nature" and social actors that participate intelligently within a certain region-, is an approximation to environmental management that has been proving particular strengths and potential. Stefano Panzarasa (1999), hoping to expand the implementation of the bioregional logic to the planetary scale, argues that the direction of the current system could revert, as it's not a product of any inexorable natural law, but simply "a dominant model of society that replaced, 5000 years ago, another one of mutualist character". His hypothesis picks up the explanations of Riane Eisler (1996), based in Chaos Theory: "As well as for natural systems, it seems that also for social systems we could think of *junction points* (taking one road or another) caused by periods of crisis and controlled by the so called *dynamic attractors* and their possible *replicable effects*." Eisler, analyzing the last two thousand years of history of the western world, finds diverse historical moments in which important social movements have behaved as dynamic attractors, which encourages us to think that values of movements such as pacifism, environmentalism, bioregionalism and deep ecology, among others, may find the chance to be replicated in a large scale: "Considering the environmental, social and economic crisis of the planet, that particularly in the western societies is a profound psychological and spiritual crisis, we may believe that we're today facing a new junction point and therefore the chance for a new social system, egalitarian and mutual, to establish itself, a new holistic science, a new spirituality. From competition we must move to cooperation, from conquest to harmony with nature, from power as a hierarchy of domination to power as union and responsibility..." (Panzarasa, op. cit.).

It's also usual the affirmation that paradigmatic changes in the spheres of social changes require "political and social revolutions" (Swezey, 1972), which takes us to think that, in view of the current scenario, for a long time the basis and objectives of the traditional economic approach, with decades of history and ideological backing, fight for survival, competing with the progressive advancement of the vision for a sustainable territorial development. We may ask ourselves, then, which place may take alternative movements like bioregionalism regarding the deployment of cultural and material forces put into place by dominant societies to maintain their supremacy. Boisier (2001: 140) answers this question with a mixture of skepticism and hope: "It won't be easy for bioregions to escape from a museum room during the next century; it isn't also clear, on the other hand, that they could take a place in the exhibition room (...). Anyway, we'll have to try the most intelligent possible way, as it will be necessary to end a tradition that spawns millions of years during which man has put a lot of effort to destroy all kinds of ecosystems. We don't have to trust an infinite capacity of resilience of 'spaceship Earth'."

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