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Political Ecology: a Latin American Perspective¹

Ecología Política: una perspectiva latino-americana

Ecología Política: una perspectiva latinoamericana

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ABSTRACT Political ecology is the field where power strategies are deployed to deconstruct the unsustainable modern rationality and to mobilize social actions in the globalised world for the construction of a sustainable future founded on the potentialities of nature and cultural creativity; in emancipatory thinking and political ethics to renew the meaning and sustainability of life. Political ecology roots theoretical deconstruction in the political arena; beyond recognizing cultural diversity, traditional knowledge and indigenous peoples' rights, radical environmentalism contests the hegemonic unification power of the market as the ineluctable fate of humanity. Political ecology in Latin America is operating a similar procedure as the one achieved by Marx with Hegelian idealism, turning the philosophy of post-modernity (Heidegger, Levinas, Derrida) on the grounds of a political ontology: territorializing thinking on being, difference and otherness in an *environmental rationality*, rooted in an *ontology of cultural diversity, a politics of difference and an ethics of otherness*. Decolonizing knowledge and legitimizing other knowledges-savoirs-wisdoms liberate alternative ways of understanding reality, nature, human life and social relations opening up different paths to reconstruct human life in the planet.

Keywords: political ecology; Latin America; environmental crisis; environmental rationality; sustainability; social appropriation of nature; decolonization of knowledge; environmental epistemology; power strategies in knowledge; cultural diversity; politics of difference; radical ecology; ecofeminism; environmental ethics; emancipation; otherness; dialogue of knowledges.

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RESUMO:

A ecologia política é o campo no qual se expressam as relações de poder para desconstruir a racionalidade insustentável da modernidade e para mobilizar as ações sociais no mundo globalizado para a construção de um futuro sustentável fundado nos potenciais da natureza e da criatividade cultural, num pensamento emancipatório e em uma ética política para renovar o sentido e a sustentabilidade da vida. A ecologia política enraíza a desconstrução teórica na arena política: além de reconhecer a diversidade cultural, os saberes tradicionais e os direitos dos povos indígenas, o ambientalismo radical confronta o poder hegemônico unificador do mercado como destino inelutável da humanidade. A ecologia política na América Latina está operando um processo análogo ao que realizara Marx com o idealismo hegeliano, arraigando a filosofia da pós-modernidade (Heidegger, Levinas, Derrida) no contexto de uma ontologia política: territorializando o pensamento do ser, da diferença e da alteridade em uma racionalidade ambiental, arraigada em uma *ontologia da diversidade cultural, em uma política da diferença e em uma ética da alteridade*. A descolonização do saber e a legitimação de outros conhecimentos-saberes-sabedorias liberam modos alternativos de compreensão da realidade, da natureza, da vida humana e das relações sociais, abrindo novos caminhos para a reconstrução da vida humana no planeta.

Palavras-chave: ecologia política; América Latina; crise ambiental; racionalidade ambiental; sustentabilidade; apropriação social da natureza; descolonização do saber; epistemologia ambiental; estratégias de poder no saber; diversidade cultural; política da diferença; ecologia radical; ecofeminismo; ética ambiental; emancipação; alteridade; diálogo de saberes.

RESUMEN:

La ecología política es el campo en que se despliegan las relaciones de poder para desconstruir la racionalidad insustentable de la modernidad y para movilizar las acciones sociales en el mundo globalizado para la construcción de un futuro sustentable fundado en los potenciales de la naturaleza y la creatividad cultural; en un pensamiento emancipatorio y una ética política para renovar el sentido y la sustentabilidad de la vida. La ecología política enraíza la desconstrucción teórica en la arena política: más allá de reconocer la diversidad cultural, los saberes tradicionales y los derechos de los pueblos indígenas, el ambientalismo radical confronta al poder hegemónico unificador del mercado como el destino ineluctable de la humanidad. La ecología política en América Latina está operando un proceso análogo al que realizara Marx con el idealismo hegeliano, arraigando la filosofía de la posmodernidad (Heidegger, Levinas, Derrida) en el contexto de una ontología política: territorializando el pensamiento del ser, la diferencia y la otredad en una racionalidad ambiental, arraigada en una *ontología de la diversidad cultural, una política de la diferencia y una ética de la otredad*. La descolonización del saber y la legitimación de otros conocimientos, saberes y sabidurías liberan modos alternativos de comprensión de la realidad, la naturaleza y la vida humana y las relaciones sociales, abriendo nuevos caminos para la reconstrucción de la vida humana en el planeta.

Palabras clave: ecología política; América Latina; crisis ambiental; racionalidad ambiental; sustentabilidad; apropiación social de la naturaleza; descolonización del saber; epistemología ambiental; estrategias de poder en el saber; diversidad cultural; política de la diferencia; ecología radical; ecofeminismo; ética ambiental; emancipación; otredad; diálogo de saberes.

1. The emergence of political ecology

Allegedly, the term “political ecology” appeared for the first time in the academic literature in an article by Frank Throne in 1935 (Throne, 1935). However, if political ecology refers to power relations in human-environmental interactions, in hierarchical and class structures in the process of production and the social appropriation of nature, we can trace the precursors

of this emergent field of inquiry back to the historical dialectical materialism of Karl Marx and Friedrich Engels –even though remaining concealed under the primary contradiction between capital and labor– and the social cooperative anarchism of Peter Kropotkin and his emphasis –against social Darwinism– on mutual aid in evolution and survival (Kropotkin, 2005; Robbins, 2012). Political ecology was forged in the crossroads of human geography, cultural ecology and ethno-biology to refer to the power relations regarding human intervention

in the environment. A specific discipline was established and a new field of inquiry and social conflict emerged in the early sixties and seventies triggered by the irruption of the environmental crisis, with the pioneering writings of authors like Murray Bookchin, Eric Wolf, Hans Magnus Enzensberger and André Gorz.

Murray Bookchin published *Our Synthetic Environment*, in 1962, at the time of Rachel Carson's *Silent Spring*. In his article "Ownership and Political Ecology," Eric Wolf discussed how local rules of ownership and inheritance "mediate between the pressures emanating from the larger society and the exigencies of the local ecosystem" (Wolf, 1972, p. 202). Hans Magnus Enzensberger published his influential article "A Critique of Political Ecology" in 1974. André Gorz's published his early writings in the ecologist monthly *Le Sauvage* founded by Alain Hervé, creator of the French section of the Friends of the Earth. *Écologie et politique* was published in 1975, followed by *Écologie et liberté* in 1977 and *Ecologica* in 2008.

As a new discipline – a new field of theoretical inquiry, scientific research and political action –, political ecology emerged primarily from a neoMarxist approach to evolving issues that were to configure an *ecological episteme* associated with the irruption of the environmental crisis. Bookchin, Enzensberger and Gorz inaugurated the field of political ecology in a neo-Marxian inquiry on the condition of man's relation to nature. Enzensberger conceived political ecology as the practice of unmasking the ideology –the class interests and capitalistic appropriation of ecological concerns– behind the emergent ecological discourses on issues such as the limits of growth, population growth and human ecology. Notwithstanding this critique, Enzensberger acknowledges the environmental crisis as being produced by the capitalistic mode of production. His critique of the "critique of ideology as ideology" leads to review Marxist established views on the development of productive forces in the "abolition of want". Following Marcuse, Enzensberger states that "productive forces reveal themselves to be destructive forces [...] that threaten all the natural basis of human life [...] The industrial process, in so far as it depends on these deformed productive forces, threatens its very existence and the existence of human society." He viewed the "society of superabundance" as

"the result of a wave of plunder and pillage unparalleled in history; its victims are, on the one hand, the peoples of the third world and, on the other, the men and women of the future. It is therefore, a kind of wealth that produces unimaginable want" (Enzensberger, 1974, p. 23).

Andre Gorz argued that political ecology springs from the critique of economic thought:

Starting from the critique of capitalism, we arrive to political ecology that, with its indispensable critical theory of needs, leads to deepen and radicalize even more the critique of capitalism [...] Ecology only acquires all its critical and ethical load if the devastations of the Earth, the destruction of the natural basis of life are understood as the consequence of a mode of production; and that this mode of production demands the maximization of profits and uses techniques that violent biologic equilibriums (Gorz, 2006).

Following Karl Polanyi (1944), Andre Gorz underlined the market's tendency to appropriate domains of social and human life that respond to ontological orders and meanings other than economic logic. For Gorz, and counter to orthodox Marxist doctrine, the question of alienation and separation of the worker from the means of production was not simply the result of the social division of labor. This would ignore its metaphysical causes and the ontological difference inscribed already in economic rationality and stamped in the world order that organizes and determines human life. Gorz derived his "techno critique" from the deconstruction of economic reason and reconstruction of the subject, opening new spaces for self-autonomy of community life against the technological-bureaucratic machine driven by the economy (Gorz, 1989).

The critique of technology was the focus of attention and reflection of many precursors of political ecology: from questioning of *techno-logy* (Marcuse, 1964) and the *mega machine* (Mumford, 1970), an ample debate was opened around the adaptation and appropriation of small and intermediate, soft and sweet technologies (Schumacher, 1973), calling for a "social harnessing of technology" (Hetman, 1973). Ivan Illich distinguished "convivial technologies" that propitiate autonomy and self-management, from "heteronomous

technologies” that restrain them (Illich, 1973); Gorz distinguished “open technologies” – that favor communication, cooperation and interaction– from “bolt technologies” (Gorz, 2008, p. 16).

Previous to these critical views on technology, Walter Benjamin had contested the technocratic and positivistic conception of history driven by the development of productive forces. He criticized the “decay of the aura” of historical objects and of nature (Benjamin, 1936/1968), and envisioned a kind of labor which “far from exploiting nature, is capable of delivering her of the creations which lie dormant in her womb as potentials” (Benjamin, 1940/1968). Other thinkers saw in technology the core and roots of a crisis of humanity in modernity that would manifest later as the environmental crisis: Weber’s *iron cage*; Heidegger’s *Gestell*. Lévi-Strauss saw in the entropy law an ineluctable trend in the destruction of nature and ecological decay that embraces cultural organization and the destiny of humanity, suggesting that Anthropology should turn into *Entropology* (Lévi-Strauss, 1955). These authors are fore runners of political ecology by having pointed out the limits of a civilizatory process from which the environmental crisis emerged and the power struggles involved in the social appropriation of nature.

Among the precursors of political ecology, Murray Bookchin was the more comprehensive, radical and polemical thinker. He was one of the firsts to anticipate climate change back in the early sixties:

Since the Industrial Revolution, the overall atmospheric mass of carbon dioxide has increased by 13 percent over earlier, more stable, levels. It could be argued on very sound theoretical grounds that this growing blanket of carbon dioxide, by intercepting heat radiated from the earth into outer space, will lead to rising atmospheric temperatures, to a more violent circulation of air, to more destructive storm patterns, and eventually to a melting of the polar ice caps [...] rising sea levels, and the inundation of vast land areas. Far removed as such a deluge may be, the changing proportion of carbon dioxide to other atmospheric gases is a warning of the impact man is having on the balance of nature (Bookchin, 1964).

Bookchin was the founder of the social ecology movement framed within anarchist, libertarian socialist and ecological thought, that derived in “communalism” and “libertarian municipalism”, conceived as decentralization of society along ecological and democratic principles. His essay “Ecology and revolutionary thought” (Bookchin, 1964) introduced ecology in radical politics that evolved to *The ecology of freedom* (1982/1991) and to his *Philosophy of social ecology: essays on dialectical naturalism* (Bookchin, 1990) [For a discussion of Bookchin’s social ecology see Light, 1998; for a critique on Bookchin’s ontological monism and dialectical naturalism, see Leff, 1998a and Clark, 2008]. Postulating hierarchy and domination as key founding historic power relations—larger in scope than Marxist class struggles—, he proclaimed ecology as critical and political in nature, as the organizing power that guides the reencountering of nature with the anarchist spirit—its social spontaneity to release the potentialities of society and humanity, to give free and unfettered rein to the creativity of people—emancipating society from its domineering bonds and opening the way to a libertarian society. He underlined that “The explosive implications of an ecological approach arise not only from the fact that ecology is intrinsically a critical science—on a scale that the most radical systems of political economy failed to attain— but it is also an integrative and reconstructive science” (Bookchin, 1964).

Herbert Marcuse can be considered also a precursor of the emergent field of political ecology: his critical theory on technology and the workings of capitalist mode of production gave important ground for understanding the social conditions for the destruction of nature. Marcuse’s reflections on nature in his final writings align with the currents of political ecology. Thus, in *Counterrevolution and revolt*, at the outburst of the environmental crisis and in a vein that echoes Bookchin, he asserted that “What is happening is the discovery (or rather, rediscovery) of nature as an ally in the struggle against the exploitative societies in which the violation of nature aggravates the violation of man. The discovery of liberating forces of nature and their vital role in the construction of a free society becomes a new force of social change.” (Marcuse, 1972, p. 59). Nature is thus integrated to the emancipatory process of liberation.

However, Marcuse privileges sensibility and the aesthetic quality of liberation over Bookchin's claim for an ecological rationality and a dialectical naturalism to free society from its domineering bonds. Through these critical views emerging from political ecology, the core of the ecological question shifts the problem of abundance – of liberation from need and subjection of hierarchical and capitalistic domination – to the imperatives of survival.

Political ecology emerged as a social response to the oblivion of nature by political economy. In the transition from structuralism – focused on the determination of language, the unconscious, ideology, discourse, social and power structures, mode of production and economic rationality – to postmodern thinking, the discourse on liberation shifted to the *sustainability of life*. While inquiring into the root causes of ecological decay, political ecology is inscribed in the power relations that traverse the emancipatory process towards sustainability based on the potentialities of nature. In this context, the political ecology debate opened the way for the emergence of eco-socialism and eco-Marxism (Leff, 1993; 1995; Benton, 1996; O'Connor, 1998; Bellamy Foster, 2000). By surfacing Marx's concept of nature (Schmidt, 1971) and analyzing the capitalistic causes of ecological decay, eco-Marxism uncovered a "second contradiction of capital", the self-destruction of the ecological conditions of sustainable production (O'Connor, 1998). Furthermore, a new paradigm of production was conceived, integrating the eco-technological and cultural conditions of production as an environmental potential for sustainable development with political power emerging from the environmental movements, guided by an environmental rationality (Leff, 1986; 1995).

Political ecology emerged as a field of theoretical inquiry and political action in response to the environmental crisis: to the destruction of the conditions of sustainability of human civilization caused by the economic process and the technologization of life. Departing from a radical critique of the metaphysical foundations of modern epistemology, political ecology goes beyond the proposals for conservation of nature – promoted by the International Union for the Conservation of Nature since its creation in 1948 –, and policies of environmental management – launched after the first World Conference on Human Environment, Stockholm, 1972 –, to inquire

on the conditions for a sustainable life in the ecological stage of economic and technological hegemonic domination: in a world where –quoting Karl Marx and Marshal Berman– "all that is solid melts into air", generating global warming and the entropic death of Planet Earth.

Political ecology is the study of power relations and political conflict over ecological distribution and the social struggles for the appropriation of nature; it is the field of controversies on the ways of understanding the relations between humanity and nature, the history of exploitation of nature and the submission of cultures, of their subsumption to capitalism and to the rationality of the global world-system; of power strategies within the geopolitics of sustainable development and for the construction of an environmental rationality. Thus conceived, Michel Foucault (1980) appears as a fundamental precursor of political ecology by providing the insight to disentangle the power relations embedded in knowledge and in the institutional frameworks that have constrained, repressed and subjugated knowledge for alternative ways of conservation and construction of sustainable livelihoods. In Foucault's views, power is not only a relation of domination and a repressive agency. Power mobilizes desire to emancipate from, and to produce new forms of knowledge. Political ecology is the field where power strategies are conceived and social struggles deployed to open new pathways for survival and for constructing a sustainable future. It involves the deconstruction of modern rationality and the construction of an alternative environmental rationality.

The field of political ecology has emerged from cultural ecology, geographical studies, political economy and critical rationalism, spreading out to neighboring disciplines: overlapping with environmental sociology and ecological economics; expanding from political economy of the environment to post-development and post-colonial studies; blending with eco-Marxism, social ecology and eco-feminism; fusing with theories of complexity and with post-structural and post-constructivist approaches to nature. Yet, its scientific status and research approaches are still being debated and defined: its frontiers and alliances with other disciplines; its theoretical genealogies, epistemological framings and practical strategies (for an account of the Anglo-Saxon literature, see Peet & Watts, 2004; Biersack & Greenberg, 2006;

Escobar, 2010; Peet *et al.*, 2010; Robbins, 2012; for an overview of French contributions to political ecology, see Debeir *et al.*, 1986; Ferry, 1995; Latour, 1999; Lipietz, 1999; Whiteside, 2002).

Establishing the field of political ecology in the geography of knowledge is a more complex endeavor than just delimiting paradigmatic boundaries between neighboring disciplines; merging academic traditions, forming clusters of research topics, drawing typologies of nature ontologies, thematizing problematic areas of intervention and mapping environmental thinking. It implies deconstructing theoretical fields, re-signifying concepts and mobilizing discursive strategies to forge the identity of this new epistemic territory in the configuration of an environmental rationality and in the construction of a sustainable future.

Much of the political ecology elaborated in the North in the past two decades focuses in agrarian third world environments, including peasant and indigenous peoples traditional practices, resistance and activism in the reconstruction of their life territories. Political ecology emerges in the South from a politics of difference rooted in the ecological and cultural conditions of its peoples; from their emancipation strategies for decolonization of knowledge, reinvention of territories and re-appropriation of nature (Porto-Gonçalves & Leff, 2015).

2. Rooting political ecology: deconstruction/ decolonization of knowledge, reappropriation of nature and reinvention of territory

Political ecology is the field where power strategies encounter for the distribution of ecological costs and potentials in the construction of sustainability. In the crossroads towards a sustainable future, the crucial point is the clash of views to attain its objectives, traversed by economic, political and personal interests. Sustainability entails the deconstruction of unsustainable rationalities – of the theories that support them, the discourses that intend to legitimize them and the institutions that establish their function in the social order–, as well as the construction of alternative rationalities and strategies to open paths to wards sustainability. One of the main objectives of sustainable societies is to breach inequali-

ties in economic and ecological distribution, the outcome of a history of conquest, domination and unequal power relations. Political ecology traces the construction and institutionalization of hierarchical social structures and domineering powers rooted in modes of thinking and producing that have de-territorialized original cultures.

Modern rationality constructed an unsustainable world whose signs are visible in the planet's environmental crisis and in the "open wounds of Latin America" (Galeano, 1971). The ecological destruction generated by the exploitative appropriation of nature during the colonial regime and the present world economic order was accompanied by the exclusion and oblivion of traditional practices and the imposition of western knowledge for the domination of territories in the conquest of the Third World. Thus, indigenous peoples claim that their struggles for emancipation are political and epistemological: decolonization of knowledge becomes a condition for their cultural-political emancipation and for constructing their sustainable futures.

The claim for decolonization of knowledge has deep historical roots in critical thinking in Latin America. It follows the theories on unequal exchange, underdevelopment and dependency of the Third World from the global economy as organizing center of the world-system (Amin, 1976; Gunder-Frank, 1966; Cardoso & Faletto, 1979; Dos Santos, 1978; Wallerstein, 1974; 1980; 1989; 2011). These theories set up the background for present political ecology theory insofar as they conceived dependency and underdevelopment as a structural state of world affairs where poor nations provide the natural resources and cheap labor in an unequal interchange for capital and technology from "developed" nations; that is, the hegemonic world order where the unequal "ecological distribution" within the geopolitics of "sustainable development" is inscribed. These theories were further developed by studies on "internal colonialism", where hierarchies and inequalities are internalized and constructed within the class structure of poor countries (González Casanova, 1965; Stavenhagen, 1965).

A critical inquiry has emerged in recent times on the *Coloniality of knowledge* (Lander, 2000; Mignolo, 2000; 2011; Mignolo & Escobar, 2009; Quijano, 2008) and of *Epistemologies of the South* (Sousa Santos, 2008). Decolonization of knowledge leads to inquire how Euro-

centric ideas –from Greek philosophy to modern science and technology– were introduced to traditional societies and cultures through conquest, colonization and globalization, invading indigenous modes of thinking and their cultural life-worlds, generating as a reaction political resistance and purposive actions for the decolonization of knowledge as a condition for the re-appropriation of their natural and cultural patrimony (for a compendium of Latin American critical social thinking see Marini & dos Santos, 1999).

The emancipation purpose in political ecology implies deconstructing metaphysical thinking and *logocentric* science instituted as a hegemonic power by modern economic/scientific/technologic rationality. Beyond the need to understand the epistemological foundations, the colonial regimes and the power-knowledge strategies that dominated peoples and despoiled their territories, the construction of sustainable societies rooted in the ecological potentialities and cultural identities of the Third World peoples requires a strategy for decolonization of knowledge to liberate from exploitation, inequality and subjugation.

Beyond an hermeneutic deconstruction of domineering knowledge, decolonization of knowledge implies the recognition and reevaluation of traditional and “other” knowledge –“local knowledge”, “popular wisdom” or “folk science”– unknown and negated by domineering paradigms and known to the ethno-sciences as “indigenous science” (De Gortari, 1963); “macro-systems” (López-Luján & López-Austin, 1996); “native sciences” (Cardona, 1986); “popular knowledge or people’s science” (Fals Borda, 1981; 1987); “systems of indigenous knowledge” (Argueta *et al.*, 1994). This “non-western” understanding of the world, this “knowledge from the South”, is fundamental for the construction of an alternative rationality capable of deconstructing the globalized world-system and building other possible life-worlds. The construction of a global world order founded in differences and specificities of diverse territories emerges from peoples’ knowledge embedded in their ecological conditions and embodied in their cultural being. *Traditional ecological knowledge* and *cultural imaginaries of sustainability* (Leff, 2010) are the roots and sources from where Latin American thinking offers new perspectives for sustainability.

Colonization of knowledge has been a fundamental instrument for cultural submission and appropriation of nature, from the conquest of original peoples and their territories, to the present strategies within the geopolitics of sustainable development. Third World territories are being revalued as areas for unrestrained exploitation of non-renewable resources (oil, coal, minerals), for biodiversity conservation to absorb greenhouse gases and biotechnological prospection, or as natural resources – cellulose, transgenic crops, foodstuff– to be exploited and exchanged to fuel the continuing growth of developed and emerging economies. Resisting the reinforcement and extension of this exploitative conquer of nature, Third World and Latin American peoples are claiming their rights to decolonize knowledge and emancipate from the global economic order.

Decolonization of knowledge implies the deconstruction of theories embedded in the world order and embodied in the life-worlds of the people to disarm the institutionalized structures that constrain the world to an unsustainable rationality. Deconstructionism unveils the ways in which knowledge was constructed and inscribed in the world. Deconstructionist political ecology inquires the point in which ontological difference turned into social inequality by the ways in which Being in the world turned into world thingness, when the abstraction of things –nature and human labor– turned into abstract ideas and generalized monetary value. Thus, decolonizing knowledge is an epistemological condition for deconstructing the exploitative trends of the global economy and reviving the ecological and cultural potentials of the people to give life to alternative modes of production, of thinking, of being.

Decolonization of knowledge as a condition and process towards the re-appropriation of nature and the reinvention of sustainable territories becomes a complex and challenging task. Beyond the study of the colonization process, the environmental history of cultural subjugation and exploitation of nature, the emancipation from subjection to central and external powers and the imposition of modern thinking over traditional worldviews and practices demands new ways of thinking arising from these subjected places. In a globalized world, the social re-appropriation of nature is rooted in the reinvention of cultural identities. The rescuing and reconstruction

of traditional knowledge occurs in the encounter of confronting and conflictive rationalities, inter-cultural hybridization and dialogue of knowledge; in the clash of thoughts and actions, of reidentifications and negotiations, in the social construction of sustainability.

An alternative *environmental rationality* for sustainability (Leff, 2004) is configured in the field of political ecology by rooting deconstructive thinking in the ecological and cultural territories. This is not simply the application of deconstructive theories, complex sciences and sustainability blueprints to the design of new cultural territories; it goes beyond the purpose of adapting technologies to the ecological and social conditions of the South, building a new dominion of knowledge subject to the comparative advantages of the ecological conditions and endowments of Third World countries in the globalized world. Deconstructing theory and decolonizing knowledge in the perspective of political ecology implies politicizing the concepts of diversity, difference and otherness to construct sustainability rooted in specific cultural territories. That requires establishing and enforcing rights for cultural diversity, for the construction of *territories of difference* (Escobar, 2008), and for the deployment of a political ethics of otherness. This process opens new perspectives in the deconstruction of the unitary hegemonic global world, to construct a world founded on different ecological potentials and cultural beings. Beyond the tolerance of cultural diversity and adaptation to different ecological contexts of a unitary world order, it reorients the destiny of humanity guided by the *heterogenesis* of natural and cultural diversity arising from eco-cultural co-evolution in the construction of a future global world integrated by different cultural projects of sustainability.

Geography has provided insightful spatial metaphors for the analysis of power strategies in knowledge. “Once knowledge can be analyzed in terms of region, domain, implantation, displacement, transposition, one is able to capture the process by which knowledge functions as a form of power and disseminates the effects of power” (Foucault, 1980, p. 69). Territorializing knowledge goes beyond the epistemic-psycho-ecological question of a new cartography of knowledge to that of the embodiment/embedding of knowledge (Deleuze & Guattari, 1987). The power strategies to re-appropriate

nature and re-territorialize knowledge imply the restoration of subjugated/subaltern knowledge to generate an alternative environmental rationality construed by the encounter of different cultural meanings: a critical re-signification and re-appropriation of “universal knowledge” from local cultural identities and the production of knowledge from different cultural beings.

The political philosophy that guides cultural emancipation and social actions towards sustainability emerges from the radical epistemological concept of environment, conceived as the limit of hegemonic modern rationality that has led to the environmental crisis of civilization and the source of an alternative sustainable world. Environmental knowledge emerges in the margins of *logocentric* science, from the periphery of central powers, in the externalities of hegemonic scientific and economic rationality. It is knowledge forged and rooted in the ecological potentials and cultural creativity of the peoples that inhabit the territories in the South (Leff, 1998/2002).

Counter-hegemonic globalization—deconstruction of the one-dimensional oppressive force over diversity, difference and otherness globalized under the dominium of economic rationality—, demands an epistemological de-centering from modern rationality. The concept of environment is the point of anchorage outside the global economic order that deconstructs unsustainable knowledge. However, environmental rationality is not founded in a virgin territory untouched by the institutionalized global rationality that has negated other possible worlds. Environmental rationality is forged in the crossroads of the deconstruction of metaphysical and scientific thinking and in the territorialization of diversity/difference/otherness. This critical concept of environment is the identity of Latin American Environmental Thinking (Leff, 2001; 2012).

Decolonizing from domineering knowledge involves the responsibility for the future of humanity and of the planet. Beyond prospective sciences that pretended to foresee the future in order to reorient present tendencies, political ecology constructs the future from the understanding of present unsustainable processes and the projection of social actions based on an environmental rationality to harness unsustainable tendencies and trigger new sustainable potentials.

Political ecology challenges the metaphysical duality of immutable space and transcendental time. In this perspective, historical time is not a homogeneous flow of events. Sustainability will not be attained through the optimization of present means oriented towards a prefixed end, but the outcome of diverse processes with their own timings; with their uncertainties, encounters, convergences and alliances. The paths opened by this purpose are defined by unexpected events that might trigger, accelerate, or hinder and block the paths towards sustainability. The construction of a negentropic sustainable future runs against historical entropic trends. Sustainability is built in the encountering of these conflictive processes; in the confluence of synergies of differentiated natural and social forces; in the negotiation of diverse interests and meanings that trigger counteractive economic, ecological and technological processes that in the coalescence of their timings, will determine the future to come.

Decolonizing the rich diversity of peoples/cultures and their different territorialities made visible a new theoretical perspective of historical time and space as the manifestation of the “unequal accumulation of times” (Santos, 1996). Thus, Milton Santos argued that different temporalities cohabited in geographical space challenging the coloniality of knowledge imposed by modern culture that overvalues time in the detriment of space. The Eurocentric vision of cultural evolution was imposed to the world as the only possible universality. Thus, traditional peoples became backward societies, as if they were only a stage in the way of human development and economic growth. Thus traditional cultures were quieted and remained invisible. Simultaneity of different temporalities that forge cultural territories were occluded by the hegemonic temporality that orders the world, secluding other cultures (González Casanova, 2006).

Thus, both the Kantian conception of universal aprioristic categories of reason and geographic determinism have been contested, abandoning the Eurocentric linear and progressive conception of time –of civilization stages– incorporating the incommensurability of time of different processes involved in the construction of cultural territories. This conception of historical time and space has important political implications for social movements, such as the actuality of ancestry invoked by

indigenous peoples, the reversal of internal colonialism through the political construction of plurinationality, the co-evolution of peoples/cultures and nature/territories, and the social imaginaries of sustainability (Leff, 2010). Political ecology is the geography –the historical inscription of conflicts of territoriality (Maier, 2006; Haesbaert, 2004).

Coloniality of knowledge has also been contested from the standpoint of ecofeminism, claiming that knowledge has been coded and molded as a masculine inscription in Western culture by hierarchical dualisms –particularly Cartesian dualism– (Merchant, 1992), by “transcendent objectivity of male-dominated science” (Haraway, 1991) and “monocultures of the mind” (Shiva, 1993), in their intent to control nature and dominate women. Decolonization from the South –emancipation of subjugated knowledge embodied in cultural beings and embedded in their life territories– demands the deconstruction of knowledge established from the North to release alternative –different, other– epistemological perspectives to guide the construction of sustainable societies.

3. Precursors of political ecology in Latin America

Political ecology addresses the social struggles and power strategies to re-appropriate nature. Its social sources emerge from resistance to de-territorialization of habitats, the pillage of the natural resources and the subjugation of the original cultures by domineering colonial-modern powers. We can trace these processes to 500 years ago, from the conquest and colonization of the “Third World” regions, to the present strategies of the global economy and the geopolitics of sustainable development. Political ecology is inscribed in the history of submission and emancipation of original peoples from the global economic system: from the disruption of the livelihoods and the ecological catastrophe produced by conquest, colonization and imperial domination (Cosby, 1986) to present struggles to re-territorialize their cultural beings and to construct their own paths to sustainability.

In this perspective, political thinkers and activists such as José Martí (1963), José Carlos Mariátegui

(1971), Franz Fanon (2004) and Aimé Césaire (1955) are precursors of Latin American political ecology. In Martí's affirmations, "There is no battle between civilization and barbarism but between false erudition and nature", or "The trenches of ideas are more fruitful than those of stone" (Martí, 1963) we find a critical response to European epistemological-political colonization. From Mariátegui's Latin American Marxism –intended to root socialism in the traditions of indigenous peoples, in the restoration of their community life and their productive organization– (Mariátegui, 1971), to the liberation pedagogy of Paulo Freire and the eco-pedagogy of Leonardo Boff, we can trace a lineage of critical thinkers that have forged Latin American political ecology.

The writer Eduardo Galeano (1971) has updated this history of exploitative colonialism in his book *The open veins of Latin America*. Galeano has brought to light the production of poverty generated through the exploitation of the earth's wealth, with the fever of gold and silver that seemed to have exhausted the abundance of metals in the crust of the territories of Latin America, until the reinstatement of this exploitative colonialism in the recent years. Likewise, poverty was produced in the old agricultural latifundia –as that of sugar cane in Cuba, rubber in Brazil, banana in Ecuador and Colombia– that reappear today with transgenic crops.

Political ecology in Latin America was nourished by a rich tradition of anthropological and ethno-ecological research, such as the studies on the Incas' ecological floors (Murra, 1956), the cultural and ecological potentialities of Mesoamerica (Wolf & Palerm, 1972), or the roots of "profound Mexico" (Bonfil Batalla, 1987). The *Geography of hunger* (de Castro, 1946) was a precursor of a legion of political ecologists that address the critical problems of Latin American populations generated by ecological degradation of their territories. New approaches in cultural anthropology and environmental geography are emerging together with the forging of a politic of territoriality and difference that is developing from socio-environmental movements guided by principles of political autonomy and cultural identity for the re-appropriation of nature. The field of political ecology is being forged in the welding of theoretical thinking, research studies and political action. This dialogue of theory and practice is exemplified by the defense of the

subsistence ecology of the Miskito Indians in Nicaragua (Nietschmann, 1973), the extractive reserves of the *seringueiros* (rubber tappers) in Brazil (Porto-Gonçalves, 2001) and the *Process of Black Communities* in Colombia for the appropriation of their territories of biodiversity (Escobar, 2008). A working group in political ecology was established in 2000 within the Latin American Council of Social Sciences (CLACSO) to develop this field of critical inquiry (Alimonda, 2002; 2006).

One decisive question for political ecology in Latin America is the clash of strategies between the techno-capitalistic exploitation of nature and the cultural re-appropriation of the ecological patrimony and ethnic territories of the peoples. Today, this confrontation is exemplified by the invasion of transgenic crops through the ethno-bio-prospection and intellectual property rights of transnational enterprises transgressing the common property rights and the natural resources of nations and peoples in the South. In the view of indigenous peoples, biodiversity represents their patrimony of natural and cultural resources, with which they have co-evolved throughout history, the habitat where their cultural practices are forged and embedded. Their ecological potentials and cultural meanings are incommensurable with economic values. These criteria differentiate what is negotiable and interchangeable in the debt for nature equation, and the ethical-political principle that questions settling the conflicts of ecological damage and distribution through economic compensations, establishing the threshold that separates ecological economics from political ecology.

4. Ecological episteme and political ecology

Environmental crisis is the manifestation of a crisis of knowledge. Environmental degradation is the result of the forms of knowing the world that grew in the oblivion of being and nature, away from the conditions of life and of human existence. It is a crisis of civilization that results from the *ignorance of knowledge* (Leff, 2000). In this perspective, political ecology explores the power strategies in knowledge that traverse individual interests, social imaginaries and collective projects that weave the life-worlds of the people in the globalized world, and

envision new power strategies capable of deconstructing the unsustainable modern rationality and mobilizing social action for the construction of a sustainable future.

Political ecology constructs its territory of knowledge in the encounter of different systems of thought, ethics, practices and social action. It debates with *ecosophies* that responded to the first signs of ecological breakdown offering an ecological understanding of the world – the *Ecology of the mind* (Bateson, 1972; 1979), *Gaia theory* (Lovelock, 1979), *Deep ecology* (Naess & Rothenberg, 1989), the *Web of life* (Capra, 1996) and *complex thinking* (Morin, 1990) –, with their explicit and unintended political consequences. Political ecology responds to different ecological problems: population growth, human health, resource's scarcity, deforestation, loss of biodiversity, pollution, climate change; it argues with different theories, discourses and policies and socio-environmental conflicts: ecological distribution, dematerialization of production, geopolitics of sustainable development; it is the place of confrontation of different approaches to sustainability: ecologism-environmentalism; economic-environmental rationality; de-growth-sustainable development; strong-weak sustainability. Political ecology intermingles with other emergent ecological disciplines: cultural ecology, ecological economics and bioethics; environmental anthropology, sociology, geography, history and law. Distinctive approaches within radical ecology –deep ecology, social ecology, ecofeminism, eco-Marxism, eco-socialism (with their internal polemical controversies)–, converge and collide in the field of political ecology.

Notwithstanding its alliances and resonances with other eco-disciplines, political ecology is not an interdisciplinary paradigm that embraces them all. What is common to these new inquires is the fact that they all are “post-normal” disciplines that do not have an established place within traditional and mainstream of science. Its post-normal character does not derive only from being applied in domains of an ecological paradigm or approach based on the interrelatedness, feedbacks and complexity of processes. Post-normal sciences contest the principles of epistemological representation –the identity of theory and reality–, to incorporate “quality of knowledge” from “emergent complex systems” (Funtowicz & Ravets, 1993; 1994). However, the specific trait

of political ecology is the power relations that tense and cut across bio-cultural, socio-environmental and techno-economic processes, where it is defining its proper identity, by borrowing conceptual metaphors from other disciplines to describe the socio-environmental conflicts derived from the unequal ecological distribution and the appropriation strategies of ecological resources, natural goods and environmental services.

Political ecology as well as other ecological disciplines is forged within the emergent *ecological episteme* diffused to the social sciences in the transition from structuralism to post-structuralism. Although some authors assign an intrinsic political character to ecological inquiry –i.e. Bookchin's ecological dialectics of nature–, power relations are not immanent to an ecological approach to reality. Political ecology is not a “normal” emergence within the realm of science resulting from the transition from the structural episteme –prevalent through the 1970s and 1980s– to a post-structural approach to the “politics of ecology” (Walker 2005, p. 74-75). Political ecology informs environmental policies but focuses on social conflict regarding the distribution of environmental potentials and ecological costs, rather than in policy-making for ecological planning. The politicization of ecology is the expression of power struggles and strategies for the reappropriation of nature.

Political ecology is not the amalgam or synthesis of differentiated stands and social responses to the environmental problems. Conversely, it is the field of dispute of different visions and understandings of the environmental crises: pollution, resource scarcity, limits to growth. In the inception these discussions, the primal causes of ecological breakdown were debated between population growth (Erlich, 1968) and industrial development in capitalism (Commoner, 1971; 1976) as the main triggering causes. Multivariable modeling projected actual trends in population growth, economic development, technology and pollution forecasting an ecological collapse. For the first time in modern history the ideology of progress was contested, stating the limits to economic growth (Meadows *et al.*, 1972). This scenario was reinforced by theoretical inquiries on the relations between the entropy law and the economic process (Georgescu-Roegen, 1971) and research on dissipative thermodynamic processes (Prigogine, 1961;

1977). It surfaced then that economic growth had become the main cause of ecological decay and environmental pollution leading to the “entropic death of the planet”.

From the first moment that the environmental crisis gained worldwide awareness in the 70s, a critical movement in Latin America got involved in these debates. Regarding the disputes on the “population bomb” and the “limits to growth”, a seminal study conducted by Amílcar Herrera (1976) questioned: *¿Catastrophe or New Society?* In a similar vein as the critical economic and sociological thinking in Latin America –theories of economic dependency, underdevelopment and internal colonialism– they stated that environmental degradation was not fundamentally determined by population growth, nor in a direct way by economic growth; rather, ecological decay was associated with poverty and unequal wealth distribution resulting from an imposed and adopted development model. From this conception, eco-development strategies (Sachs, 1980) found fertile soil in Latin America.

The environmental crisis was associated with the fragmentation of knowledge in modern science that impeded the analysis of complex socio-environmental processes. Thus, a problem-solving approach to applied sciences emerged, positing interdisciplinary methods and complex thinking as basic tools for environmental management. From being the object of scientific research and economic domination, nature became an object of theoretical inquiry, political dispute and social appropriation. Outside the field of science, diverse interpretative currents developed where nature was no longer an object to be dominated and fragmented, but rather an entity to be re-defined, re-embodied and re-embedded. This gave birth to a myriad of ecosophies –from deep ecology to eco-socialism; from eco-feminism to eco-anarchism– that nurtured the cradle of political ecology. Ecology became an encompassing paradigm that based in a holistic vision of reality as systems of interrelations orients thinking and action in a reconstructive path. Thus a “method” based on “generalized ecology” (Morin, 1980) was promoted, where systems theories and interdisciplinary methods, complex thinking and the new sciences of complexity converged for the reordering and reintegration of knowledge.

Thus a shift of epistemological and social paradigm was operated, from a mechanistic to a more organic and complex understanding of processes, that confronted the fragmentation of reality and knowledge in classical science with a holistic view of the World, understood as an interrelated and interdependent system that evolves through feedbacks as a cybernetic system, opening knowledge to novelty, chaos and uncertainty; to consciousness and creativity. Notwithstanding these paradigmatic changes in the understanding of things, *ecological episteme* did not renounce to its quest for objectivity and its drive for totality. With ecology, a new theoretical centralism emerged: ecological thinking confronted the fragmentation of knowledge and the autonomy of self-centered paradigms; but it didn’t challenge the *logocentrism* of sciences or the totalitarian purpose to reintegrate knowledge in an all-encompassing paradigm. Ecological episteme did not dissolve the power structures of one-dimensional thinking installed in the unitary law and the globalizing will of the market.

Notwithstanding the usefulness of systems theories and the need of integrated approaches, environmental epistemology emerged as a critical understanding of the epistemological obstacles to construct new environmental paradigms (Leff Ed., 1986). Environmental epistemology revealed that what is at stake in the construction of knowledge for sustainability is not a neutral articulation of sciences but a reconstruction of knowledge from the critical exteriority of the environment –the concept of environment– that challenges normal sciences and its ecological approaches. Sustainability is constructed in the interplay and encountering of diverse and often incommensurable and non-integrable paradigms. Moreover, environmental knowledge mobilizes social actors for the social construction of sustainability. Political ecology is the field of an environmental political epistemology, of power-knowledge strategies that open alternative paths towards sustainability (Leff, 2001). Thus, environmentalism comes to challenge ecologism in the foundation of political ecology as a critical politics of difference.

The struggles for sustainability are epistemological and political. Ecology is politicized by opening the systemic vision of reality, and the symbolic and cultural ordering of nature, towards the domains of ethics and

social justice. What is at stake in the field of political ecology is not so much ecologizing the social order as the encounter of alternative and conflicting cultural and economic rationalities over the appropriation of nature. The identity of political ecology in Latin America arises from the political-epistemological definition of the environment, differentiating ecology in affluent societies from *environmentalism of the poor* (Guha & Martínez-Alier, 1977). One radical trait of this epistemological difference is the conception of the environment as a potential for alternative sustainable developments. Thus a paradigm of eco-technological-cultural productivity can be constructed. The concept of *environmental complexity*—beyond complex thinking, the sciences of complexity, systems theory and interdisciplinary methods— and the category of *environmental rationality* emerge from a radical epistemological perspective (Leff, 1995; 2001; 2004; 2006).

5. Political ecology/environmental epistemology

Political ecology is the politics of the social re-appropriation of nature. Yet, as in all politics, its practice is not just mediated by discursive strategies, but is basically a struggle for the production and appropriation of concepts that orient social actions. This holds, not only because critical environmentalism confronts the ideologies that support an unsustainable modernity (Leis, 2001), but because the efficacy of any strategy for social reconstruction leading towards a sustainable future implies the deconstruction of theories and ideologies that have institutionalized the social rationality that generated the present environmental crisis.

The strategies for the construction of sustainable societies are configured by theoretical struggles and the politicization of concepts. Concepts such as nature, biodiversity, territory, autonomy, identity, self-management, development and sustainability are redefining their meaning in the conflictive field of political ecology, where different strategies for the appropriation of nature are confronted. Thus, the concept of territory in the field of political ecology differentiates from anthropological concepts related to the cultural construction of space. Territoriality or territorialization are processes arising

from the encounter of conflictive rationalities in the social construction of space; likewise, the discourse and the geopolitics of sustainable development is confronted by the concept of sustainability drawn from environmental rationality (Leff, 2004).

Beyond these theoretical debates, ecological emancipation in the globalized world is mobilized by concepts that gain significance, legitimacy and power within peoples' imaginaries. Thus, the quest for sustainability is fused with cultural rights and civil society demands for decolonization, autonomy, diversity and dignity. Politics of difference opens to the proliferation of existential meanings and civilizatory paths that are nurtured by *political epistemology*. Going beyond the epistemology of normal science, *environmental epistemology* transcends complex thinking, system theories and interdisciplinary methodology in their will to reintegrate, complement and reunify knowledge (Leff, 2001). The construction of sustainability is crossed by *power strategies in knowledge* (Foucault, 1980), redirecting environmental conflict and the fragmentation of knowledge to a new political ethics: the dialogue of knowledge and wisdoms (*savoirs*). This implies the deconstruction of the epistemology of representation—the identity between the real and the concept, and of objective truth—, in order to rethink the relation among the real, the symbolic and the imaginary.

Deconstruction of modern rationality goes beyond a paradigmatic shift from mechanistic and structural science to a new episteme of generalized ecology and complex thinking. Normal epistemology is decentered by *environmental rationality*. The environment is not the milieu that surrounds material and symbolic processes centered on their internal organizing principles: it is not only an “externality” of the economic system and *logocentric* sciences that can be internalized by a holistic view, a systemic approach or an interdisciplinary method (Canguilhem, 1971; 1977; Leff, 1994). The environment as an epistemological category emerges as the exteriority of scientific and economic rationalities, as the “other” of totalitarian knowledge; it calls to rethink the relations between the Real and the Symbolic in order to create power strategies to construct sustainable futures. Environmental epistemology goes beyond an hermeneutics of nature's meanings in order to re-signify nature through language, symbolic codes and power strategies,

involving visions, feelings, reasons and interests that are debated in the political arena. Thus, environmental epistemology guides socio-environmental movements for the social re-appropriation of nature.

Thus, the concepts of territory-region function as places-support for the reconstruction of identities rooted in cultural and productive practices, as those proposed by the black communities of the Colombian Pacific. In this scenario,

The territory is conceived as a multidimensional space, fundamental for the creation and recreation of communities' ecological, economic and cultural practices [...] this articulation of cultural identity and appropriation of the territory underlies the political ecology of the social movement of the black communities. The demarcation of collective territories has led activists to develop a conception of territory that emphasizes articulations between settlement patterns, space use and use-meaning practices of resources (Escobar, 1998).

The epistemology of political ecology is sustained in the deconstruction of the ideological-scientific-discursive notion of nature in order to rearticulate the ontology of the real in the bio-physical order with the symbolic order that signifies nature, where cultural worldviews and social imaginaries are embodied in practices of sustainability. Environmental epistemology renews the debates over monism/dualism that confront radical ecologism – deep ecology, social ecology and ecofeminism– in the perspectives of existential ontology, environmental rationality and the ethics of otherness; in the reconstruction/reintegration of the natural and the social, of ecology and culture, of the material and the symbolic. This is the core of algid disputes in environmental thinking and its political strategies, the point of confrontation of the theoretical dichotomy between the naturalism of physical-biological-mathematical sciences, and the anthropomorphism of cultural-social-human knowledge: the first attracted by positivistic logic and empiricism; the other by relativism, constructivism and hermeneutics.

In the wreck of thought and the crisis of reason of the present “society of knowledge”, many scientists have jumped unto the safe-board offered by ecology as

the science “par excellence” for the study of complex thinking and the interrelations of living beings and its environments, leading to generalized ecological thinking that maintains the will to embrace the wholeness of knowledge and reality in a method of complex thinking (Morin, 1990). This holistic view intends to reunite all entities divided by metaphysical thinking –body-mind; nature-culture; reason-feeling– not by dialectical synthesis but by evolutionist creationism: by the emergence of an ecological consciousness that would reconcile and solve the metaphysical debts of an anti-ecological rationality. To dissolve Cartesian dualism that is in the basis of scientific and modern rationality, a philosophy of social ecology, based on principles of ontological monism and ecological dialectics and following the idea of the *generativity of physis* to the *emergence of the noosphere* (Chardin, 1961) throughout the history of metaphysics, proposes the reunification of nature and culture (Bookchin, 1990). This philosophy does not offer solid epistemological basis for a *politics of difference* – that recognizes the difference between the Real and the Symbolic– in the social construction of sustainability (Leff, 1998a; 2000; 2001; 2004).

Efforts to reunify nature and culture arise as well from recent phenomenological perspectives in anthropology that claim that worldviews of traditional societies do not recognize distinction between the human, the natural and the supernatural. Yet, these “matrixes of rationality” –to be understood in a metaphorical sense as the maternal womb where new rationalities and forms of being are conceived and fertilized from new ways of thinking– are not commensurable with, and translatable to, the epistemology of modernity. Politics of difference within environmental epistemology brings into new light the controversies of radical ecologism with dualist thinking as the source of hierarchical, domineering, exploitative and unsustainable societies. The idea of a *reflexive modernization* (Giddens *et al.*, 1994) cannot dissolve at will the foundations of dualism of modern rationality. If dualist thinking is responsible for the destruction of nature, the solution does not lie in an epistemological reform of modern rationality but in opening scientific rationality to a dialogue of knowledge with other cultural rationalities and traditional knowledge, under a politics of difference. Epistemology that sustains the

geopolitics of economic-ecological globalization must not only coexist with other knowledge systems, but must be deconstructed from its foundations to build sustainability on an environmental rationality, where diverse cultural beings and different territorialities can coexist in a globalized world (Leff, 2010).

Postmodern philosophy has come to question universalism and essentialism in theory as well as autonomous ontological and discrete epistemological orders. Knowledge does no longer have the sole function of knowing the real. There is no longer an ontological principle of the real that governs reality: knowledge denaturalizes nature to generate *hyperreality* (Baudrillard, 1986). Knowledge has produced a trans-ontological order where new hybrid entities emerge –*cyborgs*– made of organisms, symbols and technology (Haraway, 1991), in the encounter and blending of the traditional and the modern. Yet, it is necessary to differentiate this “hybridizing” of nature, culture and technology brought about by *environmental complexity* (Leff, 2000) with the intervention of knowledge in the real from the life-worlds of traditional peoples living “within nature”, where the separation between soul and body, life and death, nature and culture, is absent from their imaginaries. The continuity and blending of the material and the symbolic in traditional people worldviews, cognition and practices belongs to a different register from that of the relation between the real, the symbolic and the imaginary in modern culture.

Political ecology faces the essentialism of western ontology and the principle of universality of modern science, that through metaphysical thinking generated the *a priori* judgments of pure reason as well as a generic concept of man and the individual that constructed humanism and gave ideological support for cultural domination of the *other* (Heidegger, 1946). Thus, universal human rights unify the rights of individuals while segregating, ignoring and discriminating the common rights of other different cultures. Political ecology deconstructs the universal concepts of man, nature, identity, individual and subject –of power and knowledge–, not to pluralize them as “men”, “natures” and “cultures” with differentiated “ontologies” and “epistemologies”, but in order to construct the concepts of their differences.

Environmental epistemology thus transcends the interrelations and interdependencies of complex thinking and generalized ecology (Morin, 1980) going beyond dialectical naturalism (Bookchin, 1990). It emerges from the symbolic order and the production of meaning inaugurated by language; it is rooted in cultural significations, imaginaries, practices and *habitus*, and is expressed in the confrontation of power strategies and of power strategies in knowledge. In this perspective, political ecology is not inscribed in an ecological ordering of the world that would bring about a new consciousness-truth capable of overcoming anti-ecological interests; it is rather a new political space where the destiny of nature and humanity are forged by the creation of new meanings and the construction of “truths” through power strategies in the interrelation culture-nature and the interplay of a dialogue of knowledge.

Political ecology becomes a field where the real, the symbolic and the imaginary converge and hybridize in environmental complexity. Entropy as the limit-law of nature encounters the theories that support scientific-technological-economic rationality and the imaginaries of traditional cultures expressed in the controversial discursive field of sustainability. This epistemological question is not settled by scientific knowledge but is debated in the political arena, where other orders of the real, other symbols and other imaginaries, assign different meanings to nature. Nature is “reconstructed” from the power effects of symbolic and discursive strategies that are confronted in the geopolitics of sustainable development.

6. Embodied/embedded knowledge

The epistemological project of modernity stands on an imaginary of representation, on a dualist separation of object and subject, body and mind, nature and culture, reason and feeling, logos and writing. Knowledge is a relation with the real that remains outside the knowing subject; it is knowledge “extracted” from nature that does not belong to nature. After four centuries of modern philosophy and science founded in this dualist principle –from Descartes, Bacon, Locke and Spinoza, Kant, Hegel and Marx, to Nietzsche, Wittgenstein, Hei-

degger, Levinas and Derrida—, the environmental crisis has questioned the ontological and epistemological basis of a *res cogitans* outside space, and a *res extensa* existing outside thinking. Hermeneutics and constructivism problematize the existence of an intrinsic order of the real. Psychoanalysis has uncovered the effects of the unconscious in the somatization of desire and showed that mental processes are symbolic and not mere organic manifestations.

In reality, there is no pure thinking floating above the bodies of individuals and society: philosophies, ideologies and theories are embodied in beliefs and imaginaries, in worldviews and existential meanings that determine and orient gestures, postures, practices and actions. Holistic views of ecology and phenomenological approaches have stressed the close relations of culture and nature and underlined the positioning of “living within nature”. However, what brings political ecology to question the epistemology of modernity is not primarily the disembodiment of knowledge, but the fact that knowledge has penetrated life: the genetic structure of organisms and the biosphere’s and ecosystems’ organization, acceleration the entropic decay of the planet.

The monist-dualist ontological-epistemological debate is transposed to the relations between life and knowledge in terms of the embodiment and embedding of knowledge. From Wittgenstein to Foucault and Derrida, research has shown how the structure and forms of language, speech and discursive formations mold thinking and thus open different meanings that condense in social organization, are rooted in territories and orient political actions. For Castoriadis (1998), social imaginaries are embodied significations that have the potency to institute and alter; as *habitus* (Bourdieu), they are not always expressed as explicit representations that assign meaning to phenomena *a posteriori*, but constitute implicitly “sense in act”. Knowledge is expressed through the body. Levinas pointed out that

Merleau-Ponty [...] showed that disembodied thinking that thinks the word before speaking, thinking that forms the world of words and then adhere it to the world—previously made of significances, in a transcendental operation—, was a myth. Thinking consists in elaborating the system of signs, in the language of a people or a

civilization, to receive the signification from this same operation. Thinking goes to the adventure, in the sense that it doesn’t start from a previous representation, neither from those significations, nor from phrases to articulate. Thinking almost operates in the “I can” of the body. It operates in it before representing or forming this body. Signification surprises thinking [...] It is not the mediation of the sign that makes signification, but signification (whose original event is the face-to-face) which makes the function of the sign possible [...] This “something” that is called signification emerges in being with language, because the essence of language is the relation with the Other (Levinas, 1977/1997, p. 218-220).

Today, theory and knowledge have intervened nature and are constructing new beings, entities, bodies and organisms. Science is “embodied” in technology, and through technology in living beings. Science does not only “know” reality; it penetrates the real denaturalizing nature, de-essentializing ontological orders, technologizing life. The identity between the concept and the real in the dualist relation of knowledge—as the correspondence between signifier and reality—, turns into an instrument of knowledge that dissects, clones and bursts the essence of being, from sameness to difference. Horkheimer and Adorno had rightly pointed out the paradox that:

There is no being in the World that can avoid being penetrated by science, but that which is penetrated with science is not being [...] with this operation the step from mimetic reflection to controlled reflection is accomplished. In place of the physical adequacy to nature stands the ‘recognition through the concept’, the assumption of the diverse under the identical. [...] In the impartiality of scientific language, impotence has lost completely its expression force, and only the existent finds there its neutral sign. This neutrality is more metaphysical than metaphysics. Ultimately, the Enlightenment has devoured not only all symbols, but also [...] the universal concepts, and from metaphysics it has left nothing but the fear to the collective of which it was born (Horkheimer & Adorno, 1944/1969, p. 41, 214, 37-38)

The epistemological inquiry on knowledge about the conditions of truth shifts to the problem of the ef-

fects of knowledge in the construction of reality; from the theoretical relation between knowledge and the real, the relation between being and knowledge/wisdom is disclosed as the effects of alternative truths in the social process of re-appropriation of the world: of *truth as cause* (Lacan). In this new context emerges the question of the embodiment and embedding of knowledge in the biosphere, in new life-territories, in human bodies. Political ecology addresses the “mechanisms of power which have invested human bodies, acts and forms of behavior [...] as a productive network which runs through the whole social body, much more than as a negative instance whose function is repression” (Foucault, 1980, p. 61, 119).

Knowledge and wisdom are rooted in the living organism of the biosphere and in the vital soil of human existence. Instrumental and technological knowledge –nuclear, medical and agricultural technologies, agrochemicals and toxic wastes– pollute the earth, air, and water, as well as the bodies of living beings through transgenic products and greenhouse effect gases; they invade human existence, rationalize thinking, reshape bodies and configure institutions; they codify the *self* through ideologies that mold feelings, orient behaviors and drive motivations through a process of rationalization that yields socio-environmental degradation and fuels the entropic death of the planet. Countering these tendencies environmental knowledge (*savoirs*) is embodied in new ethics and embedded in ecosystems through new social and productive practices oriented by environmental rationality; new identities are being reconfigured and embodied in cultural beings, unfolding in ecological practices embedded in new life territories.

Political ecology embraces the purpose of reconstructing the world “from the perspective of multiple cultural, ecological and social practices embodied in local models and places” (Escobar, 1999). This objective poses a radical question: Can the theory and practice of political ecology deconstruct the unsustainable world order and mobilize thinking and social action towards the construction of a new global cosmopolitanism, conducting the destiny of humankind (and of the planet Earth) on the basis of a politics of difference and a strategy for the coexistence of diverse local environmental rationalities, where ecological potentials and cultural diversity

become the basis of a new sustainable economy? Political ecology opens a new theoretical-practical field to embody environmental wisdom in cultural beings fertilizing new life territories.

Social imaginaries register the encounter of the real and the symbolic recorded in human existence throughout history. They are footprints of the conditions of life embodied in social beings in a lived world. Imaginaries of sustainability confront the rationalization of the world, specially the practices induced by the theoretical and instrumental rationality of modernity. Thus, social imaginaries become power strategies for emancipation (Leff, 2010). They are not only trenches of resistance to the rationalization of life, but potentials of creativity for the construction of alternative sustainable worlds.

7. *Ecological economics / political ecology*

Political ecology opens new horizons of social action and historical construction that go beyond the intention of ecological economics to internalize environmental externalities, to constrain economic performance or adapt economic mechanisms to ecological conditions of sustainability. Political ecology establishes its territory in the environmental hinterland, beyond the enclosure of economic rationality, of that which can be recoded and internalized in the realm of economics to value natural resources and environmental services. Political ecology is rooted in a space where the social conflicts for the appropriation of nature and culture manifest their power strategies, where nature and culture resist the homologation of different ontological orders and the reduction of symbolic, ecological, epistemological and political processes to market values. This is the *polis* where cultural diversity acquires “citizenship rights” within a *politics of difference*: a radical difference, as what is at stake is beyond the equitable distribution of costs and benefits derived from the economic value of nature.

The questioning of the “limits to growth” triggered a fierce debate worldwide, that led to a confrontation of diagnosis and perspectives, and yielded into a politics of discursive strategies to respond to the environmental crisis. Political ecology emerged in the margins of ecological economics to analyze the non-chrematistic value,

the cultural meanings and the power struggles in the social appropriation of nature that cannot be understood, nor solved, through the economic value of nature nor by ecological norms imposed on the economy. These socio-environmental conflicts are expressed as controversies derived from diverse –and often antagonistic– meanings of nature, where ethical, political and cultural values overflow the field of political economics, including the political economy of natural resources and environmental services. Political ecology emerges in the exteriority of ecological economics.

In the interplay of concepts that define the difference of these neighboring fields of inquiry, the notion of “ecological distribution” has gained significance. Ecological distribution expresses

the unequal distribution of ecological costs and its effects in the variety of ecological movements, including movements of resistance to neoliberal policies, compensation for ecological damage and environmental justice [... Ecological distribution designates] the social, spatial and temporal asymmetries or inequalities in the human use of environmental resources and services, commercial or not, and in the decrease of natural resources (including the loss of biodiversity) and pollution loads (Martínez-Alier, 1995).

Ecological distribution includes the extra-economic –ecological, cultural and political– processes that link ecological economics with political ecology, in analogy with the concept of economic distribution that turns economics into political economics. Ecological distribution thus refers to power conflicts involved in the social strategies for survival and for sustainable production alternatives in the political economy of the environment, as well as to struggle for the social appropriation of nature and for the distribution of the costs and damages from different forms of ecological destruction and environmental pollution. Ecological distribution embraces criteria and values that overflow economic rationality and contest the intention of reducing such values to chrematistic costs and market prices, mobilizing social actors for material and symbolic interests –identity, autonomy, territory, quality of life, survival– that are beyond strict economic demands for

land property, the means of production, employment, income distribution and development.

Ecological distribution refers to the unequal repartition of the environmental costs and potentials, of those “economic externalities” incommensurable with market values, but that appear as new costs to be internalized through economic instruments and ecological norms, if not by the effect of social movements that emerge and multiply in response to ecological damage and the struggle for the social appropriation of nature.

In this context, the notion of *ecological debt* has permeated the political discourse, as a strategic concept that mobilizes resistance against globalization of the market and its coercive financial instruments, questioning the legitimacy of the economic debt of the poor countries, as well as the capitalistic appropriation of their natural resources and the historical dispossession of their patrimony of natural resources. The ecological debt surfaces the largest –and until now submerged– part of the “iceberg” of the unequal exchange between rich and poor countries, that is to say, the appropriation and destruction of the natural resource base of the “underdeveloped” countries. The state of poverty of their peoples does not derive from their cultural condition or natural limitations –from a geographical determination and ecological endowments– but rather from its dominated insertion in a global economic rationality and internal colonization processes that has overexploited their natural resources and degraded their environments.

Notwithstanding the environmental ethic and political value of these historic inequalities, this historic ecological debt is incommensurable and unquantifiable in economic terms, as there are no standards to measure it, nor discount rates to update the historical processes of exploitation of nature and cultural colonization. The ecological debt uncovers the history of dispossession, the pillage of nature and cultural subjugation that has been masked by the economic principles of the endowment of natural resources, comparative advantages and efficient use of productive factors leading to –and pretending to justify– unequal exchange in the free market global economy.

Political ecology as a theoretical discipline and field of inquiry has the objective of analyzing the historical power struggles and appropriation strategies over

nature among nations and peoples, as well as present distributive conflicts of ecological resources. These inquiries are triggered by the pressing imperatives of the environmental crisis: scarcity of natural resources, climate change, environmental degradation, emancipation needs, desire of survival and the quest of a sustainable future. Political ecology becomes a field of political ethics, of deployment of power strategies (in knowledge, economy, politics, social relations, common property and cultural rights) that have de-naturalized nature and de-territorialized cultures, mobilizing social actions towards the construction of a sustainable world.

8. The de-naturalization and re-construction of nature

In the course of history, nature was “constructed” as an ontological order. Nature as *physis*, embraced the Real. Further on, the naturalness of reality became a fundamental argument to legitimate the “real existing order”. “Natural” were the entities that had the “right of being”. This naturalness of the order of things –that of the ontology and the epistemology of nature– was the metaphysical foundation of an anti-nature rationality, based in the unassailable, ineluctable and immovable laws of nature. In modernity, nature was converted into the object of inquiry of science, the object of labor and the raw material for production; economic theory ignored the complex ordering and the ecosystem organization of nature. From classic economics on, capital and labor became the fundamental production factors; nature was an input for production, but did not determine the value of commodities. Nature affected decreasing yields, but was ignored as a condition and potential for sustainable production. Furthermore, nature was externalized from the economic system. Nature was *de-naturalized*; it became a “resource” that was consumed in the flow of value and economic productivity.

In the early sixties nature regained its status as a political reference, a subject of philosophical and ethical inquiry, and soon after a standpoint for criticism of the established economic order. The first signs of concern for nature appeared somehow before, leading to the establishing of the International Union for the Conserva-

tion of Nature in 1948. However, the seminal works of authors like Rachel Carlson (1962), Paul Erlich (1968), Barry Commoner (1971) and Arne Naess (1989) raised the ecological alarm. The study of the Club of Rome, *The Limits of Growth* (Meadows, 1972) disseminated worldwide the questioning of the economic system and its catastrophic effects in the destruction of nature and pollution of the environment. This gave way to the raise of consciousness of the environmental crisis and destruction of the ecological bases and conditions for sustainability of the planet, leading governments to design policies for the conservation of nature.

To be sure, the mainstream thinking that guides ecological actions –from critical ecosophies to complex thinking, as well as the domineering ecological schemes and economic instruments that guide the geopolitics of sustainable development– have complexified the social understanding and interventions on nature. However, they haven’t yet deconstructed a naturalist view that, from bio-sociology to system’s approaches and generalized ecology, have been unable to dissolve the techno-economic siege of the world, where natural law becomes the support of power strategies that de-naturalize nature.

If nature was denaturalized when metaphysical thinking disjoined nature and culture, the reconstruction of nature does not imply the restoration of essentialist ontology. Political ecology is not only the hermeneutic and deconstructive inquiry on the history of de-naturalization or a constructivist approach to re-signify nature, but rather the politics of cultural appropriation and territorialization of nature. The reevaluation of nature involves the reconstruction of the concept of nature: from re-signification of the “natural” conditions of existence and demystification of “natural” disasters, to ecologization of cultural, social and political relations. This deconstruction of nature goes beyond the hermeneutics of nature, environmental history and postmodern constructivism. Against ontological realism, political ecology stresses the power relations that tense all social relations: relations of human beings with nature; power relations in knowledge, in production and in the appropriation of nature; it is the field where discourses, behaviors and actions embedded in the concept of nature are contested.

Beyond the ecological approaches that dominate environmental thinking, new constructivist and phenom-

enological insights are contributing to deconstruct the concept of nature (Rorty, 1979), stressing the fact nature is not simply an objective entity in the realm of the real, but is always *meaningful*: a signified, geo-graphed, territorialized, politicized entity. This is being supported by recent studies in environmental anthropology (Descola & Pálsson, 1996) and environmental geography (Santos, 2000; Porto Gonçalves, 2001). Its approaches and findings demonstrate that nature is not the product of biological evolution, but rather of the co-evolution of nature guided by cultures that have inhabited nature. In the field of political ecology, “organic/cultural natures” encounter “capitalized natures”, intervened by the globalized techno-economy, that impose its hegemonic and homogenizing dominium through technologic breeding and market mechanisms.

Nature is being re-constructed in the hybridization of different ontological and epistemological orders: physical, organic, symbolic, and techno-economic; in the encounter and confrontation of heterogeneous rationalities that redesign nature through social knowledge and practical appropriation strategies. Following a long historical process of resistance, which origins can be traced back in the colonial and imperialistic domination of the original “peoples of ecosystems”, their cultural identities are being reinvented and reaffirmed in their present struggles to defend, revalue, construct collective rights and assign new cultural meanings to nature: to design and legitimize new productive strategies for the conservative and sustainable use of their cultural patrimony of natural resources.

An emblematic example of these cultural innovations of nature is the identity invention of the *seringueiros* and the construction of their extractive reserves in the Brazilian Amazonia (Porto-Gonçalves, 2001), as well as the more recent “process of black communities” in the Colombian Pacific (Escobar, 2008). Identities are being configured through struggles for the affirmation of cultural beings that confront the domination/appropriation strategies promoted and imposed by economic globalization. These political actions are more than processes of resistance: they are movements for *re-existence* of peoples and nature (Porto-Gonçalves, 2002).

9. Cultural politics / politics of cultural difference and otherness

Politics of difference is founded in ontological and symbolic roots –the continuing differentiation of *physis*; the infinite signification of being– which destiny is to diversify, to ramify, to redefine (Derrida, 1978; 1982; Vattimo, 1985; Deleuze & Guattari, 1987); to manifest in *distinction* (Bourdieu, 1984); to radicalize in *otherness* (Levinas, 1969). Postmodern thinking on difference – *difference* – (Derrida) is the project to deconstruct the unitary thinking of metaphysics and *logocentrism* of science, with their will to subsume diversity in universality, to subject heterogeneous being to the measure of a universal equivalent, to close the circle of science in a unifying system of knowledge, to reduce ontological diversity to the structural homologues of system theory and to pigeonhole ideas in one-dimensional thinking. Political ecology roots theoretical deconstruction in the political arena; beyond recognizing cultural diversity, traditional knowledge and indigenous peoples’ rights, environmentalism contests the overwhelming unification power of the market as the fate of human history.

Political ecology contests the essentialist ontological conception of nature while acknowledging that there is nothing intrinsically political in original nature or in ecological organization. The relations between living beings and its environing nature and food chains – even depredation and domination among them and the territoriality struggle of species –, are not political in any sense. Politics is drawn into nature not only in response to the fact that the ecosystemic organization of nature has been negated by economic rationality and the social sciences. Nature becomes political by the fact that power relations are established in the symbolic order of human beings in their radical difference with all other living creatures. The political engages nature in power relations through human, cultural, economic and technological interventions of nature.

From this perspective, Arturo Escobar refers to “ecologies of difference”, underlining the notion of “cultural distribution”, to address the conflicts that emerge from different cultural meanings assigned to nature: as “power that inhabit meanings is a source of power”

(Escobar, 2006). As cultural meanings become means to legitimize human rights, they mobilize discursive strategies for the claim of cultural values; it is as such human rights that cultural values enter the power field of political ecology to confront intellectual property rights and the “rights of the market” in the social struggle for the appropriation of nature.

However, the notion of cultural distribution can become as fallacious as that of ecological distribution if submitted to homologation and homogenization. Incommensurability does not only apply to the difference between economy, ecology and culture, but within cultural orders, where there are no equivalencies, no possible translation between different cultural meanings. Distribution always appeals to a homogeneous object: income, wealth, employment, matter, energy, nature, and power. But being, as the subject of rights, is essentially heterogeneous. Political ecology is forged in the realm of otherness. Cultural difference implies shifting from the generic and abstract concept of being conceived by essentialist and universal ontology to the politics of difference, as specific and localized *rights of cultural beings*.

Political ecology in Latin America is operating a similar procedure as the one achieved by Marx with Hegelian idealism, turning the philosophy of post-modernity (Heidegger, Levinas, Derrida) on its own feet, territorializing thinking on being, difference and otherness in *environmental rationality*, rooted on the *politics of cultural diversity, territories of difference and ethics of otherness* (Leff, 2004). Cultural diversity and ontological difference nested in the symbolic order becomes the core of a *politics of difference*. Otherness becomes the radical root of diversity and difference that dissolves the unitary and universal ontological / epistemological conception of being, reality, world and knowledge. Political difference is the right to be different, the right to differ: to contest the already existent reality. Otherness radicalizes difference beyond dialectic contradiction –the *alter ego* that mirrors identity; the alternation of powers–, as the manifestation of an “absolute Other”: the *Other* as something else than the new and unknown that emerges from the “generativity of *physis*” and transcendent dialectics. The *Other* is incommensurate and untranslatable; it does not assimilate to a consensus of conflictive differences or to

common knowledge through communicative rationality (Habermas, 1984).

Beyond diverse and different paradigms of knowledge that can be integrated in a holistic view and an interdisciplinary paradigm, the political ethics of otherness opens different modes of cognition, intelligibility and knowledge. The dialogue of knowledge is the encounter of different cultural beings in their non-synthetic, untranslatable ways of being (Leff, 2004). If the ethical politics of otherness searches the pacific coexistence of different ways of being in the world, the varieties of ways in which human cultures construct nature open political ecology to conflicts of “equality in difference” arising from different cultural visions and valuations of nature, as well as the confrontation of cultural/economic rights to appropriate nature and to territorialize cultural diversity. Cultural ecology, ethno-ecological studies and environmental anthropology blend into political ecology to understand the different ways of constructing nature, involving different ways of knowing, attracting the “rationality debates” in anthropology and philosophy, calling traditional ecological knowledge and ethno-sciences (Fals Borda, 1981; 1987; López-Luján & López-Austin, 1996) and inviting non-Western science (Needham, 1954; Jeff Titon, personal communication) to a dialogue of knowledge, the counter and amalgam of the different forms of being-savoir as the creative source of a sustainable cosmopolitan world.

However, difference of cultural values and visions does not become a political force by virtue of their ontological and ethical principles. The legitimization of difference that codes new values and empower cultural beings and their subjugated principles of life and existence – i.e. the “living well” of Andean indigenous peoples (Huanaconi, 2010) –, emerges from the saturation effects of the forced homogenization of life induced by metaphysical thinking and modern rationality. Politics of difference emerges as the resistance of cultural beings to the dominium of global hegemonic homogeneity, to the objectifying of beings and to unequal equality. The strife for equality within the scope of human rights and its juridical procedures based on individual rights ignores the political principle of equality in difference that claims its rights in a culture of diversity and otherness. As stated by Escobar,

It is no longer the case when one can contest dispossession and give arguments in favor of equality from the perspective of inclusion in the domineering culture and economy. In fact, the opposite is happening: the position of difference and autonomy is becoming so valid, or more, in this contestation. Appealing to the moral sensibility of the powerful is no longer effective [...] This is the moment to test [...] the power strategies of cultures connected by networks and *glocalities* in order to be able to negotiate contrasting conceptions of the good, to value different forms of life and to reaffirm the pending predicament of difference-in-equality (Escobar, 2006).

The rights to difference are forged in the encounter with otherness, in the confrontation of the domineering rationality with everything that is external to it by having been excluded, breaking the metaphysical identity of equality and the unity of the universal. In this tension, political ecology transgresses one-track thinking and one-dimensional reason, to open history to difference of being immersed in a field of power relations and political forces. To be sure, “the struggles for cultural difference, ethnic identities and local autonomies over the territory and resources are contributing to define the agenda of environmental conflicts beyond the economic and ecological field”, valuing and claiming the rights of “ethnic forms of otherness committed to social justice and equality in difference” (Escobar, 2006). This is not a claim for ethnical essence or for universal rights of the individual, but for the collective rights of cultural beings—including the intrinsic values of nature as cultural rights—, together with the rights to dissent from preset meanings and present hegemonic power structures, and to construct alternative futures. Thus indigenous peoples are offering alternative views to the environmental crisis, to solve climate change and to construct “other” possible worlds based on their own worldviews.

Politics of difference goes beyond the recognition of different views, interests and political positions in a plural world. Difference is understood in the sense that Derrida (1989) assigns to his concept of *differance*, which not only establishes difference here and now, but opens being to time, to becoming, to the events and the advent of the unexpected, the eventuality of the yet unthought-of and inexistent, of the yet to come into being: to a sustainable future. Facing the “end of history”

—conceived as the siege and sealing of cultural evolution by the ineluctable domination of technology and the globalized market—, politics of difference reopens history to utopia, to the construction of differentiated and diverse sustainable societies. The right to differ in time opens the meanings and the senses of being which construct in time that which is possible from the potentialities of the real and the drive of desire for life, to the becoming of “that which yet is not” (Levinas, 1969).

Political ecology embraces the power struggles for the production / distribution of use values; but above all, to meaning-values assigned to needs, ideals, desires and forms of existence that drive the transformation of culture and nature. From the incommensurability of cultural rationalities, the politics of cultural difference stresses the rights of existence of different values and meanings assigned to nature that configure diverse identities and life-worlds. Thus, politics of difference leads sociological imagination to construct power strategies capable of building a cosmopolitan world based on cultural diversity and political plurality as the conviviality of different cultural rationalities. This is the quest of “other possible worlds” claimed by the World Social Forum: a world that embraces many worlds (Sub-comandante Marcos); a New World constructed by the encounter of different rationalities and dialogue of knowledge.

10. *Un-difference of ecological consciousness*

Political ecology is not politics merely informed by ecology. Ecological awareness that emanates from the narratives of different ecosophies or from the discourse of sustainable development is not a homogeneous understanding shared by different cultural worldviews, social imaginaries and interest groups. Thus, ecological consciousness has not gained in clarity, consistence, legitimacy and force to reorient criteria towards the construction of sustainability. Decision making regarding the environment continue to be geared by economic interests rather than prioritizing ecological balance and human survival, to the point of negating scientific evidence on the risks of climate change. The principles of “sustainable development” (polluter pays, previous and informed consent, common but differentiated

responsibilities) have become *slogans* with limited effect in decision making criteria, in changing the trends of ecological degradation and in the construction of a sustainable world. The environmental movement is a disperse field where various social actors intervene, often confronted by their different views, interests, claims and political strategies, rather than a space for consensus and solidarity of common objectives.

The idea of an emergent “species consciousness” that would safeguard humanity from ecological catastrophe is a problematic illusion. The ideology of the economics of *Spaceship Earth* (Ward, 1966; Boulding, 1966) veils the social differences of the fellow passengers; just as that of *Our Common Future* (WCED, 1979) that with the principle “thinking globally and acting locally” reinforces the trends and strategies established by the domineering global thinking –the views on “sustainable development” within the hegemonic economic order–, blurring other approaches to construct a sustainable future. Environmental consciousness would seemingly emerge from the deep sources of being and in the realm of the noosphere to restore the conditions of life in our unsustainable world. However, for such generalized and unified consciousness to emerge as an existential condition it would be necessary for humanity as a whole to share the experience of a common threat or a shared destiny in equal terms; as when the generalization of plagues (sent by the gods) turned the symbolism of the Aristotelian syllogism on the mortality of all men into self-consciousness of humanity through a lived experience, transforming the axiom of logics into the production of meaning in the social imaginary. From the Aristotelian statement “all men are mortal” does not follow a generalized meaning that nested in consciousness. Only once the pest spread in Thebes and society as a whole felt concerned by the threat of real death, pure symbolic form turned into a social imaginary (Lacan, 1974-75). The same applies in a more ample scale to the generalized experience that since the origins of humanity established the imaginary of the prohibition of incest. The symbolism of the Oedipus complex and the meaning of the Greek tragedy had been already internalized as a lived “cultural law”; it was not instituted by Sophocles nor by Freud, but by lived experience.

Environmental consciousness is not a unifying imaginary of different individuals and cultures that integrate humanity. The deconstruction of the modern idea of the subject, from Nietzsche and Freud to Heidegger and Levinas, has surfaced that the subject fails to establish himself as the source and foundation of his thoughts and acts. The interiority of the subject is exposed to the infinity of otherness previous to any consciousness of his being. If otherness in the field of political ecology implies a radical difference in cultural beings, it follows that there are no foundations to postulate a unified trans-individual and trans-cultural ecological consciousness of the human species.

In the “risk society” that we presently live, the imaginary of insecurity and terror is drawn to the threats of war and generalized violence rather than to the imminent dangers of climate change and ecologic collapse. Even traumatic human experiences like the holocaust and genocides along history have been unable to give preeminence to an ethic of life over will to power. It seems vain to posit a certain consciousness that could respond effectively to ecological risk and guide social actions towards sustainability when environmental crisis that looms the World is still perceived as false consciousness, as a misleading uncertain premonition by science and by the prevailing economic and political interests that dominate nature and society. The threat that has penetrated the collective imaginary is that of “ontological insecurity” –the fear of war and terrorism; the collapse of basic social rules of human coexistence–, rather than consciousness of the revenge of subdued and overexploited nature and to orient actions towards an ecological reordering of the world.

No doubt, today everybody has a certain awareness of the environmental problems that affect their quality of life; but this consciousness appears as fragmented and diverse perceptions depending on the specificity of diverse ecological, geographic, economic, social and cultural contexts and conditions that configure a variety of environmentalisms (Guha & Martinez Alier, 1997). Not all forms of awareness and consciousness become “ecological cases” that generate social movements. Moreover, the more worldwide in their manifestations –like global warming–, the less clear and general is the perception of ecological risks: not only because their occurrence

vary in different latitudes, but because they are sensed through different visions and conceptions: from God's will and the fatality of natural phenomena, to the expression of the law of entropy and the effects of the global economy. Environmentalism is thus a kaleidoscope of theories, ideologies, strategies and actions that are not typified as class consciousness nor unified by a species consciousness, lest for the fact that ecological narratives have already penetrated all languages, discourses, theories and imaginaries of our globalized world.

The entropy law –which gives scientific support to such previsions– and the evidence of “natural” disasters that have developed and proliferated in the last years, have not yet dissolved the certainties of the economy with the uncertainties and probabilities of climatic events. What prevails is a dispersion of visions and previsions on the conditions of human survival and existence and their relation to the environmental crisis, where class consciousness boundaries become diffuse but not erased, divided by differentiated values and interests. At the same time, the political rights for cultural diversity are generating new ways of thinking and positioning of social groups that impede the conformation of a unitary vision to save the planet, biodiversity and the human species. These emergent cultural and environmental common rights confront the prevailing juridical framework constructed around the principle of individuality and private law, in a similar way as economic rationality is being questioned by the environmental crisis.

Changing our minds about life, survival and existence is not primarily a matter of consciousness, but rather of constructing an alternative rationality through a politics of knowledge. As viewed by Foucault, “the genealogy of knowledge needs to be analyzed, not in terms of types of consciousness, modes of perception and forms of ideology, but in terms of tactics and strategies of power [...] deployed through implantations, distributions, demarcations, control of territories and organization of domains which could well make a sort of geopolitics”. The geopolitics of sustainability involves a “new politics of truth [...] the political, economic, institutional regime of the production of truth” (Foucault, 1980, p. 77, 133).

If environmental consciousness arises from human awareness on the limits of existence that today face the entropic death of the planet, environmental rationality

is built by the relation of being with infinity, of the real with its limits, in the encounter with the objectified world, in the interconnection of the real, the imaginary and the symbolic that obliterates the subject in the “lack of being” of human existence. The “subject” of political ecology is not the man of humanism constructed by metaphysics, phenomenology and anthropology, nor the generic *Dasein* of existential ontology (Heidegger, 2010). Diverse human beings forged by their wisdoms and practices construct their life-worlds as “production of existence” (Lacan, 1974-75). Mobilized by the desire for life, they construct their future by forging the relation of being with *savoir* through history, with the present and with the becoming of other possible worlds: with a sustainable future beyond any transcendence prescribed by ecological evolution, historical dialectics, economic rationality or the intentionality of an enlightened subject. Environmental rationality is configured in a politics of difference, in the construction of the rights of being and the reinvention of identities constituted through power relations.

11. Ecofeminism and gender: phallocracy, difference and otherness

In recent years, the upsurge of gender issues and the legitimization of women's rights have converged with environmental concerns and struggles. From radical feminism to ecofeminism, the domination of women and the exploitation of nature appear as the result of hierarchical social structures established since patriarchy and gerontocracy in traditional cultural formations, to class division and domination processes in modern societies. Ecofeminism has become a diverse and polemic field of inquiry and social action. The first manifestations arose from women's responses to the effects of environmental degradation on their labor place and living conditions. Women appeared as one of the most vulnerable social groups as a result of the social functions inherited by patriarchy and the modern social/gender division of labor.

In a first approach, ecofeminism associated the life-giving, caring and nurturing sensibility of women with nature conservation, linking feminist and environmental struggles. The Chipko movement became one of the most

emblematic ecofeminist movements in the South (Anand, 1983; Shiva, 1989). Transcending a naturalist and essentialist vision, ecofeminism developed and contrasted its own stands from deep ecology and social ecology within radical ecology (Zimmerman, 1994). Following radical feminism, ecofeminism viewed in patriarchal social hierarchy and ontological dualism the main sources of ecological destruction and women's domination through male social formations that organizes thinking, culture and gender relations.

Political ecology includes ecofeminist inquiries and struggles within its broad scope of politics of difference. This is not only a claim for distributing roles to women in environmental matters or granting new civil and gender rights opened by a democratic culture in the perspectives of sustainable development. It further implies the inquiry of the specific difference from which new perspectives can be opened for sustainability. Beyond emancipation from all masculine forms of domination, feminism faces the challenge of deciphering the enigma of the *difference opened by the division of sexes* within the multiple dualisms that cross and tense the ontology of difference. Feminism entails the inquiry of the socially constructed difference that has divided humanity between *mankind* and *woman being*; ecofeminism enlarges the political perspectives opened by a feminist and gendered vision of power, culture and social organization, to the relations to nature and sustainability. This inquiry goes beyond establishing the place and roles of women in a social structure and their claims for equal rights under the privileged status of men that govern the established social order.

Within the complex scope of feminism, ecofeminism embraces the ideas, theories and practices that in a different perspective and from other strands of radical ecologism search to identify the specificity of sexual and gender relations in the genesis of the environmental crisis, as well as the status of sexual difference within power structures in the present social, economic and political order, that offsets environmental degradation (Mellor, 1997). In this perspective, the ecofeminist movement inquiries from sexual division and gender difference, the specific standpoint from where women—from their own being and condition—understand the environmental crisis

and offer a specific feminine vision for the construction of sustainable societies.

Besides including gender differences and sexual rights in the progress of democratic societies new questions arise from ecofeminism: Is there a natural affinity of women to nature that would legitimize their social claims and turn them into privileged spokespersons of the rights of nature? How cognition and sensibility varies with sexual difference and gender identities? How this difference complexifies the approaches to the deconstruction of the logics of domination? How different gender visions open alternative cognitive/sensitive/epistemological/ethical perspectives on sustainability?

After Simone de Beauvoir (1968) stated that no revolution can dissolve social structure in the way that social revolution changes class differences, ecofeminism has opened a debate on the place of gender difference and social hierarchy in phallogocentric societies in the historic division of labor and its environmental effects. In the beginning, much of the debate turned around the biological and physiological condition of women in the sexual-social division of labor, within the relations of domination of patriarchal hierarchical structures. However, a deeper quest lead to inquiry the “crack in being” set off by the *difference of sexes*: the original difference produced by sexual otherness, not as biological and physiological difference, but as that constructed through symbolic structures and signification by language.

Ecofeminist thinking takes a similar stand as other radical ecologies in assigning ontological dualism one of the primal causes of nature's objectification and women's domination that have led to environmental crisis, extending gender difference from its biological and symbolic origin, up to its socio-historical construction (Merchant, 1991; Haraway, 1992). The gender debate in ecofeminism goes beyond any natural causes derived from sexual difference, to explain the inequalities and domination of women. It opens the inquiry about the processes of signification in the symbolic order and its effects in the forms of identification of subjects, in social hierarchies and domination relations arising from gender difference as a social-symbolic construction. Beyond essentialist and naturalist approaches,

Difference is always in the order of the signifier, in the symbolic order, from where it distributes gender emblems and attributes. These attributes will be re-signified as sexual difference in the way of identifications that will lead the subject to be a man or a woman, or any combination of both [...], because the content of what can be masculine or feminine has no natural essentiality; it acquires different modalities depending on a socially determined historicity [...] phallocracy emanates from a totally different order: it is the way in which difference is organized as the differentiated appropriation of privileges and powers. From this difference derives a hierarchical ordering of domination and submission (Saal, 1998, p. 24, 33).

Thus, nor biology, nor the symbolic order –the oedipal structure and castration complex– can fully determine sexual difference and explain the places that men and women occupy in a social order. It is not a difference of constitutive essences that would determine man to be the congener of culture and woman of nature: man’s subjectivity deriving from its place in production and women in reproduction. Ecofeminism leads to inquire the role played by the interdiction of incest in a particular oedipal structure, in establishing certain relations of domination between men and women and the ways in which phallocracy organizes power relations. The fact that always and in every culture there are laws that allow the access to certain women while prohibiting others, and that men have always occupied the higher ranks in social structure, would seem to confirm the universality of Oedipus. However, as Safouan (1981) has proposed, the Oedipus is not universal. If phallic domination is in no way natural, it isn’t determined either by a universal symbolic order. The social rules for the exchange of women have varied with the evolution of the economic process (Meillassoux, 1977). As Bataille explained,

By being sexual in nature, prohibition underlined the sexual value of its object [...] Erotic life could only be *regulated* for a certain time. At the end, these rules expelled eroticism outside the rules. Once eroticism was dissociated from marriage, it acquired a more material meaning [...]: rules pointing to the distribution of women-object of greed were those that secured the distribution of women-labor force (Bataille, 1957/1997, p. 218-219).

From the lack in being (Lacan) that results from being inscribed in the symbolic order, and in its search for completeness, human desire opens its way to will to power (Nietzsche). Thus, man takes resources from his physical strength to gain supremacy in the social order, developing power strategies –physical, gestural, juridical, and discursive– as instruments of domination. From a position of power in his relation to women, man has constructed discursive strategies that operate as power devices. However, nothing legitimizes such claims of superiority. Feminist politics emerges from those pre-established places set in the symbolic and economic structures that find their origins in the gift-exchange of women: in their functions of production and reproduction.

For Moscovici (1972), domination of men underpinned in his use of the law of prohibition of incest, clinging to it as a trans historic symbolic law established for any social order. From a Freudian-Marxist feminist vision, women find their way to emancipation by moving away from their reproduction function and the places assigned to them by the economic division of labor. Furthermore, women have to deconstruct the imageries built by psychoanalytic theory –the Oedipus complex and the law of prohibition of incest–, to delink from economic rationality and from “rationalizations of the unconscious” (Deleuze & Guattari, 1983).

Together with deep and social ecology, ecofeminism agrees that cosmogonies and use-practices of nature in traditional cultures are more “ecological” than in modern societies. However, women haven’t been less submitted by gerontocracy and patriarchy in traditional societies. Actually feminist claims are induced to traditional cultures from modern democratic culture. Gender identities and emancipation arise in the encounter of cultural differences. Gender politics poses the question of a radical but nonessential sexual difference where the symbolic order constructs the identities of human beings (men, women or any gender construction) and assigns their places in social structures, attributing forms of being, thinking and feeling in-the- world. From original sexual division, cultural gender differences are constructed: the domineering reasoning and objectifying will of men; the caring sensibility of women in Western modern culture; their contrast with more spiritual, holis-

tic, ecological and non-possessive oriental and traditional cultures. Ultimately, culture distributes social roles and configures different forms of gender-beings in their relations to nature. Gender/culture identity in the order of being and meaning denaturalizes the sexual question to view the conflicting interests that arise from the disjunction of sexual difference in the symbolic order, within power relations and social hierarchies.

Politics of difference inquires gender identity and sexual division in their relations with thinking and the construction of reality; it searches to understand the relation of sexual difference with the ontological disjunction of being and entity (Heidegger, 2002), that developed in the history of metaphysics in the Cartesian dualisms of object and subject, mind and body, nature and culture, man and woman, that lead to the objectification of the World, to the construction of hierarchies and institutionalization of relations of domination of women and nature in modern societies. Ecofeminism complexifies power relations in the field of political ecology by inquiring the links between nature, language, thought, the unconscious, sexual difference and social structure as conjugated agencies in the construction of nature-culture-gender relations.

In this perspective, what distinguishes women from men is not their affinity with nature or the organic functions of women (pregnancy, progeny, maternity, care), but their resistance to submit their being in a totalitarian rational order. Gender equity demands human rights beyond claims for a better distribution of functions, privileges and rights established by modern society. By forging new meanings, ecofeminism claims gender rights as “rights to otherness”. Gender difference emerges from the sources of desire that disjoins the metaphysics of the One into the ontology of difference and an ethics of otherness, where masculine/feminine positions collide. Within a politics of difference, ecofeminist and gender claims overflow the scheme of economic or ecologic distribution as a way of reassigning property and appropriation rights to women in their socio-ecological roles, functions and relations with nature; ecofeminism opens new ways to dissolve hierarchy, oppression and domination arising from power relations originated by the division of sexes and constructed by masculine power strategies.

If ecofeminism is called to think the deconstruction of the theoretical and social structures in which domination powers were forged by men, it must arm itself with strategies that, without being exclusive of women, are more “feminine” in face of “macho” forms of domination. The power of seduction is wiser than imposition of power through knowledge (Baudrillard, 1990). Seduction reorients the power of desire – the Nietzschean will to power – to the *will of power to desire life*, opening history into forging a new rationality through relations of otherness in an emancipatory process where men and women will reconstruct their rights of being.

However, political ecology inquires: Is there a specific speech of women; do different ways of reasoning and feeling in relation to nature arise from gender variances that far from justifying any dualism founded in sexual or gender difference could open new ways of building a sustainable world? Can ecofeminism offer to political ecology new thinking, new grammars for culture-nature relations: a strategy of seduction, solidarity, reciprocity, emancipation of being as an alternative to strategies of domination?

These questions lead to a more radical inquiry on the difference of sexes. Beyond biological and symbolic (phallic) determinations, an inquiry arises on the difference in gender positions in face of different *modes of jouissance* (Lacan, 1998). This implies thinking the relation *savoir/being* within the structure of *jouissance*, searching the possibility of being in “other knowledge”, or in a *savoir Other*, knowing that it is impossible to *know the other*. In the incompleteness of being, in the unknowing of the other, in the void that organizes the modes of *jouissance*, different positions and perspectives of *savoir/being* can come to existence. Here a womanly mode of *jouissance* is speculated beyond the frontiers of language, symbolic law and phallic legislation. At stake are the different modalities of relation of gender identities with *jouissance*. In waiting for these varieties of relations of *jouissance* and knowledge to be dis-covered and to surface to existence, what is speculated is a manly way of knowing, in close relation to positive knowledge, to presence, to reality, to truth as identity of thought and reality. Conversely, a womanly *savoir*, in her relation to *jouissance*, convenes *Other knowledge*, a no-knowledge, in her “letting be” into the realm of the unknown, in the

horizon of what is not, in the obscurity of nothingness. Woman would be molded by a jouissance. Other beyond knowledge organized by signifiers –by the Phallus as signifier–, beyond consciousness and will:

Woman inaugurates a new time by presenting her jouissance in the field of knowledge, not a knowledge that doesn't know itself, but a no-knowledge, knowledge that obliterates the Other. It is not an unknown knowledge that refers to the place of the Other, but the new face that woman presents of this Other as no-knowledge [...] *a metamorphosis unknown for normal pathways of understanding.*" (Morales, 2011, p. 210, 50).

In this perspective, sexual difference opens a new inquiry in the ways of knowing, very much in the vein of Emmanuel Levinas who stated: "The caress doesn't know what it seeks" (Levinas, 1993, p. 133). In their relation of jouissance and knowledge, *man comes, while woman goes!* Women would be prone to being more "cosmic" and "oceanic" in character, more disposed to letting themselves be within the unknown, to restrain from totality, to float over the uncertainties of life and to fly towards the future; while men would be more predisposed to objectify being in present entities, to be driven by the ambition of totality and will power to grasp reality and control the world.

The above speculation opens an ontological-anthropological inquiry into the relation of Being with sexual difference. If there is an original split in the sexual condition of human beings –an otherness more original than the difference between Being and entities derived by Ancient Greek thinking (Heidegger, 2002)–, it opens the question about the masculine character of metaphysical thinking that derived in modern societies governed by men. But things are more complex: if the Oedipus is not universal and traditional cultures are not cut by homogeneous patriarchal social structures, anthropological studies should provide evidence of different ways of understanding the world and organizing the world-lives of traditional cultures governed by different patriarchal/matriarchal social relations emerging from different "modes of jouissance", by different cultural/oedipic forms/ways of being in the world. Womanly and gendered *savoir* arise from their secluded unrealized

potentialities, and encounter/blend with other constellations of "saviors without knowledge" that call the yet unknown sustainable future into being.

Women –and men– will not regain their rights to being from an equalization of power in the order of rationality that has dominated and subjected them. To emancipate from that oppressive order, men and women are forging new gender identities, restoring their being through Other power-knowledge strategies, merging the realm of desire for life with new forms of cognition and thinking, of meaning and feeling; reweaving and fertilizing the social fabric with new forms of being-in-the-world. Thus, ecofeminism claims its transcendent otherness to emancipate from established power relations.

In this sense, ecofeminism is not only a standpoint to criticize the places assigned to women in the economy, in politics and in the family. Its substantive difference is not only established by the different and subjugated roles determined by a hierarchical, patriarchal and phallogocentric culture, but in stating sexual and gender difference in new languages, concepts and sensibilities, other to male construed rationality. In this perspective, political ecology opens an inquiry on the ways gender difference generates other forms of identification, distinct forms of knowing and feeling in which being comes to life in the midst of *savoir* emerging from nothingness.

12. Ethics, emancipation, sustainability: towards a dialogue of knowledge

Political ecology constructs its theoretical and political identity in a world in mutation, driven by an environmental crisis: a crisis in *being-in-the-living-world*. The concepts and conceptions that guided until now our intelligibility of the world, the meaning of our world-lives and the intentions of our practical actions, seem to vanish from our everyday language. Yet, the established world order holds unto a dictionary of signifiers and discursive practices that have lost their capacity to sustain life: dialectic logic, universal principles, unity of sciences, essence of things, eternal truths, transcendence of thought, and intentionality of actions or deeds, resonate and echo the nostalgic remainder of a world forever gone. *Something* new is emerging in this world

of uncertainty, chaos and unsustainability. Through the interstices opened by the cracking of monolithic rationality and totalitarian thinking, environmental complexity sheds new lights on the future to come. This “something” is expressed as a need of emancipation and a will to live.

While language games keep proliferating and revolving around this fictitious and unsustainable world, they also serve to envision alternative possible futures, to construct utopias and to redirect the course of life. If this process is not to succumb to the “fatal strategies of hiperreality” (Baudrillard, 1983) generated by the “simulacra and simulation” of sustainable development, and guided by the power strategies of an unsustainable rationality that drifts the world into the entropic death of the planet, one basic principle must continue giving support in reason to human existence: the coherence of thinking, knowing that the world will never be totally known nor controlled by thought.

Environmental crisis expresses the limits of growth, the unsustainability of economic rationality and technological reason. These are the effects of the history of metaphysics and western knowledge: of *logocentrism* of theory, universality of science and one-dimensional thinking; of instrumental rationality between means and ends; of the law of economic value as universal equivalent to measure all things, that under the sign of money and the laws of the market have recoded all things and ontological orders in terms of exchangeable and tradable market values. Human emancipation arises from the deconstruction of knowledge and de-clamping from the iron cage of modern rationality. It implies giving new meanings to the emancipatory concepts of modernity – liberty, equality and fraternity – as principles of a political ethics that ended up being co-opted and corrupted by economic and juridical liberalism –by the privatization of individual rights and the coercion of economic interests over other human values–, in order to legitimize the values of a politics of difference and an ethics of otherness: of conviviality in diversity and solidarity among human beings with different cultures and collective rights.

Political ecology is a politics for cultural diversification. Cultural diversity is the standpoint to deconstruct the unitary logic and universal equivalence of the market, and to reorient being through the diversification of ethno-

eco-cultural paths for the construction of sustainable societies. Political ecology roots the deconstructionist spirit of postmodern thinking in a politics of difference activating an abolitionist agenda for direct democracy and sustainability:

The abolitionist agenda proposes self-managing communities established according to the ideal of a spontaneous *organization*: personal links, creative work relations, affinity groups; community and neighborhood councils based in respect and sovereignty of human persons, environmental responsibility and the exercise of direct democracy “face to face” for decision making in matters of collective interest. *This agenda intended to change our course towards a civilization of diversity, an ethics of frugality and a culture of low entropy, reinventing values, untying the knots of the mind, avoiding cultural homogeneity with the force of a planet of diverse peoples, villages and cities* (Borrero, 2002, p. 136).

Political ecology is a conceptual texture that weaves material nature, symbolic meaning and social action with emancipatory thinking and political ethics to renew the sources and potentials for the sustainability of life (Leff Ed., 2002; PNUMA, 2002). This constitutes its theoretical core and its strategic actions. It entails the deconstruction of totalizing knowledge –of established paradigms and instituted rationalities– to open up new paths for an environmental rationality built on the potentials of nature, cultural creativity and the actualization of identities that open being to becoming of that which still-is-not. From a drive for life, from the intimacy of existence that was reduced by totalitarian theories, emerges the emancipatory power for the sustainability of life:

A certain fragility has been discovered in the very bedrock of existence –even, and perhaps above all, in those aspects of it that are more familiar, more solid and more intimately related to our bodies and to our everyday behavior. But together with this sense of instability and this amazing efficacy of discontinuous, particular and local criticism, one in fact also discovers [...] something one might describe as precisely the inhibiting effect of global, *totalitarian theories*.” (Foucault, 1980, p. 80)

In deconstructing totalitarian theories Foucault foresaw “a return of knowledge” where “it is not theory but life that matters”; the *genealogies* and “*insurrection of subjugated knowledge*”; the re-emergence of disqualified knowledge in the struggle for truth and legitimacy of “particular, local, regional knowledge, of differential knowledge incapable of unanimity and which owes its force only to the harshness with which it is opposed by everything surrounding it [...] by the effects of the centralizing powers which are linked to the institution and functioning of an organized scientific discourse within a society such as ours.” (Foucault, 1980, p. 81, 85, 82, 84).

The insurrection of subjugated knowledge drives emancipation from the dominant regime of modern rationality that has marginalized and exterminated other cultures; that has occluded other knowledge and impeded other possible worlds to come into being. Beyond the deconstructive intentionality of postmodern thinking that has mobilized epistemological debates over scientific knowledge, decolonizing knowledge encompasses a wider historical struggle for legitimizing other knowledge/savoir/wisdom, alternative ways of understanding reality, nature, human life and social relations; different ways of constructing human life in the planet.

What is at stake in the emancipatory ethics of environmentalism is the legitimization of the different popular and traditional knowledge in their encounter with erudite and formal knowledge. Political ecology encompasses such historical struggles and their present power strategies; it embraces the genealogy of environmental knowledge and extends it to consider not only present clashes of knowledge involved in the geopolitics of sustainable development, but also in the power strategies involved in the present processes of hybridization of scientific knowledge and renewed traditional practices; in the construction of new cultural identities through the embodiment of knowledge and its embedding in new territories and territorialities, in present struggles for the appropriation of nature.

Environmental ethics in the perspective of the social construction of sustainability projects genealogy of knowledge to a prospective horizon. The ethics of otherness (Levinas) is rooted in the field of political ecology as a *dialogue of knowledges*. Sustainability is envisioned as the historical outcome of the emancipation of subjugated

knowledge, of new understandings of life in the planet and of life human life, for the construction of negentropic societies that internalize the entropic conditions of living. This entails the construction of a different economic rationality: other modes of sustainable production and consumption. Political ecology addresses the power relations involved in the paradigm shifts and social changes in the construction of an environmental rationality and along the construction of a sustainable world.

Political ecology renews the reflection on ethics for emancipation. Emancipatory needs are not limited to “reducing alienated labor”, generating “autonomous free time”, “ending role playing” and promoting receptivity, tranquility and abounding joy instead of the “noise of production” (Marcuse, 1992, p. 35). Emancipation from our convulsed globalized world and risk society goes beyond the search for the “ontological security” of the ego. Emancipation of life implies the affirmation of new identities, the rights of cultural beings and new forms of knowledge/savoir to delink from constrictive hegemonic rationality. Political ecology opens new pathways to sustainability through a dialogue of knowledge, to construct a global world where diverse forms of being and living can coexist supported by a politics of difference and an ethics of otherness.

This emancipation process from the subjection of being by the hegemonic rationality imposed on the world cannot be the agency of the individual, a rational choice among the alternatives set up by the rationalized world. Emancipation from the present unsustainable world demands the deconstruction of modern technoeconomic rationality. It implies re-thinking, re-knowing and re-apprehending the conditions of living, the ecological organization of life in the planet and the conditions of human existence. This is not a task that can be achieved by individual subjects in a process of “reflexive modernization” (Giddens *et al.*, 1994). The construction of a sustainable world demands the social control of environmental degradation: slowing down the trends towards the entropic death of the planet and enhancing the principles of life. It implies the reinvention of common identities, collective forms of being and cultural world-lives to empower the negentropic processes that sustain life in the planet.

Sustainability is the horizon of such purposive living, an objective not attainable by the restoration of the hegemonic unsustainable rationality, the enlightenment of reason and scientific truth. Travelling towards the horizon of sustainable life guided by environmental rationality, opens the world to the reconstruction of diverse cultural beings, of beings reconstituted by “other” knowledge, by their *environmental savoirs* and *social imaginaries of sustainability* (Leff, 2010; 2014). Sustainability will be the outcome of a dialogue of knowledge: of the encountering of cultural beings instituted by their *savoirs* with techno-scientific-economic powers and their strategies for the capitalistic appropriation of the planet; of the alliances with other beings / *savoirs*, with their differences and their unknowns. Political ecology is the field for the deployment of this odyssey towards a sustainable future, crossed by power strategies for survival and sustainability, for the human reinvention of life in our living planet.

13. Conclusions and perspectives

There are different doors to enter into the field of political ecology. From an epistemological standpoint I have chosen to explore it as a space of inquiry and social action arising from the ontology to a politics of

difference; from a “regional” perspective, as the critical encounter of modern techno-economic rationality the organizes the world system with an environmental rationality being constructed from the South, and in particular from Latin America: from the roots of its ecological potentials and cultural identities; from deconstruction and decolonization of knowledge and the social struggles for the social re-appropriation of nature. These conflicts will continue to expand worldwide with multiple local expressions as an intensified clash of rationalities in different conflictive modes of appropriation and construction of territories facing the limits of space and time through an accelerated entropic decay of the planet.

The perspectives of political ecology are not only understand the ontological and political nature of socio-environmental conflicts and the power strategies involved in social struggles over ecological distribution, but to envision new potentials arising from “other” knowledge—from social imaginaries, the reinvention of identities and renewal of traditional productive practices—through the rights of being of cultural diversity, a politics of difference and a dialogue of knowledge, to open new paths towards sustainability; to analyze the organization of emergent social movements for the re-appropriation of nature and to construct a political ethics and juridical procedures for the pacific solution of such conflicts.

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