

Latin American Environmental Thought: A Heritage of Knowledge for Sustainability*

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The cradle and the first steps

Recently, and with increasing frequency, an idea has begun to turn in our minds and to beat in our hearts: the ambition of being the creators of our own thinking. We have begun to write about this new way of thinking in our books, to inscribe it in our educational programs, and to manifest it in our environmentalist actions with the aspiration of giving our environmental thinking the certification of a denomination of origin: Latin America.

Beyond the pride such a claim entails, basic critical reflection suffices to make us ask an unavoidable question: What would be characteristic and original of these ideas that would make such a pretension a legitimate aspiration, in the hope of constructing a thinking that gives us an identity in the face of the emergent generalized ecological paradigm and the global environmental crisis?

This aspiration acquires the highest relevancy, when --from a critical perspective of the oppression and dependence of Latin America (just as much as the Third World), in relation to the hegemonic power of the globalized economy as the organizing center of the world-- a reflection on the *Coloniality of Knowledge*², and about the possibility of a *Knowledge from the South*³, has started to be manifested and to accompany social processes of emancipation in the perspectives of constructing alternative sustainable worlds for its peoples. These reflections argue about the

* Text is the elaboration of my intervention on a panel called "Latin American Environmental Thought," 6th Latin American Congress of Environmental Education, San Clemente de Tuyú, Argentina, September 19, 2009. This text is not intended as a comprehensive analysis that does justice to and provides a consensus about the definition and primary contributions to Latin American environmental thought, which includes the names of so many authors, texts and practices nourishing the sustainability of territories and wordlives of its peoples This is just an initial and personal—perhaps too personal—account, the only intention of which is to show some landmarks and critical points that open the way to a broader investigation of the creation and development of this thought, in the field of Latin American environmental history.

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² Cf. Edgardo Landier (ed.) (2000). *La colonialidad del saber (The Coloniality of Knowledge)*. Buenos Aires: CLACSO/UNESCO.

³ Boaventura de Sousa Santos (2008). *Conocer desde el Sur. Para una cultura política emancipatoria (Knowledge from the South: Toward an Emancipatory Political Culture)*. Buenos Aires: CLACSO/CIDES-UMSA/Plural Editores.

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way Eurocentrist ideas (from the foundation of Greek philosophy through postmodern thought), as well as dominant paradigms of scientific knowledge and modern technologies, were and continue to be incorporated into our societies through the times of the *Conquistadores*, the colonial period, and the era of globalization. Each of these periods has colonized our ways of thinking, our modes of production and our ways of life, and has led to—as a reaction—the emergence of an emancipatory knowledge and political culture. But the strategic knowledge that would allow us to free ourselves from these relationships of domination, exploitation, extermination, inequality and unsustainability—although it has the intent of recognizing and emancipating the social imaginaries, alternative forms of knowledge and of life denied and declared non-existent by dominant paradigms—does not necessarily imply an absolute de-Westernized understanding of the world;⁴ that is to say, in order for the globalized World-system to be deconstructed and for other possible worlds to be constructed the reconstruction of knowledges and of another rationalities emerging from the “knowledges of the South,” will have to encounter the established hegemonic economic and epistemic world order and to build their emergent environmental rationalities through a dialogue of knowledges with the critical Western thinking now underway in science, philosophy and ethics. The construction of a counter-hegemonic globalization, based on the differences and particularities of each region and each people, emerges not only from the spirit of emancipation, but also from its ecological and cultural roots. It is from this situated knowledge that Latin American environmental thought contributes an original outlook that opens the doors to “The American Century of our Americas.”

It should not be overlooked that a constituent part of that Eurocentric coloniality is the logocentrism of the sciences that postmodern thought has called into question in regard to its objectifying effects on the world and concentrations of wealth and power, which is tied to the geopolitical centrality with which the socio-environmental degradation of “underdeveloped” countries is associated. But in spite of that critical analysis and emancipatory desire and together with the emergence of new social actors who embody that resistance, a strategy based on a sociological thinking and political epistemology has still not been defined to guide the construction of their sustainable worlds. It is from the radical epistemological concept of the environment, which emerges from the environmental crisis as revealing the limitations of the dominant rationality and the potentialities to construct alternative sustainable societies, that an emancipatory environmental knowledge emerges, rooted in the ecological productivity and cultural creativity of the Southern regions.

Counter-hegemonic globalization—the deconstruction of the one-dimensional oppressive force against diversity, difference and otherness; the force born from the power of the One, the Universal, the General, the Absolute Idea, the Systemic Totality, globalized today under the dominance of economic rationality—demands an epistemological decentralization, a Copernican revolution away from the centrality of modern rational thought that insists on placing itself at the center of human life. This external anchor point is the *environment*—the epistemological concept

⁴ It is not enough to invoke and proclaim a counter-hegemonic globalization that is born on the margins of Eurocentric culture that constitutes a “centrifugal consciousness of opposition,” a “highest awareness of the incompleteness of western culture... in order for social transformation to stop being thought of in Eurocentric terms.” (Ibid, p. 187)

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of the environment. However, the environmental rationality emerging from the externality of the environment, cannot be a new way of thinking born *ex-nihilo*—from the no-thing-ness of its and otherness—as a being, a territory, an order, a space untouched by the totality that has denied and disrupted it. Environmental rationality is forged in the deconstruction of metaphysical, scientific, and postmodern thought—from the territorialization of diversity, difference and otherness—on the basis of ecological potentialities and cultural knowledges that inhabit the regions of the South. It is from these sources of Being that Latin American environmental thought is born and justified.⁵

From that condition of coloniality and dependence, since the early 1970s academic and political mediums have been proclaiming the need to generate endogenous scientific and technological capacities, including ways of applying, adapting and developing science and technology oriented towards development problems of the Latin American nations, including the recognition and reevaluation of indigenous knowledge. But it is not from those indigenous and traditional knowledges, nor from the other extreme—from a simple transfer, application and adaptation of Northern techno-science and the principles of the global geopolitics of sustainable development—that the environmental thought we claim to be Latin American has sprouted.⁶

If it is not only a matter of the appropriation of a logic of the sciences, of ecological thought, or a strategy of “sustainable development” that has been shaped outside of our territories; if it is not a mere application and insertion inside the paradigms, methods and research programs of “normal” science—what would be original and uniquely “Latin American” about that thinking? What elements join together in the unique sources and roots in the forging of Latin American environmental thinking? These questions surely will generate various responses on the part of the precursors, authors and actors that identify themselves with this thought.⁷

It is possible to do a hermeneutic exercise to recognize, from an environmentalist perspective, the authors that can be considered as precursors of our Latin American environmentalism, because they are tied to this vein of thought and body of precepts, principles and formulations in the discursive network of environmental thought that we now claim as our own. From Martí’s affirmation, “There is no battle between civilization and barbarism, but rather between false erudition and nature,” or “The trenches of ideas are more fertile than the trenches of stones;”⁸ from the Latin American Marxism of Mariátegui, who validated the indigenous communist economy that allowed material wellbeing thanks to the collectivist organization of the Inca

⁵ There are no Latin American countries that have a specific and consistent policy of science and technology for sustainability in place.

⁶ It is not for me to determine who forms part of this community of environmentalists, or which is the best or the right way to account for our contributions to our common heritage of thinking. This gives me the freedom to narrate my own history – my visions and convictions – to allow for the others, from inside and outside, to disagree, to dissent and to differ. This is the richness of the cognitive democracy and the dialogue of knowledges that vindicates the Latin American Environmental Thought.

⁷ Cf. José Martí (1963), *Obras Completas*, La Habana: Editorial Nacional de Cuba.

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society, and to the liberation pedagogy of Paulo Freire as a precursor to the pedagogy of the earth and the eco-pedagogy that Leonardo Boff and Moacir Gadotti defend today, we can recognize a lineage of “environmentalist” thought, which has taken root in our life-territories.

Since the environmental crisis emerged at the global level, at the beginning of the 1970s, a group of intellectuals and academics was attracted by the winds and tides of those new ideas and proposals, around which a critical movement and response from Latin America began to sprout. Latin America gave an original response to the publication of *The Limits of Growth*⁹, which announced for the first time the approaching ecological crisis. A study conducted by Amílcar Herrera asked: *Catastrophe or New Society?*¹⁰ It was argued that demographic growth was not the fundamental cause of environmental degradation, nor was this degradation linearly determined by economic growth. Rather, it depended fundamentally on a model of development, and the forms and degrees of environmental deterioration were associated with poverty and with the unequal distribution of income.

Preparatory meetings were held in Latin America for the 1975 Belgrade Conference, which anticipated the first world Conference of Environmental Education held in Tbilisi, Georgia, in 1977. In these meetings, the first ideas of an environmental education guided by emerging ecological and complex thought met, and new focuses and interdisciplinary methods for the understanding and resolution of emerging socio-environmental problems came together.

In 1978, following the pioneering role of Latin American economic thought inaugurated by Raúl Prebisch in the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), Osvaldo Súnkel and Nicolás Gligo conducted a project entitled “Styles of Development and the Environment in Latin America”. For the first time a group of intellectuals came together, which included ecologists who pioneered environmental thought and economists of the ECLAC school to reflect and study the environmental problems of the region. This study led to a seminar of the same name, sponsored by ECLAC and UNEP (United Nations Environment Programme), which was held in Santiago, Chile in November 1979. A selection of these studies was published in 1980 by the Mexican Editorial “Fondo de Cultura Económica” in two volumes under the title *Styles of Development and The Environment in Latin America*, which was a pioneer work in the reflection on dependency and economic development from the environmental perspective.

The 1980s were particularly prolific in terms of stimulating environmental thought and giving expression to it in a series of fundamental texts. It is impossible to detail the extensive literature generated in these years. It is sufficient to highlight some of the publications that followed these first impulses and were key to the formation of a generation of environmental thinkers and administrators. These include pioneer works supported by ECLAC, UNEP and CIFCA (Centro Internacional de Formación en Ciencias Ambientales), such as *Expansion of the Agro-husbandry*

⁸ Meadows, D.H., D.L. Meadows and J. Randers, J. (1972), *Los Límites del Crecimiento (The Limits of Growth)*, FCE, México.

⁹ Amílcar O. Herrera, et al. (1976). *Catastrophe or new society: a Latin American model*. Ottawa, IDRC.

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Frontier and the Environment in Latin America, published in 1983; and *The Environmental Dimension in Development Planning*, published in two volumes in 1986 and 1988. Later, following this line of research on the environmental diagnosis and prospects, as well as the management of the ecological sustainability of development, the results of the project “Technological Forecasting for Latin America” were published. At the same time, the results of the research conducted by the Analysis of Ecological Systems Group during the 1980s were published under the title *The Ecological Future of a Continent: a Prospective Vision of Latin America*. In 1985, anticipating a theme that would, twenty years later, become one of the most critical problems in the world and Latin America, the Commission of Urban and Regional Development of CLACSO (Latin American Council of Social Sciences) would publish the book *Natural Disasters and Society in Latin America*.

Between 1987 and 1989, the Mexican foundation "Fundación Universo Veintiuno" initiated and financed the publication of a collection of eight books that would be fundamental for environmental diagnosis and management in Mexico. These included the following themes: Environmental Rights; Management of Dangerous Industrial Waste; Water Quality and Quantity; Environmental Health; Air Contamination; Rural Production and Ecological Alternatives; Wilderness Fauna and Protected Natural Areas; and Population, Resources and the Environment.¹¹

Step by step, Latin America has followed the civilizing transformation triggered by the environmental crisis, in a sort of critical reflection and participation in world debates. In 1982, CIFCA promoted a discussion about the significance and importance of the Stockholm Summit in Ibero-America¹². In 1987, the Brundtland Report was published with the title *Our Common Future*, outlining the main orientations for a new geopolitics of sustainable development that, five years later, gave origin to the *Principles of Río* and to the environmental program called *Agenda 21*. At that time, a group of intellectuals in Latin America, with the support of UNDP (the United Nations Development Programme) and the Inter-American Development Bank, prepared a document called *Our Own Agenda*, which indicated the positions of Latin America.

One can perceive in these publications a spirit of response to the formulations and proposals that were shaping the global agenda of sustainable development, from critical and purposeful perspectives and within different institutional settings in Latin America. In time, these critical responses would paradoxically become diluted with the institutionalization of the environmental field, shifting to the academic world, civil society and social movements. The Latin American environmental thought that is being shaped into a rethinking of the world from the ecological and cultural roots of our territories is born from a theoretical and political debate, from the ways in which the environmental crisis is expressed, and in the field of strategies of power and power in knowledge in which the meanings of environmentalism and sustainability are defined.

¹⁰ These publications were followed by a collective book on environment and development in Mexico: Leff, E., *Medio Ambiente y Desarrollo en México*, CIIH-UNAM/Miguel Ángel Porrúa, México, 1990.

¹¹ *Diez Años después de Estocolmo: Desarrollo, Medio Ambiente y Supervivencia (Ten Years after Stockholm: Development, the Environment and Survival)*, CIFCA, Madrid, 1983.

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Ecological alarm resounded with the bells of new revolutions of 1960s thought. *The Limits of Growth* was published in 1972, less than one year after the publication of *The Entropy Law and the Economic Process*, in which Nicholas Georgescu-Roegen questions the divorce of the economy from its ecological and thermodynamic bases of sustainability. It is the moment in which the crisis of reason and knowledge is debated, and the step is taken from structuralism to post-structuralism and postmodern philosophy; the irruption of paradigms of complexity, of systemic approaches, of ecological thought and interdisciplinary methods. Those revolutions of thought were filtering into our academic culture. However, the first ideas that had an impact on economic policies and environmental thought were those formulated by the discourse of eco-development.

The first proposals about eco-development found Latin America to be a favorable territory for its promotion. These strategies were expounded by their main proponent, Ignacy Sachs, who was one of the principal architects of the debates and proposals presented at the Stockholm Conference on the Human Environment, which not only spread ecological alarm to the global level, but led to the first concerted efforts to develop policies that would allow for the confronting of the emerging environmental crisis by incorporating an “environmental dimension” into government planning practices.

In those years, many students coming from Latin America (myself included) attended the seminar that Ignacy Sachs developed at the École Pratique des Hautes Études in Paris. These students would return to our countries influenced by these new ideas, which beyond summarizing the expressions of the 1960s counter-cultural movements, announced a *crisis of civilization*. At our return to our home countries, many of us would reintegrate into the academic and political activities, wherefrom those ideas were promoted. Ignacy Sachs himself considered Latin America potentially the most fertile area for receiving his proposals, and during the 1970s traveled to various countries—mainly Mexico and Brazil, in which he had secondary citizenship—in order to promote eco-development. Hence, in 1973 a seminar was organized in Mexico at the highest government level during the term of President Echeverría, in which various high government officials participated.¹³ That meeting would lead to the beginning of the creation of the Center for Eco-development, where the first research aimed at diagnosing the country’s socio-environmental problems and generating policies for development in harmony with ecosystem conditions in Mexico would take place.

Eco-development came to be the driving force in promoting an extensive diagnostic study and study of public policy called “Environmental Systems for Planning” in Venezuela, from which the first Ministry of the Environment arose in 1978. In many ways, these processes represented

¹³A record of this seminar can be found in the journal *Economía Política*, No. 41, “Medio Ambiente y Desarrollo: estrategias para el tercer Mundo” (“The Environment and Development: Strategies for the Third World”), IPN, 1973. An assessment of Sachs’ legacy and the notion of eco-development in Brazil can be found in Paulo F. Vieira, et al. (Org), *Desenvolvimento e Meio Ambiente no Brasil. A Contribuição de Ignacy Sachs (Development and the Environment in Brazil: The Contribution of Ignacy Sachs)*, Ed. Pallotti/APED, Florianópolis, Brasil.

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the application, definition and adaptation of eco-development principles to an incipient environmental development planning, which implied considering the particular socio-environmental and political circumstances, and would motivate the creation of university academic groups, the most well-known being the Brazilian Association of Research and Education in Ecology and Development (APED) in Brazil.

The Epistemological Roots: The Forge of the Concept Environment

At the same time, a more critical process of assimilation and creation of the concept of the environment was started, giving a unique identity to Latin American thought. When environmental problems emerge and economic growth and the very economy itself are questioned for their impact on and responsibility for environmental degradation, the economy responds by affirming, “the environment is an externality of the economic system.” In its self-justifying eagerness, the economy confesses its fundamental flaw: it has built itself on a clear divorce from, and ignorance of, natural, ecological, geophysical, and thermodynamic conditions within which it operates; that is to say, its conditions of sustainability. In this way, an initial idea of the *environment* as a joint space between society and nature, a place to which we would have led the disjunction between the object and the subject of knowledge, the mind-body duality, the separation between mnemonical and social sciences.

A more careful investigation of the constitution of the sciences as conceptual structures built around a nucleus-object of knowledge led us to understand the space of exclusion that occupies the environment in the universe of the “centered formations” of modern sciences. From George Canguilhem and Jacques Derrida, an epistemological inquiry unfolded and was particularly fruitful in forging the identity of Latin American environmental thought. Following the perspectives of French critical rationalism from Gaston Bachelard to Louis Althusser and Michel Foucault, it was possible to begin an epistemological reflection in which the environment was defined as an *otherness* to dominant scientific rationality, beyond the holistic perspectives that were shaping theoretical systems and emerging ecological thought. In this way, it was possible to transcend a merely empirical and functional conception of the environment, as the *milieu* surrounding a population, economy and society. Beyond identifying economic, political, and social causes tied to a collection of socio-environmental problems—contamination, deforestation, ecological degradation, soil erosion, global warming—this epistemological view transcended the stance of systems theories and the holistic visions that led to a will for interdisciplinary integration of existing sciences as a way of resolving the fragmentation of knowledge as an associated cause of the environmental crisis.

The environment was not, then, the junction of fragmented disciplines, focused on their own autonomous objectives of knowledge; it was not a simple “environmental dimension,” which continuing the vectorial and factorial, ecological and cybernetic focuses, could be internalized within the systemic approaches and planning practices within the established paradigms of knowledge or serve as the unifying thread capable of weaving the transversality of “the environmental” through the dispersed and dismembered body of knowledge.

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The environment was formed in a *field of externality to the logocentrism of science*, as the “other” of established scientific theories. From that position, emerging *environmental knowledge* problematizes the “normal” scientific paradigms and promotes their transformation in order to generate environmental branches of knowledge. In this sense, environmental epistemology goes further than interdisciplinary proposals that pretend to induce a hybridization between natural and social sciences to generate the so much needed and desired environmental sciences, or to create new disciplines and transdisciplinary methods capable of approaching complex emerging socio-environmental problems.¹⁴

These new epistemological perspectives arose in Latin America; they were not produced in Europe as a development of French critical rationalism in the step from the structuralist *episteme* towards the nascent ecologist *episteme*. Despite its indubitable harmony with the complex thinking that arose during those times in the work of Edgar Morin, the production of the concept of the environment was acquiring a unique identity.

An *epistemofilic drive* was the propitiator of these reflections and theoretical productions that, upon acquiring a collective character, led a series of theoretical reflections and research projects. In this way, at the Mexican Association of Epistemology, we organized a *First Symposium on Ecodevelopment*, at UNAM in November 1976. Scientists from many diverse disciplines gathered there to reflect and debate the way the emerging environmental crisis could be related to their fields of knowledge. This resulted in the first forum in which the idea was expressed that the environmental crisis was decurrent from the forms of knowledge, economic rationality, and the logocentrism of science. Although the proposal seemed preposterous to the philosophers and epistemologists present there (among whom was Mario Bunge), this *inquietude* showed its resilience and kept it alive.

In those years, the International Center of Training in Environmental Sciences (CIFCA), by an agreement with the Government of Spain and UNEP, which became the institution that, --from its founding in 1976 through its disappearance at the end of 1983-- most strongly stimulated the development of an Ibero-American and Latin American thought through seminars that it organized, as well as its publications. In these seminars, which attracted many Latin American academics to reflect about the environmental question, the theme of the “Articulation of the Sciences for Environmental Management” was included. The interest in those debates led to the formulation of a research project during 1981-1983, which concluded with the publication of the book *Los Problemas del Conocimiento y la Perspectiva Ambiental del Desarrollo (Problems of Knowledge and the Environmental Perspective of Development)*.

This was the first test of that epistemological inquiry—that was above all a conceptual production—showing the fecundity of looking at different disciplines from the standpoint of environmental *savoir*. Along with the development of new focuses of complex systems, and a

¹⁴ Cf. Enrique Leff, “Sobre la Articulación de las Ciencias en la Relación Naturaleza-Sociedad” (“On the Articulation of the Sciences in the Nature-Society Relationship”), in Leff, E. (ed.), *Biosociología y Articulación de las Ciencias (Biosociology and the Articulation of the Sciences)*, UNAM, México, 1981.

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critical analysis of the coordination of sciences and interdisciplinarity, incipient fields and innovative theories began to be fertilized in the fields of economy, ecology, anthropology, architecture, rural sociology and law, and applied problems such as urbanism, integrated resource management, development planning and environmental law. This book opened the way toward a new project focused on social sciences and environmental education at the university level, whose texts were published in 1994 under the title of *Ciencias Sociales y Formación Ambiental (Social Sciences and Environmental Education)*.

The epistemological inquiry, which starts from that critical concept of the environment, would sow a seed that fertilized the field of Latin American environmentalism. This led to a whole theoretical path that stimulated a critical revision of many of the most important theorists of modernity, from Karl Marx and Max Weber, to Martin Heidegger, Emmanuel Levinas and Jacques Derrida, in order to attract their thoughts and transform them from the roots of the ecology and the culture of Latin American territories. This epistemological odyssey that was traveling from eco-Marxism to a revision of existential ontology did not imply a mere influence of European thought on American lands. The theories arising in Europe were transformed from a critical perspective that is born in the sources of ecological potentials and the cultural diversity of our continent, and were fertilizing new fields of political ecology in Latin America. The concept of the *environment as potential* is typically and uniquely Latin American. From this epistemological field unique proposals about the *environmental complexity* arose—beyond complex thought and the sciences of complexity—and to move from the critique of interdisciplinarity and systems theories toward the dialogue of knowledges to sow sustainabilities.¹⁵

A clear mark of the identity of Latin American environmental thought comes from the demarcation between environmentalism and ecologism. In Latin America, there is a strong body of ecologists that have been making valuable contributions to ecological science and to environmental politics of the region, and from which a vast ecologist movement has derived, which in many of its proposals and actions is not clearly distinguishable from environmentalists. However, despite being the most marginal and least visible environmentalism in academic fields, it is there where the radicality of a deconstructive thinking arises and affirms itself.

Among the sources of ecologism, that have influenced Latin American environmentalism we have to mention the following: complex thought (Edgar Morin), deep ecology (Arne Naess), ecology of the mind (Gregory Bateson), eco-anarchism (Murray Bookchin), eco-Marxism (James O'Connor), ecological economics (Joan Martínez-Alier), the Gaia Theory (James Lovelock), and the web of life (Fritjof Capra). At the same time, we should recognize veins that have had their sources of creativity and practices in Latin American regions. Among those we find the

¹⁵ Cf. Enrique Leff (2006), *Aventuras de la Epistemología Ambiental. De la Articulación de las Ciencias al Diálogo de Saberes (Adventures in Environmental Epistemology: On the Articulation of the Sciences to the Dialogue of Knowledges)*, Siglo XXI Editores, México.

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methodology of interdisciplinary research of complex systems theories of Rolando García¹⁶; in the field of cognitive sciences, the *autopoiesis* of Francisco Varela and Humberto Maturana, which have transcended the borders of the region and have inspired the environmental ethics of Latin American authors; the concept of *development at the human scale* of Manfred Max-Neef, Antonio Elizalde, and Martin Hopenhayn; the social ecology developed by CLAES; the foundation of a Latin American Society of environmental history¹⁷; a methodology for the development and application of accounting for the environmental heritage of Latin America¹⁸; the contributions to eco-Marxism and the proposal of a new productive paradigm based on a ecological-technological-cultural productivity –a new economy based on a negentropic productivity- as the basis of sustainability of an environmental rationality.¹⁹

Environmental epistemology enables a demarcation between the Latin American currents of ecologism and environmentalism, from where it is possible to mark the difference between the concept of sustainability and the discourse of sustainable development. In this way, in the context of the discourse of the decolonization of knowledge, the externality and radicality of the epistemological concept of environment offers a point of support for the deconstruction of the non-sustainable rationality of modernity and for the construction of alternative sustainable worlds guided by an environmental rationality.²⁰

¹⁶ Rolando García is correct in claiming that “the method” has been a contribution of his research, which is truly a Latin-American contribution, rather than the work of Edgar Morin, which carries the same title and corresponds more to the field of ecological and complex thought.

¹⁷ Cf. Guillermo Castro (1996), *Naturaleza y Sociedad en la Historia de América Latina (Nature and Society in the History of Latin America)*, CELA, Panamá.

¹⁸ Héctor Sejenovich y Guillermo Gallo Mendoza (1996), *Manual de Cuentas Patrimoniales (Guide to Natural Heritage)*, México: PNUMA / Fundación Bariloche / Instituto de Economía Energética.

¹⁹ Enrique Leff (1994), *Ecología y Capital; Racionalidad Ambiental, Democracia Participativa y Desarrollo Sustentable (Ecology and Capital: Environmental Rationality, Participatory Democracy and Sustainable Development)*, Siglo XXI Editores/UNAM, México.

²⁰ What is in dispute is not only the possible meanings of sustainability as a play of languages and a dialectic of rationalities. What is at stake are the possible social constructions of a sustainable future. Hence, in confronting the diatopic rationality and the sociology of absences proposed by Boaventura de Sousa Santos with the purpose of recognizing diverse knowledges and experiences blocked by metonymic rationality and to give strength to the proliferation of alternatives through its “translation”, the environmental rationality offers a starting point for the epistemological deconstruction of the dominant universal rationality and the logocentrism of the sciences, projecting itself towards the constructing of a sustainable world where the different matrices of rationality articulate themselves in a dialogues of knowledges and practices rooted in the ecological potentialities and the creativities of the communities. This opens a politics of co-inhabitation and co-existence in diversity where no literal translation is possible. The dialogue of knowledges established by the environmental rationality embraces a ontology of difference and an ethic of otherness, in which cultural encounters embrace harmonies, empathy and solidarities – even reciprocal interpretations and cultural hybridizations—in their diversities and differences, but where their “isomorphisms” do not lead toward a translation which could recover an ideal re-totalization of the world –in knowledge and worldlives- as promised by systems theory, or at the level of social consensus, by the communicative rationality of Habermas. The principle of otherness leads to a new political ethics of “convivencia” (of living within

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Culture, Territory and Sustainability

One of the richest springs of Latin American environmentalism is the study of the relations between culture and nature. Contrasting with the perspectives that have been generated in the North, based on different eco-sophies, the ecologization of the economy and technological innovations aimed at the de-materialization of production, in Latin America a vision of sustainability founded on the relationship held by traditional, indigenous, and rural societies with their environment has been gaining strength. Beyond a generic ecological culture, and the necessity of providing sustainability to rural societies, the idea of a sustainable development founded on the knowledge and cultural wisdom about the biological richness and the potential ecological values of the region has been proposed.²¹

These researches and practices about the cultural management of nature have been nourished by a rich tradition of ethnobotanical, ethnoecological and agricultural studies which came from John Murra's research on the Incas' ecological floors and landscaping; the pioneer texts of Angel Palerm and Eric Wolf on the cultures and ecological potentialities of Mesoamerica; the studies about Mexican agro-ecosystems of Efraím Hernández Xolocotzi. In 1972, Wolf and Palerm published a text that would come to inspire a new vision of Mesoamerican civilizations—that we could well extend to the whole Latin American tropics and the countries of the South—in which “development” seems to be founded on ecological potentiality.²² From this perspective, the environment is being understood as a potentiality, not as the environmental costs of development, which is the vision that predominates in the economic approaches of the North. If the richness and cultural diversity of the South, and the South American territories, were the “melting pot” for the best anthropological theories and the academic culture of the ethno-sciences (from Claude Lévi-Strauss to Philippe Descola), the ethno-ecological studies opened perspectives to look beyond the study of culture in itself, beyond culture as an object of ethnological research, in order to consider it as biocultural heritage and a source of new perspectives on sustainability.²³

nature and with others) among differences and that are irreducible to any unity and even to the pretension understanding of the other and reducing any otherness to myself.

²¹ Cf. Enrique Leff y Julia Carabias, Eds. (1993), *Cultura y Manejo Sustentable de los Recursos Naturales (Culture and Sustainable Natural Resource Management)*, 2 volumes, CIICH-UNAM/Miguel Ángel Porrúa, México.

²² Erik Wolf and Ángel Palerm (1972), “Potencial ecológico y desarrollo cultural en Mesoamérica” (“Ecological potential and cultural development in Mesoamerica”) en *Agricultura y Civilización en Mesoamérica*. México, SepSetentas, No. 32.

²³ Cf. Víctor Manuel Toledo (1994), *La apropiación campesina de la naturaleza: un análisis etnoecológico (Peasant Ownership of Nature: An Ethno-Ecological Analysis)*, Tesis de doctorado, UNAM, México; Eckart Boege (2009), *El Patrimonio Biocultural de los Pueblos Indígenas de México. Hacia la conservación in situ de la biodiversidad y agrobiodiversidad en los territorios indígenas (The Biocultural Heritage of the Indigenous People of Mexico: Toward an in situ Conservation of Biodiversity and Agrobiodiversity in Indigenous Regions)*, Instituto Nacional de Antropología e Historia/Comisión Nacional para el Desarrollo de los Pueblos Indígenas, México.

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From here, one of the most promising practical fields has been derived to root Latin American environmental thought in sustainable practices. I refer to the theories and practices of agro-ecology and agro-forestry, which have become a subject of theoretical-practical debates in the field of political ecology, in the confrontation of productivist models with new strategies of sustainable agriculture which are constituting new paradigms and social actors in the construction of sustainability.²⁴

Here, the theoretical-philosophical-political proposal of the construction of an environmental rationality is sowed in a practical field, where ecological potential, technological productivity and cultural creativity come together in new agro-ecological and agro-forestry strategies, in a dialogue of knowledges between ecological and agronomic sciences with indigenous and peasantry wisdom, in a process of cultural, technical, and social re-appropriation of nature. Thus, new social movements and strategies for conservationist and productive management of ecological potentialities and biological diversity are emerging, guided by principles of political autonomy and cultural identity such as the extractive reserves of the *seringueiros* (rubber tappers) in Brazil, the practices of the forest communities in Mexico, the cultural management of biodiversity of the *Proceso de Comunidades Negras* (*Process of Black Communities*) in Colombia, and so many other agro-ecological and agro-forestry processes emerging in different cultural territories in Latin America.

Geography itself also offered an innovative field for looking at the relationships between culture and nature. Focusing on the ecological conditions and critical problems of Latin American populations, a new school of Latin American environmental geography has emerged, where the names of Josué de Castro and Milton Santos stand out. New approaches in cultural anthropology and environmental geography have been attracted to this field by principles of territorialization and a politics of difference²⁵, and in studies and projects of cultural emancipation and re-appropriation of nature that have irrupted in recent times, from the Mapuche people in the south of the continent to the Comcaac people in the arid northern region of Mexico, from the Amazonic ecosystems and the “cerrados” landscapes in Brazil, from tropical ecosystems to the arid and temperate zones, from mountain to water ecosystems (from high lands agriculture to sea-level aquaculture and fishing communities), in the construction of sustainability based on the *cultural being* of the indigenous people of Latin America.

Environmental philosophy has been another fertile field of Latin American environmental thought—a field begun by the Uruguayan Daniel Vidart, who, in his political refuge in

²⁴ Cf. Miguel Altieri (1987), *Agroecology: the scientific basis of alternative agriculture*. Boulder Co., Westview Press; Laksmi Krishnamurthy y Marcelino Ávila (1999), *Agroforestería Básica*, PNUMA, Red de Formación Ambiental para América Latina y el Caribe, Textos Básicos para la Formación Ambiental, No. 3, México.

²⁵ Cf. Carlos Walter Porto Gonçalves (2001), *Geo-grafías. Movimientos Sociales, Nuevas Territorialidades y Sustentabilidad* (*Geo-graphies: Social Movements, New Territorialities, and Sustainability*), México, Siglo XXI Editores; Arturo Escobar (2008), *Territories of Difference: Place, Movements, Life, Redes*, Duke University Press, Durham & London.

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Colombia, published *Filosofía Ambiental: epistemología, praxiología, didáctica (Environmental Philosophy: Epistemology, Praxiology, and Didactic)* in 1986. This field of philosophical reflection found a place above all in the "Institutos de Estudios Ambientales" (IDEA) (Institutes of Environmental Studies) that began to be established in Colombian universities after the First Seminar on University and the Environment in Latin America and the Caribbean, held in Bogotá in 1985. Since the creation of IDEA at the Universidad Nacional de Colombia, the construction of an Environmental Thought has been one of its top priorities, as a response to the ecological and technological reductionism of the study of environmental problems and their solutions. This source of environmental philosophical thought found a nourishing place in Colombian universities and spread out to different forums through a Network of Nodes of Environmental Thought begun by an educational program led by the National University of Colombia in Manizales.

If all Environmental Philosophy was derived from an ecosophy that aims to overcome the legacy of metaphysics, of Cartesianism and Kantianism, of positivism and neo-positivism, Latin American environmental philosophy aims to be an inclusive, integral, and holistic system of thought; a thought that takes root in the ecosystems inhabited by cultures with their worldviews and their philosophies of life. This Latin American thought opens itself to the thoughts of others and to an ethics of Otherness; an ethics of the earth, of sustainability and of life; a philosophy that allows for the bonding of nature and the spirituality of the people;²⁶ a philosophy that from the pre-Socratic to modern philosophers recovers "The Reason of Life"; that allows for the re-enchantment of the world.²⁷

Environmental Education

The educational system is a privileged area to be able to induce the changes in thinking, behavior and ethics, for the social transformation that the construction of sustainability demands. While environmental education has failed to transform the institutional educative systems in Latin American, and continues to be marginalized within the priorities of the educational community, it is at the same time the area in which Latin American Environmental Thought has been established and spread with the greatest force and clarity. These spaces have been promoted and organized by National Networks of Environmental Education in different countries and have found in the Ibero-American Congresses of Environmental Education moments of reunion, re-affirmation, and projection of the environmental educational perspectives since 1992. Beyond their importance for the establishment of national laws, policies, and strategies for environmental education, those involved in these processes have created a real social movement for environmental education, beyond educational institutions and along with public policies and

²⁶ Leonardo Boff (1996), *Ecología: grito de la tierra. Grito de los pobres (Ecology: Cry of the Earth, Cry of the Poor)*, Madrid: Trotta; Leonardo Boff (2001), *Ética Planetaria desde el Gran Sur (Planetary Ethics from the Great South)*. Madrid: Trotta.

²⁷ Augusto Ángel Maya, *La Razón de la Vida (The Reason of Life)*, 11 volúmenes, Universidad Nacional de Colombia, Cuadernos de Epistemología Ambiental, Bogotá, Colombia; Patricia Noguera (2004), *El reencantamiento del mundo (The Re-Enchantment of the World)*. México-Manizales: PNUMA-Universidad Nacional de Colombia.

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social forums in which they developed. What gives identity to these processes and their proponents is the concept of the environment as a keystone of Latin American environmental thought. It is only from that critical definition of the environment that it has been possible for critical perspectives to be established that prevent it from being seduced by and succumbing to the ravages of “education for sustainable development.”

Within this environmental education movement organized through national and regional networks of educators an array of graduate studies and postgraduate programs on the environment and sustainability have been developing in Latin American universities. But perhaps the most significant process in this arena was the one begun by the Confederation of Education Workers of the Argentine Republic (CTERA) which generated a pedagogical revolution mobilized by environmental knowledge. Through the Specialization course on Environmental Education for Sustainable Development of the Marina Vilte School of CTERA, a new generation of educators was formed since the year 2000, in a process that radiates towards Argentine society. This is one of the most exemplary and unprecedented examples of the transformative capacity of Latin American environmental thought.

These processes have also inseeded new and unprecedented programs. In November 2006, the Center of Socio-environmental Wisdom and Care for the La Plata Basin was created. It is a strategic alliance between the Itaipú Binacional (the biggest hydroelectricity enterprise in the region located on the border of Brazil and Paraguay), the Ministries of the Environment, and select groups of environmental citizens of five member countries—Argentina, Bolivia, Brazil, Paraguay, and Uruguay. Through a strategy of environmental education and training based on the methodology of learning circles, the Center has planned the training of 4,500 socio-environmental actors by 2010, capable of establishing conservation, care, and sustainable production projects in those diverse and fertile ecological and cultural regions.

Professional Environmental Networks and Associations

Latin American environmental thought has been forming and seeping into various disciplinary and institutional fields in which professional identities have been reforming and reconfiguring behaviors and practices that have fed social movements. One way of assessing the establishment, sedimentation, and influence of environmental thought is through the creation of associations, societies, and networks as places for the organization of discussions, institutional processes, and social actions. While it is impossible to provide an exhaustive list, it is relevant to highlight the establishment and work of the following programs:

- National Association of Graduate Studies and Research in Environment and Society (ANPPAS, Associação Nacional de Pós-Graduação e Pesquisa em Ambiente e Sociedade) in Brazil.
- Latin American Center for Sustainable Development (CLADES, Centro Latinoamericano de Desarrollo Sustentable)
- Latin American Center for Social Ecology (CLAES, Centro Latino Americano de Ecología Social)

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- Latin American Forum of Environmental Sciences (FLACAM, Foro Latinoamericano de Ciencias Ambientales)
- Working Group of Political Ecology at the Latin American Council of Social Sciences (Grupo de Trabajo de Ecología Política- Consejo Latinoamericano de Ciencias Sociales, CLACSO)
- Ibero-American Network of Ecological Economics (Red Iberoamericana de Economía Ecológica, REDIBEC)
- Environmental Thought Network (Red de Pensamiento Ambiental) in Colombia.
- Latin American and Caribbean Society of Environmental History (Sociedad Latinoamericana y Caribeña de Historia Ambiental, SOLCHA)
- Latin American Scientific Society of Agro-ecology (Sociedad Científica Latinoamericana de Agroecología, SOCLA)

Among these programs, it is appropriate to mention the Environmental Training Network for Latin America and the Caribbean (*Red de Formación Ambiental para América Latina y el Caribe*), which was established as a regional cooperative program among governments, universities, training centers, educational systems, professional associations, and civil society organizations for the promotion of environmental education and training in the region. In addition to collaborating with the various centers, associations, networks, and professional societies mentioned above, the Network, established in UNEP in 1982, promoted and accompanied the establishment of National Networks of Environmental Education, as was the case with the Colombian Network or the Network of Environmental Education and Research in Guatemala, as well as numerous regional courses on critical themes for Latin America in the fields of agro-ecology and agro-forestry, environmental education, ecological economy, and trade and the environment.

Through this Network, a full editorial line developed, which included a series on Latin American Environmental Thought, in which the ideas of a group of major proponents was diffused.²⁸ This thought was synthesized in the *Manifiesto for Life: Towards an Ethic of Sustainability (Manifiesto por la Vida: Por una Ética para la Sustentabilidad)*, which was compiled by a group of thinkers as a Latin American contribution to the Johannesburg World Summit on Sustainable Development in 2002, and which has become a theoretical, ideological and ethical source and reference of diverse educational programs and political processes in Latin America.²⁹

It is in this sense that Latin American environmental thought has taken shape and forged its own identity, rooted in the life territories of its people and nations, in our educational systems, and that will continue fertilizing new modes of production and new ways of living together based on the cultural diversity and the ecological potentialities of the region, in an ethic of responsibility towards nature and care for life.

²⁸ Cf. www.pnuma.org/Red de Formación Ambiental/Publicaciones

²⁹ Cf. www.pnuma.org/Manifiesto por la Vida.

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However, environmental thought has a debt to pay and a way still to go.

The debt is that of building a plural dialogue, direct and close with the indigenous and popular knowledges of the people of the region. Only from putting this dialogue into practice can there emerge a *political ethic of difference* which orients the cultural re-appropriation of the common heritage of humanity; a democratic and participatory management of the commons that delinks from a totalitarian regime of meaning on nature and from the dominance of the World economic order: which neither submits to the merchandizing of nature, nor to an ecological order, nor to a general sense of the being pretending to unify the views and interests of the people, that are differentiated by nature and by life. Apart from a hegemonic or dominant rationality that forces a consensus in a unified knowledge, the solidarities that must be forged to construct a sustainable future for Latin America and for the world as a whole, must recognize their differences, their irreducible othernesses in a common sense which cannot be other than a future led by the heterogeneity generated by biocultural diversity.

These are the paths opened by a way of thinking that generates new meanings and orients new actions which nourishes itself with the sap of the cultural knowledges and the ecological potentialities of the living planet that we inhabit, in a movement of social transformation which is sowing new territories of life and defining the horizons of a sustainable future.