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Chapter 8

Earth Stewardship and the Biocultural Ethic: Latin American Perspectives

Ricardo Rozzi

Abstract Latin America hosts a diversity of ecological worldviews and practices rooted in Amerindian cultures (e.g., Aymara, Quechua, U’wa, and Waorani) and schools of thought (e.g., geoculture, decoloniality, liberation philosophy and eco-theology) that have actual and potential value for Earth Stewardship. However, global discourses do not adequately include the diversity of languages and ethics rooted in the heterogeneous biocultural mosaic of Latin America and other regions. This is due in part to the limited *inter-linguistic* and *inter-cultural* dialogue among academics, educators, and policy makers that reside in different regions of the world. To contribute to solving this deficit, this chapter couples the conceptual frameworks of Earth stewardship and the biocultural ethic to foster: (i) inter-cultural dialogues and negotiations that fracture the current homogeneity of neoliberal global discourses through the acknowledgement and inclusion of the diversity of ecological worldviews, values, and languages, and (ii) forms of biocultural inter-species co-inhabitation embedded in the diversity of habitats and life habits. A basic principle of the biocultural ethic is that life *habits* are interrelated with the communities of *co-in-habitants* and their *habitats*. These “3Hs” of the biocultural ethic offer a conceptual framework that can be coupled with three terms that identify Earth Stewardship: the habitats of the *Earth*, the habit of *stewardship*, and the communities of co-inhabitants including the *stewards*. This coupling makes explicit the participation of diverse stewards. To better recognize the stewards’ diversity is essential to identify their differential responsibility in the genesis of global environmental change, at the same time that to visualize and value a plethora of ways of conceiving and practicing Earth stewardship.

Keywords Biocultural • Environmental justice • Intercultural • Liberation philosophy • Traditional ecological knowledge

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8.1 Naming the Diverse Earth Stewards

Earth is not only a biophysical entity, but it is also a word. A word that influences the way we understand and relate to the biophysical reality of the planet. Very often scientists forget the gravity of words, and focus their research on the biophysical reality. Conversely, philosophers often focus on examining the language of cultural reality, ignoring the biophysical realm. The biocultural ethic unites biological and physical realities with human cultural attainment. It provides Earth stewardship with a conceptual framework that integrates the biophysical and symbolic-linguistic realms of reality (Box 8.1), and explicitly integrates the concept of stewards. What is named exists in language and communication. Therefore, it can be included in analyses and evaluations. *Earth stewardship* is composed of two words, but the concept implies a third term: *stewards*. Naming these stewards allows us to better distinguish particular agents that have different types and degrees of impact and responsibility in causing the global environmental change we face today.

Box 8.1. Language: Human's Biocultural Lenses

Humans participate not only in the biophysical, but in the symbolic, cultural, and linguistic structures and processes of biocultural landscapes. Human perceptions and understanding of biological diversity are embedded in language, culture, and technology. The compound term *biocultural* makes explicit the role that the “cultural lenses” of any human “observer” (including scientists with their research methods, and conceptual taxonomies) have in shaping the construction and interpretation of biodiversity concepts. In turn, the ways humans perceive and understand biodiversity and their environment influence the ways humans inhabit ecosystems, and modify the structure, processes, and composition of living beings, from molecular to global scales. To illustrate this point, it is helpful to look at an example of two contrasting languages, Amazonian Waorani and English, regarding the way they refer to forest ecosystems.

The Waorani word *ömö* defines forests as *worlds inhabited by countless sentient beings*, who share with humans the same home, dispositions, values, and culture (Rival 2012). This *human-forest kinship* implicated in the word *ömö* stimulates the performance of rituals, and today it encourages Waorani people to protect their forests and oppose oil extraction in the Yasuní National Park (Sawyer 2004; Finer et al. 2009). In contrast, the English word *woodland*, implies that forest ecosystems are a *land of wood*. The focus on wood can lead to a further narrowing of mentality for understanding forest ecosystems because: (i) the existence of the many *non-woody beings* is excluded from language; (ii) *trees* may be interpreted as *mere resources*, for either fuel or building materials (Rozzi and Poole 2011). These contrasting definitions of forest ecosystems illustrate how concepts embedded in language influence both ecological practices (the ways in which humans transform other species and the environment), and ecological knowledge (the ways in which humans perceive other species and their environment) (cf. Rozzi 2001).

(continued)

Box 8.1. (continued)

By fostering an understanding of the multiple representations and classifications of biological diversity in various languages, this biocultural method can help constitute a new – global but regionally heterogeneous – covenant to sustain the *human-earth-system* (*sensu* Chapin et al. 2009). The need to de-construct and re-construct language, and to learn from the *ecologies of others* (*sensu* Descola 2013) is urgent for defending life (human and other-than-human) and fostering bioculturally diverse and complementary forms of Earth stewardship.

Chapin et al. (2011a, p. 44) point out that “a century ago, stewards were responsible for managing estates or for keeping order at public events. Today, the Earth is one global estate, and improved stewardship is vital for maintaining social order and for preserving life on Earth.” In 2010, the Ecological Society of America (ESA) launched the “Earth Stewardship Initiative” to confront an environmental crisis that is now global in scope, rapidly worsening, and potentially catastrophic for human civilization. The ESA’s Earth Stewardship Initiative provides a social–ecological framework for sustaining life in a rapidly changing world. The biocultural ethic’s conceptual framework helps us to better understand that although the Earth is one global estate, there is a diversity of Earth stewards with their languages, cultures, social, and ecological practices that generate contrasting positive and negative socio-environmental impacts. Instead of making responsible the species *Homo sapiens*, in general, we should identify particular responsible agents (social groups, corporations, nations) of the current socio-environmental crisis. Unsustainable practices and agents that are detrimental to sustaining life need to be sanctioned and/or remedied; complementarily, more sustainable worldviews, forms of knowledge, values, economic, and ecological practices should be respected and eventually adapted as we develop new modes of Earth stewardship (Rozzi 2013).

The Earth Stewardship Initiative of the ESA (*sensu* Chapin et al. 2011a, b, and 2015 in this volume [Chap. 12]) aspires to contribute to a responsible administration of the planet. For this initiative to be respectful of the biophysical, linguistic, and cultural diversity of the planet, an inter-cultural and inter-regional dialogue is required. To contribute toward this aim, in this chapter I apply the conceptual and methodological frameworks of the biocultural ethic (*sensu* Rozzi 2012) to recognize and value the diversity of stewards, integrating their symbolic-linguistic and biophysical realities.

A basic principle of the biocultural ethic is that life *habits* are interrelated with the communities of *co-in-habitants* and their *habitats*. These “3Hs” of the biocultural ethic offer a conceptual framework that can be coupled with the three terms that identify Earth stewardship to better visualize the differential roles of diverse stewards: the habitats of the *Earth*, the habit of *stewardship*, and the communities of *co-inhabitants* (humans and other-than-humans) including the diverse *stewards* (Fig. 8.1). To do this analysis, I draw on Latin American traditions of environmental thought with a dual purpose of (1) examining little known concepts and practices of stewardship, and (2) developing a conceptual framework that can be used for similar analyses in other regions of the planet.

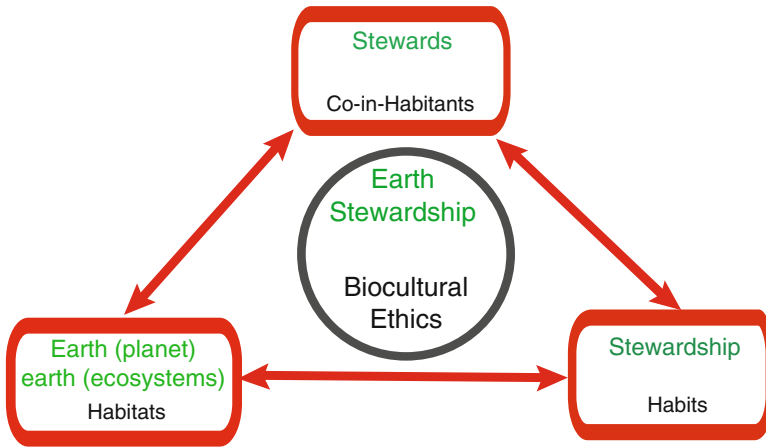


Fig. 8.1 The “3Hs” of the biocultural ethic coupled with the three core components identified for Earth Stewardship: habitat/*Earth*, habit/*stewardship*, and co-inhabitants/*stewards*

8.2 Amerindian, Scientific, and Pre-Socratic Perspectives on South American Co-inhabitation

The cultural and biogeographic identity of South America is marked by the presence of the Andes Cordillera, which crosses the continent north–south from Colombia to Chile. Soared over by the emblematic Andean Condor, this mountain range influences both (1) the symbolic-linguistic realm of the worldviews associated with environmental stewardship and philosophies, and (2) the biophysical realm of the heterogeneous mosaic of ecosystems in this continent.¹ According to the worldview of the pre-Incan civilization of Tiahuanaco, in ancestral times *Viracocha* (one of the most important deities for this primordial South American culture) emerged from Lake Titicaca in the heights of the Andes and created the sun with his radiant light, the rain and water with his tears, as well as the heavens, the stars, the humans and the other living beings that inhabited the region (Fig. 8.2).

This Andean cosmogony points out that humans share a common origin with all other-than-human beings. *Viracocha* is the source of both the biophysical entities and the order of the world; humans participate in both a cosmic community and a cosmic order. This Andean cosmology is similar to ancient Greek pre-Socratic cosmologies, which represent the philosophical roots of Western civilization. In the Quechua Andean

¹The distinction of these two interwoven realms, the bio-physical and the symbolic-linguistic-cultural, is essential to the biocultural ethic (Rozzi 2012, 2013). Under this biocultural perspective, the term philosophy abandons its disciplinary character, which currently prevails in academia. Instead, I emphasize the plural character of philosophy, with its diversity of ways of understanding the natural world and of co-inhabiting in it, with in particular ecological and cultural contexts. The plural character of philosophy concurs with the conceptual framework developed by Raul Fernet-Betancourt for a Latin American intercultural philosophy (Fernet-Betancourt 1994).



Fig. 8.2 The iconic figure of *Viracocha* in the center of the Sun Gate in Tiahuanaco in the highlands of Bolivia was sculpted in stone 2,200 years ago. *Viracocha* is surrounded by 48 winged guardians, of which 32 have human faces and 16 have condor faces, illustrating how deities, humans, and nature have been and are still united in Amerindian worldviews and lives (Photograph Héctor Morales Deramond)

language, the name *Viracocha* is transcribed today as *Wairacocha* that means *waira* (wind) and *cocha* (lake, sea), or as *Ticci Vira Cocha Pachayachachic* that means the source of fire, earth, water, and air; i.e., the four pre-Socratic essential elements.

Viracocha also played an essential role in bringing order onto an originally chaotic world (Kusch 1962), a worldview reminiscent of Heraclitus's notion of *logos* or order (see Callicott 1994). Both ancestral cosmogonies—the Andean and the Heraclitean pre-Socratic—, in turn, have elements in common with current ecological scientific worldviews. The science of stoichiometry has determined that humans and all living beings are composed of the same major chemical elements. Moreover, planet Earth also shares the same basic chemical elements with the rest of the material bodies of the cosmos. Biogeochemical sciences have discovered ecological cycles of energy and nutrients in which humans participate, and geology and astronomy have disclosed dynamic exchanges of energy and chemical elements at the planetary scale (Schlesinger and Bernhardt 2013). The notion of *participation* embedded in these Andean, pre-Socratic, and scientific worldviews provides a solid foundation for both Earth stewardship and biocultural ethics. For Earth stewardship, the understanding that humans *participate* in the structure and order of the biosphere and the cosmos implies that appropriate forms of stewardship and governance need to adjust to such order, which is the condition of possibility for life. For biocultural ethics, the *ontological notion* of *participation* provides a foundation for the *ethical notion* of *co-inhabitation*.

The Andean backbone hosts the highest mountain peaks in the Americas and gives origin to an assemblage of vast and contrasting ecoregions that include the

extensive Puna and Paramo in the high Andean Altiplano, the world's largest tropical forests in the Amazonian basin, the world's largest wetlands in the Pantanal, the widespread grasslands, savannas, and dry forests in the Gran Chaco, the world's driest habitat in the Atacama desert, and the most extensive area of Southern Hemisphere temperate and sub-Antarctic forests and fjords in the archipelagoes of southwestern South America ([Olson et al. 2001](#); [Spalding et al. 2007](#); [Abell et al. 2008](#)). In the twenty-first century, these ecoregions host the world's greatest diversity of plants and most animal groups, and are still inhabited by endemic cultures with their languages and worldviews ([Guevara and Laborde 2008](#)). For a planetary-scaled initiative, such as the ESA's Earth Stewardship Initiative, to be effective, however, it is essential that the richness and value of regions such as the intricate South American reservoir of biological and cultural diversity are better acknowledged by the discourses and policies that govern global society.

South American ecosystems play a critical role in the world's regulation of climate and conservation of biodiversity, and support a plethora of cultures with ancestral and contemporary ecological worldviews and sustainable practices. The value of these worldviews and practices for Earth stewardship has only recently begun to be considered by academics ([Rozzi 2001](#)). Neither do global discourses and environmental policies adequately include the diversity of languages and ethics rooted in the heterogeneous biocultural mosaic of South America and other continents. This is due in part to the limited *inter-linguistic* and *inter-cultural* dialogue among academics, educators, and policy makers that reside in different regions of the world ([Li et al. 2015](#) in this volume [Chap. 13]). In order to contribute to solving this deficit, a specific purpose of this chapter is to provide conceptual elements for:

- (i) facilitating inter-cultural dialogues and negotiations that acknowledge and include the diversity of ecological worldviews, values, and languages, thereby fracturing the current homogeneity of neoliberal global discourses and policies;
- (ii) fostering forms of biocultural inter-species co-inhabitation embedded in the diversity of habitats and life habits.

As shown by practices associated with Earth Stewardship in South America ([May Jr \(2015a, b\)](#); [Mamani Bernabé 2015](#) in this volume [Chaps. 6, 7, and 27]), biocultural inter-species co-inhabitation requires not only rational or verbal interactions but it also involves corporality, affection, and sharing everyday life experiences.² Llamas and potatoes, for example, are not mere natural resources but rather co-inhabitants that participate in rituals, farming and husbandry practices,

²The biocultural perspective of this essay shares central concepts with intercultural philosophy (*sensu* [Fornet-Betancourt 1994, 1998](#)). However, the biocultural ethic extends the moral community beyond the boundaries of the human species. The worldviews of contemporary ecological sciences and of Amerindian cultures support the concept of a community of life. This can be also considered as a moral community on the basis of the notions of kinship (based on evolutionary genealogies shared by humans and other living beings) and of co-inhabitation, embedded in the recurrent ecological and cultural interrelationships among human and other-than-human beings ([Rozzi 2012, 2013](#)). Recent ethnography of South America illustrates the creativity and agency of the other-than-human world, as well as the rich communication that takes place between human and other-than-human persons. The limits of extending personhood as a category of human-like subjectivity to non-humans has, however, been amply discussed ([Rival 2012](#)).

and everyday life of Aymara communities. The diversity of forms of ecological knowledge and practices rooted in Amerindian colonial and post-colonial cultural habits – which, in turn, are embedded in ancestral native habitats and contemporary anthropogenic habitats – offers today insights for stewardship and biocultural co-inhabitation both at local and planetary scales.

The complementarity of the forms of knowledge offered by Amerindian world-views, pre-Socratic philosophical foundations of Western civilization, and contemporary sciences is emphasized by the biocultural ethic. Ancient and modern forms of knowledge indicate that human beings participate in an ecological structure and order. Today, the ESA's Earth Stewardship Initiative can be built upon by incorporating the original meaning of economy: an administration of the *oikos* (or habitat in the terminology of the biocultural ethic), that understands and respects the ecological order of the *oikos* and the political order of human societies. Toward this aim, it is indispensable to reorient the current supremacy of prevailing neoliberal free-market policies. The essence of these policies has been to free themselves from restrictions for entrepreneurship and economic growth. As a consequence neoliberal policies override or often ignore both the ecological order and the political order, as we will discuss below.

8.3 Biocultural Roots of South American Environmental Philosophy

In mid twentieth century, some Latin American anthropologists and philosophers, such as Rodolfo Kusch in Argentina, forged pioneer studies that interrelated the biophysical reality of Meso- and South-American landscapes with the symbolic-linguistic reality of Amerindian cultures. These studies examine the intricate links between both realms of reality embedded in their fractured, dynamic, historical courses of colonialism. In his book *America Profunda* (“Deep America”), Kusch developed an approach that incorporates ways of understanding and inhabiting the landscapes rooted in pre- and post-colonial contexts that question the prevalence of theoretical models developed in academia (e.g., the Tragedy of the Commons as discussed by Kingsland 2015 in this volume [Chap. 2]): “as if” such theoretical models would have universal validity unaltered by local biocultural and historical contexts.

To counterbalance concentration on theoretical models and assumptions that become universal in academia, Kusch focused on dynamic forms of knowledge while researching the Incan legacies in peasant communities of Bolivia and northeast Argentina. Working at the University of Salta, he initiated a comparative ethno-philosophy that contextualizes supposedly “unalterable” universal notions, thereby enabling a better understanding of the diversity of local forms of knowledge and environmental thought. Kusch elaborated a *geocultural* perspective that considered both the cultures and the territories (Romero-Bedregal 2006). The integration of culture and territory is essential for an Earth stewardship, because concentration of land property and displacement of local poor communities is facilitated by prevailing development models (see May Jr (2015a, b); da Rocha and Possamai 2015; Viola and Basso 2015 in this volume [Chaps. 7, 24, 27, and 28]). These displacements often constitute social and ecological injustice

that leads to the extinction of plant species traditionally cultivated (such as the hundreds of varieties of potato, chili, and many other plant species), of biocultural landscapes (such as the forest islands or *apete* created by the Kayapo people in the Amazonian region), and of cultural practices (such as exchanges of seeds among women of Aymara and Quechua communities inhabiting the Andean slopes) that form an integral part of the ecosystem dynamic in the Neotropics. Many ancestral ecological practices are currently alive among creole peasant and Amerindian communities that inhabit Latin America. These communities are traditional stewards of the land (see Mamani Bernabé (2015), in this book [Chap. 6]).

In the decade of the 1960s, the perspective of Kusch contrasted with the fact that forms of indigenous thought and life were ignored, even negated, by an academic philosophy dominated by an analytical-positivist school of thought. Counteracting this tendency, in *Geocultura y el Hombre Americano* (“Geoculture and the American Man”), Kusch (1976) introduced the term *geoculture*. With this term, South American geography ceases to be seen through a colonialist perspective, as a virgin territory to be conquered and used, and begins, instead, to be understood as a territory where cultural meanings are rooted. Kusch views the American continent as a place where an extended colonial Western culture coexists with Amerindian cultures, their ancestral memories, lifestyles, and thought patterns that have survived the colonial and postcolonial (or neocolonial) periods. Conflictive encounters between pre-Columbian peoples of the Andes and the Old World Europeans, Kusch argues, established dialectical relationships between two polarized notions:

- *estar aquí* (“to be here” and “to be at”), which expresses the essence of what remains of the Amerindian cultures, and
- *ser alguien* (“to become someone”), which defines the attitudes of the European colonizers.

Since the arrival of the Spaniard conquistadors, the “New World” environments have been subjected to the prevailing colonial attitude of “possession of objects,” which is established by individual self-centeredness focused on “becoming somebody in a future time” (*ser alguien*). This attitude contrasts with the customary Amerindian attitude of “participation and interaction with organisms,” focused on present time, place and community (*estar aquí*). As emphasized by Mamani Bernabé (in this book [Chap. 6]), a person is fully-mature and virtuous through the cultivation of relationships. Kusch’s conceptual framework converges with the approach of biocultural ethics because both aim to better understanding and valuing how *heterogeneous cultural habits* are interwoven with the *heterogeneous native, rural, and urban habitats* (Rozzi et al. 2008). Today, these biocultural relationships are disrupted as local communities are displaced, and native habitats are left open to accelerated processes of land-use changes, including large-scale mining and expansion of monocultures associated with a concentration of the ownership of land (Ceccon and Miramontes 1999; Neugebauer 2003; Tobasura 2006; Finer et al. 2008, 2009). The massive rural–urban migration that has taken place in Latin America since the 1950s has generated a loss of the *ancestral human stewards of the land*. The loss of the stewards of the land has led, in turn, to losses of biocultural life habits and native habitats, including their rich biocultural diversity, understood as vital communities of co-inhabitants (Rozzi 2013) (Box 8.2).

Box 8.2. Global Responsibility to Respect Amazonian Life

South American regions have been subjected to recurrent illegal deforestation and mining pollution, entailing multiple-scale processes that override the will of rural and indigenous populations and violate national laws (Ceccon and Miramontes 1999; Neugebauer 2003). The cases of the U'wa people in Colombia opposing oil companies and the decision by the Ecuadorian government to open the Yasuní National Park for oil exploitation, are emblematic.

The U'wa people inhabit the foothills and cloud forests of the Andes in north-east Colombia, and had almost no contact with the outside world until the 1960s (Fig. 8.3). In 1991, the oil company Oxy (Occidental) signed an exploration permit with the Ministry of the Environment (Tobasura-Acuña 2006). However the U'wa believe that oil is the blood of the mother Earth, and when faced with oil drilling against their wishes, in 1995 the U'wa threatened to commit collective suicide. Although in May 1998 Oxy announced that it was moving off of lands that were claimed under Colombian law by the U'wa (<http://www.goldmanprize.org/1998/southcentralamerica>), the disputes have continued for over a decade. The government militarized the zone and conflicts with the U'wa have been violent, including the murder of several U'wa children in 2000. Colombian environmental sociologist Isaiás Tobasura Acuña (2006) concludes that the U'wa case demonstrates that the stated Colombian national environmental policy is continuously overridden by national and international economic power.



Fig. 8.3 An U'wa child holds a sacred shell, evoking the conception of his culture: "The U'wa territory is the heart of the world, run by the veins that feed the universe, if it is destroyed, then the world bleeds" (Photograph Terry Freitas, courtesy Project Underground, www.moles.org)

(continued)

Box 8.2. (continued)

In 2008, Ecuador's constitution was the first in the world to recognize legally enforceable rights of nature. In recent years, Ecuador's efforts to manage the Yasuní National Park – one of the most biologically diverse spots on Earth – have comprised innovative appeals to global responsibility through monetary compensations for not opening the park to oil exploration. However, in 2013 Ecuador withdrew its proposal to refrain from oil exploration in its Yasuní National Park because it had not received promised compensation from the world's industrialized nations (Espinosa 2013; Pellegrini et al. 2014). Ecuador's President Rafael Correa explained that “the Yasuní proposal was based on the principle of co-responsibility in the battle against climate change, but just 0.37 % of the target [US\$ 2.3 billion] was provided by international donors... This failure of the international community touches on the wider issue of justice in the battle against climate change. What level of responsibility should be taken by the developed nations that have most contributed to the problem of climate change and are most able to tackle it? And what is the responsibility of the less developed nations? Clearly, a just solution would see the more developed nations bearing proportionally more of the responsibility” (in Falconi-Puig 2013).

Until 1956, the Yasuní region was entirely ancestral Waorani territory when first contacted. Now it is a complex mix of overlapping designations, and Waorani leaders are divided between those opposed to new oil development on their territory and those more inclined to negotiate with oil companies (Finder et al. 2009). The failure of Ecuador's innovative approach points to the ongoing tension between appeals to global responsibility and the values of the sustainability of life, human and other-than-human, and to national and global financial interests.

Conflicts such as the U'wa and Yasuní cases play out at once across local, national and global political contexts. On the one hand, they draw attention to transnational negotiations and distinct articulations of justice around planetary environmental sustainability. On the other, they demand from academics and policy makers a better understanding of the dynamic local forms of ecological knowledge. It is pressing to act, effectively addressing the complexity and multisided responsibility for implementing Earth Stewardship.

8.4 Liberation Philosophy and Decolonial Thinking

The perspectives of Kusch have provided one of the most important sources of inspiration for another Argentinean thinker at the end of the twentieth century, Walter Mignolo. In the 1990s Mignolo developed the notions of *border* (*boundary*)

thinking and epistemologies, and pluri-topical hermeneutics. To critically examine the one-dimensionality established by the paradigm of conquest of the people and American nature, Mignolo has adopted key concepts from Enrique Dussel, who has led the liberation philosophy school of thought.

Latin American liberation philosophy involves two methodological moments: first, to liberate or free thinking from being encapsulated in colonizing conceptual frameworks (e.g., abstract Eurocentric ethics, economic models, or Christian credos); second, to reaffirm local forms of thought and material realities. Dussel seeks to overcome Eurocentrism and modernity, not simply by denying them, but also by “thinking from the perspective of the excluded other;” i.e., the impoverished communities of peasants, the colonized communities of indigenous people, the marginal communities of workers and urban citizens (Dussel 1996, p. 14). In his recent work, Dussel goes beyond the social domain to include ecological ethics. He criticizes formal Kantian ethics, discursive ethics, and utilitarian ethics to emphasize instead that:

Having as our horizon the ecological destruction of the earth that is articulated concomitantly with misery, poverty, and the oppression of the majority of humanity (taking into account phenomena such as central and peripheral capitalism, racism, sexism, etc.), we must recover material references, since these “facts” can only be discovered critically via contrast (contradiction or non-compliance) to a positive material standard previously stated. For this reason, we need to reconstruct the truth of a material ethic—where ecological destruction and poverty are identified as ethical problems in themselves— and articulate it adequately to a formal morality—from which we can proceed consensually. (Dussel 2003, p. 32)

Dussel questions the hegemony of neoliberal capitalism in which the value of capital is ranked above the value of life. He demonstrates how this scale of values is in disagreement with the theological and philosophical texts that represent foundational traditions of belief systems and ethics in Western civilization. Consequently, Dussel argues that it is necessary to re-establish the right hierarchy of values: the value of life must be ranked above the value of capital. The land and humanity have “dignity;” only human-made products have “exchange value” or “economic value.” Methodologically, he proposes that:

Material ethics [of liberation] considers goods with use value to be wealth as such (objective goods of happiness, which is the subjective good). The political management of these public goods is the formal practical moment, which is public and consensual (democracy, for example). Hence, ecology and political economy speak first of the material level of ethics, but managed at the formal level of democracy or public morals. (Dussel 2003, p. 33)

In a similar manner, in his latest work Mignolo (2003a) has also gone beyond the purely social domain, extending it to the domain of life. His proposal of a *paradigm other* seeks to construct spaces of hope not only for human life, but also for all life forms. This extension of Mignolo’s *paradigm other* is particularly pertinent for a Latin American Earth stewardship, because both the Amerindian cultures and the ecosystems, including their biodiversity, have been insensibly oppressed by the process of European conquest. In addition, after World War II the globalization

of neoliberal market practices has led to accelerated processes of “biocultural phagocytosis,”³ which has also oppressed the diversity of cultural and ethical traditions within Western civilization itself and has promoted a biocultural homogenization worldwide (Rozzi 2013).

Mignolo (1995) notes that Huntington’s phrase “the West and the rest” expresses a model that should be overcome. This overcoming will occur when “the rest” emerge from, and in, its diversity. More than reproducing Western universal and abstract concepts, the alternative approach proposed by Mignolo constitutes a type of border thought that addresses the colonialism of Western epistemologies from the perspective of epistemological forces that have been relegated to subordinate forms of traditional, folkloric, religious, or emotional knowledge. Mignolo emphasizes the necessity of permitting expression of pluriversal epistemologies, histories, and local communities that today inhabit the borders or margins of globalization. This approach not only contributes to harmonious coexistence with diverse Amerindian people, but also with all groups whose histories are marked by colonialism and that “have lived or learned in their bodies the trauma, the unconscious lack of respect” (Mignolo 2003b, p. 20). As a vision for the future, he proposes that:

boundary thinking is one of the possible ways toward a critical cosmopolitanism and a utopian horizon that helps us to construct a world where many worlds can fit. (Mignolo 2003b, p. 58)

Mignolo’s critical optic opens a promising road for forms of Earth stewardship that could include diverse forms of life in a pluri-versal conception integrating people, ecosystems, and the other-than-human living beings with whom we co-inhabit. To forge his Latin American Modernity/Coloniality Research Program, Mignolo has collaborated with Arturo Escobar, who has elaborated a geopolitical perspective. Based on his work with Afro-American communities on the Pacific coast of his country of origin, Colombia, Escobar addresses problems of globalization and culture, gender, environment, and territory. In the Afro-American communities of tropical Colombia, he has found solid elements for ecological sustainability in the mythical and symbolic traditions related to specific ecosystems (Noguera 2012). These regional biocultural realities are, however, increasingly threatened by violence, poverty, and degradation of habitats in Latin America. Escobar (1996) opened his landmark book *The Invention of the Third World* by noting that “just a quick look at the biophysical, economic, and cultural landscapes of the Third World shows that the Project of Development is in crisis.” Escobar makes an appealing call to inaugurate a *post-development era*. This call is especially relevant for a Latin American approach to Earth stewardship, because under the current model of development the original state of biocultural diversity

³By “biocultural phagocytosis” I refer to the appropriation and mercantilization of local cultures, their habitats, life habits, and communities of co-inhabitants.

and social well-being is being replaced by an accelerated process of biocultural homogenization and socio-ecological degradation.⁴

8.5 Eco-theology of Liberation

Broadening the perspective of Escobar, Brazilian liberation theologian Leonardo Boff (1995, p. 24) affirms that “today, in reality, it is not so much the development model that is in a state of crisis, but [more deeply] the model of society that dominates the world.” Boff represents a major figure in Latin American environmental thought due to his original Christian Franciscan concepts, and to his arduous work dedicated to the communication of environmental problems and proposals to solve them.⁵ In his landmark book *Ecology and Liberation: A New Paradigm*, Boff (1995, pp. 27–28) proposes a holistic, eco-social approach to environmental ethics, affirming that “the new model of society has to aim at a reconstruction of the social fabric, starting from the multiform potentiality of humankind and society.” To articulate his holistic eco-theological proposal, Boff distinguishes seven complementary “pathways” or practices of ecology, which could be valuable for a holistic approach to Earth stewardship (Box 8.3).

Box 8.3. Leonardo Boff’s Seven Paths of Ecology

Religious organizations in Latin America have linked environmental stewardship to concerns for equity by using the language of human rights. Much of the impetus for such efforts has come from church pastoral work among indigenous, Afro-Latino, and other minority cultural communities, supporting and advocating for their rights to territory, resources, and self-determination, often against government and corporate policies and interests. Such interventions by religious groups, aligned with popular struggle in efforts to combat the social, political, and economic injustices associated with marginalization and poverty, draw upon an established history of pastoral agency in Latin America, inspired by the Liberation Theology movement that emerged in the 1960s. One of the founders of liberation theology, Brazilian Leonardo Boff, has proposed seven peaceful “pathways” or practices of ecology to articulate a holistic eco-theological approach (Fig. 8.4).

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⁴The process of biocultural homogenization entails simultaneous and interdigitated losses of native biological and cultural diversity at local, regional, and global scales. This process leads to the disruption of the interrelationships between cultures and their land, and results in the massive replacement of native biota and cultures by cosmopolitan species, languages, and cultures (see Rozzi 2001, 2012, 2013).

⁵For example, Leonardo Boff had a leading role in the writing and divulgation of the Earth Charter, a declaration of fundamental ethical principles for building a just, sustainable, and peaceful global society in the twenty-first century. The Earth Charter involved a decade-long (1995–2005), worldwide, cross-cultural dialogue on common goals and shared values, and the document has been further enhanced by its endorsement by over 4,500 organizations, including governments and international organizations. See <http://www.earthcharterinaction.org/content>, and Tucker (2015, in this volume [Chap. 26]).

Box 8.3. (continued)

Fig. 8.4 Representation of the seven confluent and complementary pathways for a holistic practice of ecology, proposed by Brazilian, Franciscan, liberation theologian Leonardo Boff

1. The *Eco-technology Path* proposes that the technology that made the Earth bleed should also help to heal it. Economy should be reoriented toward the management of goods that are finite and necessary for human well-being.
2. The *Eco-politics Path* affirms that while human desire is structurally infinite, it should be confined by solidarity. Solidarity leads one to renounce things for the sake of the other, promoting governance and management for the common good. Boff evokes the eco-regional approach of Chico Mendes, the inspirational Brazilian rubber tapper and conservationist, and contrasts it with the socially and ecologically insensitive approach of economic mega-projects (see da Rocha and Possamai 2015, in this volume [Chap. 28]).
3. The *Social-ecology Path* calls for the transformation of the instrumental and mechanistic view that allows a few men and women, institutions, nations, and corporations to exploit without limits other persons, animals, plants, and minerals, thereby stripping them of their autonomy and intrinsic value, and reducing them to mere means to market ends. To counteract

(continued)

Box 8.3. (continued)

this trend, Boff proposes recovering the original meaning of economy: “the administration of the fair and modest means necessary for life and well-being. Rational application of scant income is the central activity of most households in the Third World.... [In this alternative] model of society, not only work but leisure, not only efficiency but gratuitousness, not only productivity but the absurd, playful dimension must be encouraged. Imagination, fantasy, utopia, dreams, emotions, symbolism, poetry, and religion have to be valued as much as production, organization, functionality, and rationality.” (Boff 1995, pp. 19 and 28)

4. The *Eco-ethics Path* defines ethics as the “unlimited responsibility for everything that exists and lives. The supreme good is to be found in earthly and cosmic integrity. That does not amount merely to the common good of humanity, but includes the welfare of nature.” (Boff 1995, pp. 29–30)
5. The *Mental Ecology Path* emphasizes the diversity of beings inhabiting not only nature but also ourselves, as images, symbols, and values. The water, plants, and animals that inhabit us are archetypes and figures filled with emotions. This understanding counteracts the modern fabrication of the “one-dimensional man.”⁶ Overcoming this one-dimensionality reintegrates the forces of reason with the multiple forces of the universe that are present in our impulses, visions, intuitions, dreams, and creativity.
6. The *Cosmic Mysticism Path* shows that spirituality and mysticism originate in the sacramental, symbolic, and affective reasoning that captures gratuitousness and the sense of communion among all beings.
7. The *Eco-theology Path*, based on a Christian-Franciscan panentheism, is rooted in tenderness as the main attitude in the encounter with other beings. This Christian praxis generates a cordial knowledge (*cordial*=from the heart) which does not distance itself from diverse realities. Instead it makes possible communion and friendship with them, as was done by St. Francis for whom the moon and the sun, water and fire, the birds and the herbs are our sisters and brothers with whom we share the same divine genealogy.

In the influential article “The Historical Roots of our Ecological Crisis,” historian Lynn White Jr. (1967) criticized Western Christianity as “the most anthropocentric religion the world has seen” (1205). However, he concluded his essay proposing Saint Francis “as a patron saint of ecologists” (1207). Later, in 1979 Pope John Paul II formalized it, and in 1986 the World Wide Fund for Nature (WWF) organized in Assisi a meeting that generated The Assisi Declarations from Buddhist, Christian, Hindu, Jewish and Islamic relationships with nature and sacred duty to care for it (ARC 1986). Thirty years later, the Argentine-born Pope Francis took his name from Francis of Assisi, and is writing an encyclical

⁶Boff alludes to Herbert Marcuse’s concept, and homonymous book *One-Dimensional Man: Studies in Ideology of Advanced Industrial Society* (Beacon Press: Boston, Massachusetts, 1964).

(continued)

Box 8.3. (continued)

on humanity's relationship with nature. In 2014, he expressed that "one of the greatest challenges of our time is to convert ourselves to a type of development that knows how to respect creation ...when I look at America, also my own homeland [South America], so many forests, all cut, that have become lands... that can no longer give life. *This is our sin, exploiting the Earth and not allowing her to give us what she has within her*" (Pope Francis 2014). Saint Francis is not a frozen historical figure but continues to inspire a contemporary, holistic Earth stewardship, grounded in reality rather than dogma.

Starting from an initial impulse favoring the expression of multiple individual potentialities and those of diverse cultures and social groups, Boff's ethical turn toward an ecological ethics arises from the demand to "listen" to the other, to nature. In a recent interview,⁷ Boff affirms that "not only the poor cry; also the lands cry, the waters cry, nature cries. Hence, we need an *eco-theology of liberation*" (see also May Jr 2015b, in this volume [Chap. 27]). In this attitude of listening among human and other-than-human beings "the decisive element in ethics is not what we want or what we seek to impose by force (thus creating various different moral standards), but what the same reality states and demands that everyone should heed and be in tune with it.... Human beings live ethically when they decide to stop placing themselves above all others, and decide instead to stand together with others" (Boff 1995, pp. 29–31).

A reconnection with the Earth as a whole, *a dignitas terrae*, demands a material and spiritual reconnection with both the exterior and the interior nature of each human being and society. Governed by market economy, global society tends to occupy the individual's attention with a flood of commercial messages and mundane demands that so assault a person that she or he cannot find their existential center. Another barrier to the dignity and emergence of healthy personhood is injustice in personal and social relations. Unjust processes are doubly inhumane. They force the oppressor to deny that the other (the oppressed) is like him or her, and even to dehumanize the oppressors themselves (to lose their own existential center). Only thus can an oppressor objectify and violate the integrity of the other. Oppression also triggers a process of dehumanization in the victims, a violence suffered through a negation in all aspects of their life, at table, at home, in school, and in the very core of human dignity. Based on this perspective that integrates psychoanalytic and liberation theology approaches, Boff broadens the spectrum of environmental ethics toward an environmental justice that includes poor and marginalized people around the world: the oppressed human beings side-by-side with the oppressed other-than-human beings (the plants, the animals, the running water, the oceans, the mountains, and so on).

In *Cry of the Earth, Cry of the Poor*, Boff (1997, p. 45) situates the concerns of social and political liberation within broader ecological frameworks: "without a minimum of social justice it is impossible to make ecological justice fully effective. The one involves the other." He inaugurates an ecotheology of liberation. According

⁷ Unpublished interview by Ricardo Rozzi and Claudia Sepúlveda recorded in October 2008.

to this ecotheology, to achieve ecological justice it is necessary to overcome anthropocentrism and ethnocentrism. In addition, for his holistic approach, Boff demands that both the masculine and feminine be embraced, a position that echoes the philosophy of leading South American ecofeminists and liberation theologians, Ivone Gebara (Brazil) and Gladys Parentelli (Uruguay-Venezuela).

Based on their work with women living in urban poverty, Parentelli (1996) and Gebara (1999) have inaugurated a Latin American theology from the “optic” of women. Women as much as the poor are oppressed, hence poverty is not a gender-neutral category. Vicenta Mamani (2000), an Aymara woman of Bolivia, adds another layer of social oppression: being indigenous. Thus many women suffer triple oppression: gender, class, and race.

Gebara, Parentelli, Mamani and other Latin American ecofeminists show the complexity of socio-environmental problems. Methodologically they have directed their attention to the everyday life of women living in marginal neighborhoods. Moreover, this displacement of the poor is frequently associated with the destruction of their ancestral lands, farms, and working spaces – that is, their “habitats.” During the last three decades, ecofeminists have created centers, networks, and periodical publications that explore the relationship between the oppression of women, indigenous people, and nature in Latin America (Ress 2006).

8.6 Earth Stewards and the Biocultural Ethic

The most severe social impacts associated with environmental degradation affect indigenous, peasant, coastal, and other rural and marginalized urban communities. In South America, poor communities (in monetary terms) are not the main agents but rather the main victims of environmental degradation.⁸ The biocultural ethic affirms the value of the complex interrelationships among (i) the stewardship practices or *habits* of indigenous and rural women, (ii) their daily interactions with the

⁸The interpretation of poverty as a main cause of environmental degradation is still prevailing. However, many scholars and international organizations, including the United Nations World Commission on Environment and Development (WCED), have offered alternative evidence and approaches. In its landmark Brundtland Report, WCED (1987, p. 117) stated that “there has been a growing realization in national governments and multilateral institutions that it is impossible to separate economic development issues from environment issues; many forms of development erode the environmental resources upon which they must be based, and environmental degradation can undermine economic development. Poverty is a major *cause* and *effect* of global environmental problems. It is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality.” The Brundtland Report addressed in depth the disparities in income and ecological impact among countries, and documented that the countries with lower or middle income economies have 83 % of the world population, but only 21 % of the world’s Gross Domestic Product (GDP). Conversely, the countries that are high-income oil exporters or have industrial market economies are inhabited by 17 % of the world population and accumulate 79 % of the world’s GDP. The inequalities in income distribution are extreme in Latin American countries. For example, in Brazil, the wealthiest country of the region, the richest fifth of the population concentrates 68 % of the country’s GDP, while the poorest fifth shares only 2 % of the national GDP (Baer and Maloney 1997).

land and the community of *co-inhabitants*, and (iii) the conservation and access to ancestral lands or *habitats*.

Ecofeminist analyses tend to agree with perspectives and studies of biological and cultural conservation in Latin America which demonstrate that women are key stewards of the land. Earth stewardship is not gender-neutral, neither is poverty. Indigenous and rural women have harvesting and farming habits that imply a rich empirical knowledge and close interactions with plants and other organisms that become companions or co-inhabitants in daily family life and other social interactions. Women acquire an experiential understanding about the need for conserving the integrity of and access to the habitats where they live and farm, obtain water and other goods. Hence they are not only stewards of the land but often custodians of it, and are leading resistance movements in its defense. Examples include the Afro-Latina *concheras* who defend the mangroves along the Pacific coasts of Colombia and Ecuador (Martínez-Alier 2001; Suárez and Ortiz 2006; Rozzi 2012); Rarámuri or Tarahumara women who defend the forests to assure continuous water supplies in the Sierra Madre of northwestern Mexico (Fig. 8.5, Rozzi 2001); and



Fig. 8.5 Tarahumara indigenous people from the Sierra Madre in northern Mexico marching to the city of Chihuahua to protest illegal deforestation that put at risk their water resources. Women marching with their babies through the streets of Guadalajara were graphically portrayed by US journalist Wesley Boxley in *The New York Times* on April 28, 1999, thereby contributing to stop the illegal deforestation, which ended three months afterwards (Photograph courtesy of Wesley Boxley)

Quechua women who trade complementary vegetal food products farmed or gathered at different altitudinal zones of the Peruvian Andean slopes (Box 8.4).

Box 8.4. Today's Challenges for Stewardship Habits by Quechua Women in Andean Habitats

The central Andes are one of the eight centers of the origin of agriculture, with the domestication of plants in this region dating back at least 8,000 years (NRC 1989). Today, however, indigenous Quechua communities are confronted with the expropriation of land and the resulting territorial displacement motivated mostly by the development of mining projects or of new agricultural practices that include the extensive use of commercial genetically modified varieties of potato. Quechua communities have repeatedly denounced the resulting marginalization of women who traditionally were responsible for the selection, storing, sowing, and harvesting of seeds and tubers of potatoes and other plants. The combined effects of exclusion from native habitats and the marginalization of women threaten the food security of peasant and indigenous communities whose health depends upon the exchange of edible vegetables from different agroecological zones.⁹

The biocultural ethic affirms that the links of specific life Habits with specific Habitats and communities of co-in-Habitants ought to be respected. Its “3Hs” descriptive and normative framework helps to better understand and value the delicate interrelationships among the Quechua *alimentary habits*, the mosaic of *Andean habitats*, and the human and other-than-human communities of *co-in-habitants*. Along the altitudinal gradient of the Andean Cordillera, each of the three primary altitudinal zones provides complementary plant foods for the human diet (Fig. 8.6):

1. In the *high Andean habitats*, or *Puna*, Quechua agricultural habits are rooted in the practice of growing tubers such as oca, isano, and hundreds of varieties of potatoes that are rich in carbohydrates and are co-inhabitants in rituals and everyday life (Mamani-Bernabé 2015, in this volume [Chap. 6]).
2. In the *intermediate-altitude habitats*, or *Andenes* in the sub-Andean terrace cultivation system, Quechua agricultural habits are based on quinoa and corn that provide grains rich in essential amino acids (Krogel 2006).
3. In the *low-land habitats*, including the *Yungas* and Amazonian rain forests, Quechua habits are grounded on planting and harvesting plenty of fruits that are rich in vitamins and coca leaves, which provides for chewing coca, an essential element of Quichua cultural identity (Allen 1981).

⁹Baseline information for this example is found in NCR (1989), Zimmerer (2003), Argumedo and Pimbert (2006), Primack et al. (2006), and Rolph and Obregón (2012).

(continued)

Box 8.4. (continued)

Fig. 8.6 View of the *Sallqantay* valley (*sallqa*= wild or invincible in Quechua language) in the *Willkapampa* mountain range in Peru. *Sallqantay* trail runs from Cuzco to Machu Picchu, the Inca sacred city. Along the trail it is possible to observe the agricultural landscape and harvested traditional crops, such as maize (*Zea mays*) and oca (*Oxalis tuberosa*) (Photograph J. Tomás Ibarra)

Healthy markets based on bartering and run by women from different altitudinal zones are interrupted by the territorial displacements of Quechua communities. Current displacements are caused by mining and other development projects, by global climate change, and by the substitutions of native varieties of plants by commercial and modern genetically modified varieties. This ecological and social disruption provokes:

- (a) Losses of autonomy and capacity for self-determination of indigenous communities, due to the destruction and/or denial of access to their ancestral habitats and territories, which are essential for the continuity of their material and spiritual subsistence.
- (b) Degradation of local economies and relations of reciprocity among the diverse human communities, and between these communities and regional ecosystems.
- (c) Degradation of regional biological diversity; for example, of the more than 2,000 varieties of potatoes that have been traditionally cultivated in the high Andean slopes.

(continued)

Box 8.4. (continued)

- (d) Losses of traditional ecological and cultural knowledge and practices; for example, the disappearance of local markets where women offer and exchange a wide variety of foods, provoking food insecurity leading to malnutrition, dependency, losses of autonomy and dignity.
- (e) Immigration of Quechua women and their families toward marginal neighborhoods in cities where most frequently end up living in conditions of extreme poverty.

The clear interdependencies among the *life-habits* of human and other-than-human communities of *co-in-habitants* along Andean altitudinal gradients demonstrate that the conservation of *habitats* and access to them is a necessary condition for the autonomy, identity, dignity, and well-being of local communities. Assuring conditions that allow Quechua stewards to have access to their ancestral land constitute a challenge and a responsibility for an intercultural Earth stewardship endeavor involving all society.

The conservation of habitats and access to them is the condition of possibility for the autonomy, identity, dignity, continuity of habits, and well-being of local communities. The formal proposal of the biocultural ethic interrelates habits and habitats with the identities and well-being of the co-inhabitants, humans and other-than-humans. Consequently, the conservation of habitats and access to them by communities of co-inhabitants becomes an ethical imperative. The biocultural ethic demands that this imperative be incorporated into development policies as a matter of socio-environmental justice.

Once displaced from their traditional lands and ways of life, indigenous people, peasant, and fishermen communities often confront material and cultural misery in cities. In the marginal neighborhoods of metropolitan areas in Latin America, these displaced people frequently lack access to basic services, such as food, water, shelter, and sanitary conditions (Parentelli 1996; Gebara 1999; Rozzi 2001). Hence, they face extreme conditions of poverty that are rapidly expanding in the marginal neighborhoods of metropolitan areas in Latin America. At the same time, their ancestral lands lose their traditional stewards and local custodians, and become more vulnerable to large-scale, non-sustainable forms of exploitation. Box 8.4 illustrates the importance of conserving both the traditional habits and the regional habitats that have sustained the well-being of human and other-than-human communities in the Andean Cordillera.

I have proposed a *biocultural ethic* that aims to recover an integral understanding of the interrelationships among the cultural habits and the habitats where these habits take place (Rozzi 2012). I say recover, because these links have been largely ignored by modern dominant ethics that are centered on eurocentric human habits. However, pre-Socratic and other early Western philosophies (as well as ancestral Amerindian ecological worldviews) provide an ancient cultural foundation

to support an ethic that affirms the value of the vital links between the life habits of the inhabitants and the habitats where these habits are practiced. Today, the value of these vital links is also confirmed by ecological and social sciences. The attention to the daily life of human communities and their biocultural landscapes – including ecosystems, historical, socio-political, and cultural settings – contributes to:

- (i) discovering the inexhaustible biocultural diversity embedded in the spatial and temporal heterogeneity of the Latin American region, and
- (ii) understanding how today these diverse human and other-than-human forms of life are threatened by development projects that are insensitive to their existence.

The Catalan (Spain) ecological economist Joan Martínez-Alier stresses that in Latin America conservation is far from being a luxury. On the contrary, the commitment and action in favor of conservation often springs from those communities who depend directly on natural resources to live. This conservation perspective is known as *environmentalism of the poor* (Martínez-Alier 2002).

Resistance movements and recurrent appeals to conservation made by local communities aim to maintain sustainable ecological practices rooted in regional biological and cultural diversity. To better understand the interrelationships between biological and cultural diversity, the Mexican ecologist Victor Toledo, founding editor of the journal *Etnoecologica*, promotes the study of the relationships between Amerindian cultures and nature.¹⁰ Toledo has emphasized the necessity of developing hybrid disciplines that integrate the cultural, social, and ecological dimensions to enable communication and mutual respect among different socio-cultural actors (Toledo 2003; Toledo and Castillo 1999). The perspectives of diverse indigenous, peasant, and fisherman communities agree with those of ecologists and other researchers regarding the fact that levels of autonomy and social well-being are higher in areas where ecosystems and biodiversity have been protected (Rozzi and Feinsinger 2001). To enhance the understanding of this “win-win relationship” between the well-being of humans and of biotic communities and their ecosystems, and to better understand the value of their expression in local life histories, I have integrated ecological sciences and environmental ethics into the practice of *field environmental philosophy* (Rozzi et al. 2008; see Aguirre Sala 2015 in this volume [Chap. 15]). In this practice, students participate with philosophers, ecologists, and other researchers in long-term transdisciplinary projects of biocultural conservation. This *in situ* experience involves “face to face” encounters with co-inhabitants (human and other-than-human), their habits and habitats. With this methodology “biocultural diversity ceases to be a mere concept, and begins to be an experience of

¹⁰In Latin America, as in other regions of the world, ethnoecology has been essential to disclose the richness of Amerindian worldviews and the value of traditional ecological practices (Ulloa et al. 2001). This interdisciplinary field has involved fruitful collaborations between Latin American and international researchers. Indeed, the International Society of Ethnobiology was founded in Belem Brazil during the First International Congress of Ethnobiology in 1988. It involved an active collaboration between Brazilian, Latin American, and international researchers under the leadership Darrell Posey. In the 1990s, Victor Toledo’s collaboration with U.S. ethnobotanist Janis Alcorn was essential to establish the journal *Etnoecologica* and to promote a conservation approach which attempts “to stabilize the traditional conservation ethics wherever it still exists, and improve the modern conservation ethic” (Alcorn 1993).

co-inhabitation with diverse living beings and life histories that regularly remain outside of areas considered in formal education and decision making” (Rozzi et al. 2008, p. 335). The field environmental philosophy methodological approach has allowed the incorporation of biocultural diversity into regional development policies, territorial planning, formal and non-formal education programs, including ecotourism (see Ogden et al. 2015 in this volume [Chap. 10]). In the context of academia and the ESA’s Earth Stewardship Initiative, field environmental philosophy offers a methodology for students and researchers to integrate the theory and practice of ecology and ethics into intercultural, interdisciplinary, inter-institutional, and international forms of ecosystem co-management (Rozzi et al. 2012). In this way, field environmental philosophy provides a methodological basis for heterogeneous but articulated initiatives of Earth stewardship.

8.7 Concluding Remark

To a great extent the main challenge to an intercultural Earth stewardship is not to invent new paradigms but rather to allow the many traditions of stewardship to continue. Governed by a narrow neoliberal free-market economy, global society is blind to the beauty and refinement of traditions of environmental thought, ecological worldviews and practices, and forms of biocultural co-inhabitation that take place in Latin America and other overlooked regions of the world. By changing and enriching the language of global discourses and mindsets, Latin American philosophies contribute to broadening and modifying narrow economic mindsets and policies that are driving massive biocides and linguicides.

The recent establishment of indigenous networks and organizations, involving Amerindian people that had no contact with Western civilization prior to the 1950s, shows the accelerated dynamic and solidarity of resistance movements that include forms of Earth stewardship. Nourished by the collective work of ecologists, environmental philosophers, theologians, anthropologists, and other researchers together with fishermen, indigenous communities, farmers, government authorities, artists, journalists, and diverse members of society, who are collectively forging ethical guides, rooted in multiple modes of co-inhabiting in diverse biocultural landscapes, Earth stewardship could sprout with increasing strength today.

References

- Abell R, Thieme ML, Revenga C et al (2008) Freshwater ecoregions of the world: a new map of biogeographic units for freshwater biodiversity conservation. *BioScience* 58:403–414
- Aguirre Sala J (2015) Hermeneutics and field environmental philosophy: integrating ecological sciences and ethics into earth stewardship. In: Rozzi R, Chapin FS III, Callicott JB et al (eds) *Earth stewardship: linking ecology and ethics in theory and practice*. Springer, Dordrecht, pp 235–247
- Alcorn J (1993) Indigenous people and conservation. *Conserv Biol* 7:424–426
- Allen JC (1981) To be Quechua: the symbolism of coca chewing in highland Peru. *Am Ethnol* 8:157–171

- Alliance of Religions and Conservation [ARC] (1986) The Assisi declarations. Messages on humanity and nature from Buddhism, Christianity, Hinduism, Islam and Judaism. ARC, Bath. <http://www.arcworld.org/downloads/THE%20ASSISI%20DECLARATIONS.pdf>. Accessed 17 Mar 2014
- Argumedo A, Pimbert M (2006) Protecting indigenous knowledge against biopiracy in the Andes. International Institute for Environment and Development, London
- Baer W, Maloney W (1997) Neoliberalism and income distribution in Latin America. *World Dev* 25:311–327
- Boff L (1995) Ecology and liberation: a new paradigm. Orbis Books, New York
- Boff L (1997) Cry of the earth, cry of the poor. Orbis Books, New York
- Callicott JB (1994) Earth's insights: a multicultural survey of ecological ethics from the Mediterranean basin to the Australian outback. University of California Press, Berkeley
- Ceccon E, Miramontes O (1999) Mechanisms and social actors in the deforestation of the Brazilian Amazon. *Interciencia* 24:112–119
- Chapin FS III, Kofinas GP, Folke C (eds) (2009) Principles of ecosystem stewardship: resilience-based natural resource management in a changing world. Springer, New York
- Chapin FS III, Pickett STA, Power ME et al (2011a) Earth stewardship: a strategy for social-ecological transformation to reverse planetary degradation. *J Environ Stud Sci* 1:44–53
- Chapin FS III, Power ME, Pickett STA et al (2011b) Earth stewardship: science for action to sustain the human-earth system. *Ecosphere* 2:89
- Chapin FS, Pickett STA, Power ME et al (2015) Earth stewardship: an initiative by the Ecological Society of America to foster engagement to sustain planet Earth. In: Rozzi R, Pickett STA, Callicott JB et al (eds) Earth stewardship: linking ecology and ethics in theory and practice. Springer, Dordrecht, pp 173–194
- Da Rocha FJR, Possamai FV (2015) Chico Mendes and Jose Lutzenberger: ecosystem management at multiple scales of government. In: Rozzi R, Chapin FS III, Callicott JB et al (eds) Earth stewardship: linking ecology and ethics in theory and practice. Springer, Dordrecht, pp 419–430
- Descola P (2013) The ecology of others. Prickly Paradigm Press, Chicago
- Dussel E (1996) The underside of modernity: Apel, Ricoeur, Rorty, Taylor and the philosophy of liberation (Translated and edited by Eduardo Mendieta). Humanity Books, New York, p 14
- Dussel E (2003) Algunos Principios para una Ética Ecológica Material de Liberación (Relaciones entre la Vida en la Tierra y la Humanidad). In: Pixley J (ed) Por un mundo otro. Alternativas al mercado global. Quito, Ecuador, Comunidad Cristiana Mesoamericana y Consejo Latinoamericano de Iglesias, pp 29–44
- Escobar A (1996) Encountering development: the making and unmaking of the third world. Princeton University Press, Princeton
- Espinosa C (2013) The riddle of leaving the oil in the soil—Ecuador's Yasuní-ITT project from a discourse perspective. *For Policy Econ* 36:27–36
- Falconi-Puig J (2013) The guardian (19 Sept 2013). UK
- Finer M, Jenkins CN, Pimm SL, Keane B, Ross C (2008) Oil and gas projects in the western Amazon: threats to wilderness, biodiversity, and indigenous peoples. *PLoS One* 3:e2932
- Finer M, Vijay V, Ponce F, Jenkins CN, Kahn TR (2009) Ecuador's Yasuni Biosphere Reserve: a brief modern history and conservation challenges. *Environ Res Lett* 4(3):034005
- Fornet-Betancourt R (1994) Hacia una Filosofía Intercultural Latinoamericana. DEI, San José
- Fornet-Betancourt R (1998) Supuestos filosóficos del diálogo intercultural. *Utopía y Praxis Latinoamericana* 5:51–64
- Gebara I (1999) Longing for running water: ecofeminism and liberation. Augsburg Fortress Press, Minneapolis
- Guevara S, Laborde J (2008) The landscape approach: designing new reserves for protection of biological and cultural diversity in Latin America. *Environ Ethics* 30(3):251–262
- Kingsland SE (2015) Ecological science and practice: dialogues across cultures and disciplines. In: Rozzi R, Chapin FS III, Callicott JB et al (eds) Earth stewardship: linking ecology and ethics in theory and practice. Springer, Dordrecht, pp 17–26
- Krogel AM (2006) *Ukhu Mankakuna*: culinary representations in Quechua cultural texts. Doctoral dissertation, comparative literature. University of Maryland, College Park

- Kusch R (1962) *America Profunda*. Libreria Hachette, Buenos Aires
- Kush R (1976) *Geocultura y el Hombre Americano*. Fernando García Cambeiro, Buenos Aires
- Li B, Parr T, Rozzi R (2015) Geographical and thematic distribution of publications generated at the International Long-Term Ecological Research Network (ILTER) sites. In: Rozzi R, Chapin FS III, Callicott JB et al (eds) *Earth stewardship: linking ecology and ethics in theory and practice*. Springer, Dordrecht, pp 195–216
- Mamani V (2000) *Identidad y Espiritualidad de la Mujer Aymara*. Fundación Basilea, La Paz
- Mamani-Bernabé V (2015) Spirituality and the Pachamama in the Andean Aymara worldview. In: Rozzi R, Chapin FS III, Callicott JB et al (eds) *Earth stewardship: linking ecology and ethics in theory and practice*. Springer, Dordrecht, pp 65–76
- Martinez-Alier J (2001) [Ecological conflicts and valuation: mangroves versus shrimps in the late 1990s](#). *Environ Plan C* 19:715–716
- Martinez-Alier J (2002) *Environmentalism of the poor*. Edward Elgar, Cheltenham
- May Jr RH (2015a) Andean llamas and earth stewardship. In: Rozzi R, Chapin FS III, Callicott JB et al (eds) *Earth stewardship: linking ecology and ethics in theory and practice*. Springer, Dordrecht, pp 77–86
- May Jr RH (2015b) Dorothy Stang: monkeys cry and the poor die, earth stewardship as liberation ecology. In: Rozzi R, Chapin FS III, Callicott JB et al (eds) *Earth stewardship: linking ecology and ethics in theory and practice*. Springer, Dordrecht, pp 407–418
- Mignolo W (1995) *The darker side of the renaissance: literacy, territoriality and colonization*. University of Michigan Press, Ann Arbor
- Mignolo W (2003a) *Historias locales/Diseños globales*. Ediciones Akal, Madrid
- Mignolo W (2003b) *The darker side of the renaissance: literacy, territoriality and colonization*. University of Michigan Press, Ann Arbor
- National Research Council [NRC] (1989) *The lost crops of the Incas: little-known plants of the Andes with promise for worldwide cultivation*. NRC, National Academy Press, Washington, DC
- Neugebauer GP III (2003) Indigenous peoples as stakeholders: influencing resource-management decisions affecting indigenous community interests in Latin America. *N Y Univ Law Rev* 78:1227–1261
- Noguera P (2012) [Augusto Angel-Maya and environmental philosophy in Colombia](#). *Environ Ethics* 34:361–370
- Ogden L, Heynen N, Oslander U et al (2015) The politics of earth stewardship in the uneven Anthropocene. In: Rozzi R, Chapin FS III, Callicott JB et al (eds) *Earth stewardship: linking ecology and ethics in theory and practice*. Springer, Dordrecht, pp 137–157
- Olson DM et al (2001) [Terrestrial ecoregions of the world: a new map of life on Earth](#). *BioScience* 51:933–938
- Parentelli G (1996) Latin America's poor women. In: Ruether RR (ed) *Women healing earth: third world women on ecology, feminism, and religion*. Orbis Books, Maryknoll, pp 29–38
- Pellegrini L, Arsela M, Falconfb F et al (2014) [The demise of a new conservation and development policy? Exploring the tensions of the Yasuní ITT initiative](#). *Extr Ind Soc* 1:125–134
- Pope Francis (2014) Exploitation of nature sin of our time. The Huffington Post USA: http://www.huffingtonpost.com/2014/07/05/pope-francis-nature-environment-sin-_n_5559631.html. Accessed 5 July 2014
- Primack R, Rozzi R, Feinsinger P, Dirzo R, Massardo F (2006) *Fundamentos de Conservación Biológica: Perspectivas Latinoamericanas*. Fondo de Cultura Económica, México D.F
- Ress MJ (2006) *Ecofeminism in Latin America*. Orbis Books, New York
- Rival L (2012) *The materiality of life: revisiting the anthropology of nature in Amazonia*. *Indiana* 29:127–143
- Rolph KS, Obregón Lázaro MF (2012) *Quechua Oqraqashqa: the effects of mining consortia and globalization on local Quechua communities in the Peruvian Andes*. Program on human rights, Center on Democracy, Development, and the Rule of Law Freeman Spogli Institute for International Studies, Stanford University, working paper 012, http://iis-db.stanford.edu/pubs/23774/Rolph-Lazaro_012.pdf

- Romero Bedregal H (2006) Geocultura de Tarapacá: poiesis, autopoesis y decisiones culturales. Revista Ciencias Sociales 16:16–37
- Rozzi R (2001) Éticas ambientales latinoamericanas: raíces y ramas. In: Primack R, Rozzi R, Feinsinger P et al (eds) *Fundamentos de Conservación Biológica: Perspectivas Latinoamericanas*. Fondo de Cultura Económica, México, pp 311–362
- Rozzi R (2012) Biocultural ethics: recovering the vital links between the inhabitants, their habits, and habitats. Environ Ethics 34:27–50
- Rozzi R (2013) Biocultural ethics: from biocultural homogenization toward biocultural conservation. In: Rozzi R, Pickett STA, Palmer C, Armesto JJ, Callicott JB (eds) *Linking ecology and ethics for a changing world: values, philosophy, and action*. Springer, Dordrecht, pp 9–32
- Rozzi R, Feinsinger P (2001) Desafíos para la conservación biológica en Latinoamérica. In: Primack R, Rozzi R, Feinsinger R, Dirzo F, Massardo F (eds) *Fundamentos de Conservación Biológica: Perspectivas Latino-americanas*. Fondo de Cultura Económica, México, pp 661–688
- Rozzi R, Poole A (2011) Habitats-habits-inhabitants: a biocultural triad to promote sustainable cultures. In: Parodi O, Ayestaran I, Banse G (eds) *Sustainable development: relationships to knowledge, ethics and culture*. Karlsruhe Studien Technik und Kultur Seroes, Karlsruhe Institut für Technologie (KIT), Karlsruhe, pp 53–74
- Rozzi R, Arango X, Massardo F et al (2008) Field environmental philosophy and biocultural conservation. Environ Ethics 30:325–336
- Rozzi R, Armesto JJ, Gutiérrez J et al (2012) Integrating ecology and environmental ethics: earth stewardship in the southern end of the Americas. BioScience 62:226–236
- Sawyer S (2004) *Crude Chronicles: indigenous politics, multinational oil, and neoliberalism in Ecuador*. American Encounters/Global Interactions Series. Durham Press, Durham
- Schlesinger WH, Bernhardt ES (2013) *Biogeochemistry: an analysis of global change*. Elsevier, Waltham
- Spalding MD, Fox HE, Allen GR et al (2007) Marine ecoregions of the world: a bioregionalization of coastal and shelf areas. BioScience 57:573–583
- Suárez L, Ortiz D (2006) Producción de camarones y destrucción de manglares en Ecuador. In: Primack R, Rozzi R, Feinsinger P, Dirzo R, Massardo F (eds) *Fundamentos de Conservación Biológica: Perspectivas Latinoamericanas*, 2nd edn. Fondo de Cultura Económica, México, pp 195–197
- Tobasura-Acuña I (2006) *Ambientalismos y Ambientalistas: El Ambientalismo Criollo a Finales del Siglo XX*. Universidad de Caldas, Colombia, Cuadernos de Investigación, no 21, Cali
- Toledo T (2003) *Ecología, Espiritualidad y Conocimiento: De la Sociedad del Riesgo a la Sociedad Sustentable*. PNUMA, Mexico City
- Toledo V, Castillo A (1999) La ecología en Latinoamérica: ocho tesis para una ciencia pertinente en una región de crisis. Interciencia 24:157–168
- Tucker ME (2015) World religions, ethics, and the earth charter for a sustainable future. In: Rozzi R, Chapin FS III, Callicott JB et al (eds) *Earth stewardship: linking ecology and ethics in theory and practice*. Springer, Dordrecht, pp 395–405
- Ulloa-Cubillos A, Campos C, Rubio H (2001) Manejo local por los Embera del Chocó colombiano. In: Primack R, Rozzi R, Feinsinger P et al (eds) *Fundamentos de Conservación Biológica: Perspectivas Latinoamericanas*. Fondo de Cultura Económica, México, pp 599–601
- Viola E, Basso L (2015) Earth stewardship, climate change, and low carbon consciousness: reflections from Brazil and South America. In: Rozzi R, Chapin FS III, Callicott JB et al (eds) *Earth stewardship: linking ecology and ethics in theory and practice*. Springer, Dordrecht, pp 367–382
- WCED (1987) *Our common future*. Oxford University Press, Oxford
- White L (1967) The historical roots of our ecological crisis. publicado en *Science* 155:1203–1207
- Zimmerer KS (2003) Geographies of seed networks for food plants (potato, ulluco) and approaches to agrobiodiversity conservation in the Andean countries. Soc Nat Resour An Int J 16:583–601