

# Green Theory and Praxis Journal



Volume 4, Issue 1, 2008



**Volume 4, Issue 1, 2008**

Richard Kahn, Editor

Green Theory and Praxis: The Journal of Ecopedagogy

## **TABLE OF CONTENTS**

### **ARTICLES**

Introduction

Richard Kahn, Editor, Green Theory and Praxis: The Journal of Ecopedagogy

Pg. i-iv

From Education for Sustainable Development to Ecopedagogy: Sustaining Capitalism or Sustaining Life?

Richard Kahn

Pg. 1-14

Education for Sustainability: A Critical Contribution to the Decade of Education for Sustainable Development

Moacir Gadotti

Pg. 15-64

Moving Toward a Liberatory Pedagogy for all Species: Mapping the Need for Dialogue Between Humane and Anti-Oppressive Education

Brandy Humes

Pg. 65-85

Developing a Bioregional Pedagogy for Transregional Students: Practices and Experiences from the Composition Classroom

Kyhl David Lyndgaard

Pg. 86-99

Science, Eloquence, and the Asymmetry of Trust: What's at Stake in Climate Change Fiction

Scott Slovic

Pg. 100-112

## **BOOK REVIEWS**

Igniting a Revolution: Voices in Defense of the Earth by Steven Best and Anthony J. Nocella, II, eds., 2006, AK Press, ISBN 1904859569, 450 pages  
Deric Michael Shannon  
Pg. 113-117

Trying Leviathan: The Nineteenth-Century New York Case That Put the Whale on Trial and Challenged the Order of Nature by D. Graham Burnett, 2007, Princeton University Press, ISBN 978-0-691-12950-1, 304 Pages (with illustrations)  
Elizabeth Dickinson  
Pg. 118-121

## **FILM REVIEW**

King Corn, A Film by Aaron Wolf, Ian Cheney and Curt Ellis, Dir. Aaron Wolff, 2007, ITVS/Mosaic Films, ISBN (DVD): 1-59458-701-9, 88 min. (Distributed by Bullfrog Films)  
Rebecca Onion  
Pg. 122-124

## Introduction

Richard Kahn

Welcome to the inaugural issue of *Green Theory & Praxis* in its new home at the Ecopedagogy Association International. Let me thank up front the editorial collectives of the journal for all their work to date on behalf of this issue and our upcoming issue slated for release in December of this year (which is shaping up to have an ELF/ALF theme). When a journal transfers its home, it is a time of great potential but also great peril. Even those most closely involved with producing it may not be able to know for sure if they are working through the journal's growing pains or death throes. Everything hangs in the balance. But I cannot think of a more fitting set of feelings for a journal such as *Green Theory & Praxis* that is bent on articulating the contemporary state of our planet and planetary politics – for both the Earth and the social movements that now act for and with the planet are themselves undergoing great transformation, their energies swirl and churn, and it is not clear whether green praxis now undergoes development towards *koyaanisqatsi* or the realization of Teilhard de Chardin's *noosphere*. Our journal is just one small, though hopefully important, element in this larger struggle between life and death. Happily, though, with the collective organization that has been going on behind the scenes for the last 6 months and the resultant publication of this excellent issue, we hereby announce our commitment to stand and fight and live!

This issue of our journal makes a particular emphasis of including pieces that speak to various dimensions of what an ecopedagogy is or does, though not every author deploys the terminology of “ecopedagogy” specifically. This is an important point to underline – ecopedagogy is something much more akin to the pedagogical effect of the movement of movements than it is a new fangled disciplinary innovation within education or cultural studies. It is not a brand or a logo. Rather, it is the utopian and supradisciplinary dialogue of leading green thinkers, students and emerging voices, citizens and activists (amongst others)...a critical debate about what the meaning of “being green” is for the future as part of the philosophical demand to know thyself if liberation is to be obtained...an artifact of the cognitive praxis of our movement...spiritual pollen generated through our gathering together in this way, to be released freely as oppositional seed to every place the ecological conditions will allow. A message in a bottle for the future (not a plastic bottle!).<sup>1</sup>

*Green Theory & Praxis* has as its mission to be an academic journal and to demonstrate the credibility of movement voices in the academy, as well as to undermine the stereotype of scholars as a-political and uncommitted. In other words, our journal does not seek to reproduce the age-old division of labor between intellectual researchers cloistered in the academy and engaged agents of praxis bound only to the counterculture and civic public spaces. In our opinion, while the academy can do damage to social movements and radical politics by neutralizing or co-opting them, it can also serve them through the development and advancement of the ideas-from-below into wider spheres of civic legitimacy, as well as extend them by placing such ideas in the context of knowledge areas not necessarily known to individual activists, groups or organizations. Thus, here we desire to work for a kind of solidarity between academics and activists in the name of the goal of informed truth and a multidimensional political movement that can serve the evolution of both the academic and activist communities –

specifically those that have begun to think and act in response to the unprecedented ecological crisis that has gripped our planet.

Accordingly, this issue includes contributions from scholars such as Moacir Gadotti and Scott Slovic who are among the principal voices in the fields of ecopedagogy and ecocriticism respectively, but it also showcases essays from emergent theoretical voices such as Brandy Humes and Kyhl Lyndgaard. In similar fashion, we are benefited by the three reviews – of two books and one film – from Deric Shannon, Elizabeth Dickinson and Rebecca Onion (a feature of the journal that we expect to grow considerably for the future as a form of community service). It is exactly this kind of mix of established and new, international and local, manifesto essay and critical review that we seek for coming issues. I think I speak for all our editors in saying that we similarly aspire to the editorial sentiments of Joe Kincheloe, who recently wrote in his Introduction to the new *International Journal of Critical Pedagogy*:

we want to begin the establishment of an academic presence that rejects the pomposity, cutthroat competition, and status-anxiety of the academy. We want to produce a journal that is ardently rigorous (in a non-positivistic sense), democratic, disdainful of ingroups and their status-peddling, intellectually innovative, diverse and creative in its stylistics, and iconoclastic in the presentation of academic knowledge...I hope that this journal will cultivate and publish new talent and bring people into democratic, international, inclusive, supportive communities of scholars devoted to social justice, a literacy of power, social action against oppression, and transformative modes of both formal and non-formal education. While we cannot publish all articles and live up to the expectations of everyone connected to the work of the journal, we do not want to be a periodical that brags about its rejection rate or is obsessed primarily with our standing in the scholarly community. We will often offend the guardians of academic publication with our choice of essays and topics, with our critique of mainstream academic practices, with the experimental methodologies and theoretical constructs our authors employ, and the social position of some the individuals we publish (Kincheloe, 2008, pp. 1-2).

In future issues, therefore, we hope to build on the style of the journal to date and increase contributions from relevant activists and movement intellectuals, as well as from some of the important political prisoners of our age. Together, it is hoped that we can stimulate and organize coalitions of green theory and praxis capable of helping us to better meet the radical challenge that is now put to us by normative concepts such as sustainability, peace, and beauty, as well as by the institutional machinations of fascism, militarism and industrialism that concepts like those just mentioned hope to inveigh against.

We welcome your contributions, comments, questions. Your letters to the editors, poems, photographs, communiqués, and preliminary notes to the green revolution. Your conference reviews and syllabi. Your event announcements and protest demands.

For *Green Theory & Praxis*! For a better world for us all. It is one aspect of our dream as we step into the untested feasibility of this historical moment. We hope that it can engage with your own...

## References

Kincheloe, J. L. Introduction to IJCP. *International Journal of Critical Pedagogy* 1(1) (Spring).  
Online at: <http://freire.education.mcgill.ca/ojs/public/journals/Galleys/IJCP001.pdf>.

## Notes

<sup>1</sup> While not a blueprint, some “General Principles” of ecopedagogy are listed on the website of Ecopedagogy Association International. They are:

1. Ecopedagogy’s aim is to realize the planetary peace, happiness, justice, and beauty that would be manifested by sustainable social and cultural relations between the peoples of the Earth.
2. Ecopedagogy recognizes that sustainability is not being realized because, in large part, it represents the antithesis to the political, economic, and cultural status quo of the powerful forces now fueling the growth of a globalized mono-society of militarism and transnational capitalist development agendas.
3. Ecopedagogy involves mounting creative and emancipatory political action based in formative dialogue across a wide range of interested parties, the rigorous critique of society and its political economy, and learning from the standpoints of the oppressed. This translates into the process of the art of listening to and speaking with a collective of oppositional voices.
4. Ecopedagogy involves understanding both education as politics and politics as education, which is to say that for the transformation of society to move towards sustainability, there must be a greater politicization of education just as there must be a more thorough-going attempt to educate the political sector.
5. Ecopedagogy is unabashedly utopian – not in the sense of idealistic daydreaming about the possibility of another sort of world, but rather ecopedagogy is uncompromising in its refusal to accept the suffering of this one as de facto. Thus, ecopedagogy recognizes as anticipatory of a future sustainable society those social, cultural, and political projects that, in however limited a fashion, now alleviate suffering and aggression by working for the forces of life, diversity and lasting peace.
6. Ecopedagogy seeks the emergence of planetarity but also place-based regionality. We must recognize ourselves as earthlings, with all beings representing our brothers and sisters, and yet sound ecological practice will result only from bioregional acts and understandings of our location and dwelling.
7. Ecopedagogy is anti-racist, anti-classist, anti-sexist, and anti-speciesist. It is against the ranking of oppressions, and instead seeks to understand the complex ways in which various forms of oppression co-originate or intersect due to common causes. Yet, it also recognizes that in any given instance, some forms of oppression may be more primary than others, and

- 
- so understanding how multiple levels of oppression arise or take historical precedence is equally important.
8. Ecopedagogy can and must occur in numerous points of struggle – in governmental and non-governmental institutions, in universities and colleges as well as secondary and elementary schools, in grassroots activist organizations, and the public at large – and each sector will face different challenges and require different objectives as part of a broad-based movement for ecologically sound social transformation. Sometimes this will require emphasis upon theory, other times practice.

## From Education for Sustainable Development to Ecopedagogy: Sustaining Capitalism or Sustaining Life?

Richard Kahn

Developers, Developers, Developers, Developers, Developers, Developers,  
Developers, Developers, Developers, Developers, Developers, Developers,  
Developers, Developers . . . Yes!  
– Steve Ballmer, CEO of Microsoft Corporation (ZDNet 2001)<sup>1</sup>

Etymologically, a disaster is a kind of misfortune, and so it is one of the great ironies and sorrows of the present age that disasters have become prime fodder for the sort of laissez-faire economic development that aims mainly at the creation of private fortunes for well-connected corporations and individuals (Klein, 2007). Of course if such fortunes were only epiphenomena of more peaceful, just, and balanced societies – in short, ecological societies – then perhaps critical tempers could be mollified to some degree. However, as numerous studies have revealed, ongoing economic reconstruction programs that seek to integrate regional economies into the global neoliberal framework appear not only to have generally failed to improve most people's lives, but have disastrously grown the gaps between the rich and poor (Scott, 2001; Reuter, 2007; Pew Research Center for People and the Press, 2003). Hence, alter-globalization movements have arisen that seek to challenge the hegemony of this agenda (Kahn and Kellner, 2007), and indeed, philosophies that have stressed cultural empowerment for “less developed” nations, instead of their capital improvement, can now be traced back nearly fifty years. In educational circles, for instance, theories opposing the instrumental extension of global capital into the Third World date to at least the early texts of radical theorists such as Paulo Freire and Ivan Illich, who promoted “cultural action for freedom” (Freire, 2000) and a founding form of post-development theory (Rahnema and Bawtree, 1997), respectively.

There is also the political and economic global Third Way of so-called liberal centrists like Tony Blair and Bill Clinton, whom the *New York Times* has referred to as the “Impresario of Philanthropy” (Dugger, 2006) because of his Clinton Global Initiative and his work on behalf of disaster relief related to the recent Asian tsunami and Hurricane Katrina. The rhetoric of this approach champions *sustainable development* as a win-win-win for people, business, and the environment, in which the following policy goals are upheld: 1) development “meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987) and 2) development improves “the quality of human life while living within

---

**Richard Kahn** is an Assistant Professor of Educational Foundations & Research at the University of North Dakota. He is the co-author or editor of four books of educational theory, as well as the forthcoming, *Greening the Academy: Environmental Studies in the Liberal Arts* (Syracuse University Press; co-edited with Anthony Nocella) and *Systems of Domination: The Global Industrial Complex* (Lexington Press; co-edited with Steven Best, Peter McLaren and Anthony Nocella). A critical theorist of education, his work (often with Douglas Kellner) has regularly appeared in major collections and journals on globalization, cultural studies, new media and critical pedagogy. Further information about him can be obtained at his website: <http://richardkahn.org>.



the carrying capacity of supporting ecosystems” (Munro and Holdgate, 1991). In its tendency to deploy quasi-leftist slogans, Clintonian Third Way politics claims that it wants to put a human face to globalization and that it supports inclusive educational, medical, and civic development throughout the global South in a manner much akin to that demanded by leaders in Latin America and Africa. But if this Third Way political vision really intends to deliver greater equity, security, and quality of life to the previously disenfranchised, it is especially noteworthy that it also mandates that “existing property and market power divisions [be left] firmly off the agenda” (Porter and Craig, 2004, p. 390).

A 2000 speech by Clinton to the University of Warwick exemplifies this claim and so reveals why astute globalization critics such as Perry Anderson have characterized Thirdwayism as merely “the best ideological shell of neo-liberalism today” (Anderson, 2000, p. 11). In his speech, Clinton rhetorically plugs building the necessary “consensus” to allow for the opening of previously closed markets and rule-based trade, such as that sponsored by the International Monetary Fund, in the name of a global humanitarianism, which can overcome disasters such as global warming, disease, hunger, and terrorism:

I disagree with the anti-globalization protestors who suggest that poor countries should somehow be saved from development by keeping their doors closed to trade. I think that is a recipe for continuing their poverty, not erasing it. More open markets would give the world’s poorest nations more chances to grow and prosper.

Now, I know that many people don’t believe that. And I know that inequality, as I said, in the last few years has increased in many nations. But the answer is not to abandon the path of expanded trade, but, instead, to do whatever is necessary to build a new consensus on trade (Clinton, 2000).

The neoliberal market mechanism remains largely the same, then, in both Third Way welfarism and the aggressive corporatism favored by the current Bush administration. The only difference between them may be the nature of the trade rules and goals issued by the governing consensus. In this, the Clinton Global Initiative is a poster child for the ideology of most U.S. center-left liberals, who believe that administrations can learn to legislate temperance by creating more and more opportunities for intemperate economic investment in alternative, socially responsible markets. The sustainable development vision thereby maintained is of a highly integrated world society, centered and predicated on economic trade, presided over by beneficent leaders who act in the best interests of the people (while they turn an honest profit to boot). However, in this respect we might wonder, as Garrett Hardin put it, “Who shall watch the watchers themselves?” (Hardin, 1968, p. 1245).

Sustainable development has increasingly become a buzzword uttered across all political lines; one is as likely to hear it in a British Petroleum commercial as on Pacifica radio. In 2005, the United Nations ushered in the Decade of Education for Sustainable Development, and has thereby challenged every nation to begin transforming its educational policies such that a global framework for ecological and social sustainability can be built in relatively short order. Just what kind of sustainable development is education for sustainable development supposed to stand for, though? Is it consonant with alter-globalization views, or is it rather synonymous with neoliberalism in either its Bush or Clinton capitalist variants? It charges institutions (especially educational institutions) with altering their norms and behavior in the name of environmental

protection, but can a top-down movement for organizational change really address the fundamental failures of present institutional *technique*? The ecosocialist and founder of the German Green Party, Rudolf Bahro, noted that most institutional environmental protection “is in reality an indulgence to protect the exterministic structure,” which removes concern and responsibility from people so that “the processes of learning are slowed down” (Bahro, 1994, p. 164). Does education for sustainable development amount to something radically different from this? What is the difference between education for sustainable development and ecopedagogy?

### **An Ecological Defense of the Apocalyptic**

It may seem impossible to imagine that a technologically advanced society could choose, in essence, to destroy itself, but that is what we are now in the process of doing.

– Elizabeth Kolbert (2006)

The political left has long been suspicious of *catastrophist* ideas and language. This is understandable – the politics of apocalypticism generally run counter to enlightened reason, critical deliberation, and a rigorous sense of tolerance. Further, as fears of impending disasters can flirt, formally or informally, with millenarian aspirations, the largely secular left has been ideologically predisposed to disregard such fears as reactionary fantasies. The unchecked neoconservative-led reaction to 9/11 has certainly provided ample evidence that this manner of disaster politics, when devoid of popular disbelief and critique, can manifest disastrous consequences such as unending war, Machiavellian imperialism, and the brutalization of democracy via Big Lies and countless megaspectacles that seek to convince people that they must win at all costs against the forces of “evil.” One can find similar logic spouted across the AM radio dial, produced by all manner of xenophobic, racist, classist, and misogynistic individuals and groups. Finally, far-right organizations such as the LaRouche movement, hate groups like skinheads, and armed militias who fear the erection of a New World Order, all frequently invoke widespread social disaster as either presently underway or frightfully imminent. In all these cases, it is claimed that disaster can be avoided through dehumanization processes in which true believers consent to violence in the name of peace and the limitation of others’ freedoms in the name of liberty.

In recent years, the democratic establishment has also shown itself willing to capitalize on the public’s fears of catastrophe. In particular, elements of ongoing and potential ecological crises, which are at least scientifically real, have been exploited to garner support for the Democratic Party, its candidates, or various voting propositions developed by its constituency. For example, during the 2004 presidential race, the MoveOn PAC (political action committee) helped sponsor mass viewings of the rather absurd film *The Day after Tomorrow*, in which global climate change is spectacularly portrayed as generating natural disasters and glacial advance over the eastern seaboard during the span of only a few days. MoveOn’s idea was not to educate people about the dangerous levels of greenhouse gases in our atmosphere, but rather to score political points against Republicans by creating environmental concerns among potential voters through a theatrical depiction of natural disaster coupled with carefully placed advertisements targeting George W. Bush’s woeful environmental policy record. More recently, Al Gore produced perhaps the first spectacular lecture with his broadly viewed global climate change documentary *An Inconvenient Truth*. While his movie offers much more science than showmanship, a crucial aspect of the film is the way in which Gore’s own questionable track

record on the issue has been therein recast as instead exemplifying the sort of maverick and visionary leadership that (it is argued in the film) deserved the presidency in 2000, delivered him a Nobel Peace Prize in 2007, and had many clamoring for his presidential nomination in 2008 prior to Obamania.

In yet another example, liberal film and music celebrities like Brad Pitt, Leonardo DiCaprio, Matt Damon, George Clooney, Angelina Jolie, and Jay Z have been drafted (many through the Clinton Global Initiative) to promote sustainable development by attaching their star power to environmental causes. Pitt sponsored architectural contests in which developers vied for opportunities to rebuild New Orleans as a “green” city that includes state-of-the-art technology, high-density housing, live-work communities, and energy-saving designs. In a July 15, 2006 article in the *Washington Post*, Linda Hales quotes Pitt as saying, “We want to rebuild intelligently.” Yet missing in all this hoopla was the fact that New Orleans is by definition not *sustainable* as a city. This goes well beyond its wetlands loss and low elevation, for it is only a matter of time until nature successfully overcomes the upstream machinations<sup>2</sup> of the Army Corps of Engineers to control the flow of the Mississippi River and thereby keep it directed toward New Orleans. Eventually, perhaps soon, the Mississippi River *will* break its banks and pour headlong into the adjacent Atchafalaya River. Once this occurs, New Orleans will almost instantly turn from a vital economic port town to a peninsular city cut off from the river’s flow, which will in turn come to empty into the Gulf of Mexico a couple of hundred miles to New Orleans’s west (McPhee, 1989). Does anyone now bent on intelligent and sustainable reconstruction of the city, much less those that live or hope to live there, even recognize this ecological fact?

Despite reasons to be critical of, if not downright cynical toward, the political exploitation of natural disasters, the reality is that our present historical moment is constituted by planetary ecological crisis to such a degree that environmentalism can no longer be swept aside as a single-issue political concern of bourgeois whites. As the historian E. P. Thompson (1980) has written, it appears that exterminism may indeed prove to be the last stage of civilization, a thought echoed by an alarming number of recent texts charting the burgeoning relationships between social and ecological disasters (Kunstler, 2005; Brown, 2006; Rees, 2003; Diamond, 2005; Flannery, 2006; Posner, 2004).

The environmental movement that has arisen over the last few decades certainly has not been without significant accomplishments, but its inability to offer holistic social critiques and real cultural alternatives has resulted in the continued exponential rise of ecological crises regardless.<sup>3</sup> For example, since the first Earth Day of 1970 we have witnessed a form of *endless growth political economy* that is literally overproducing and consuming the planet toward death. Wholly without precedent, the human population has nearly doubled during this time period, increasing by some 2.5 billion people (Kovel 2002, p. 3). Similarly, markets have continued to worship the gods of speed and quantity and refused to conserve. The use and extraction of nonrenewable energy resources, such as oil, coal, and natural gas, has followed and exceeded the trends set by the population curve despite many years of warnings about the consequences inherent in their overuse and extraction, and this has led to a corresponding increase in the carbon emissions known to be responsible for global warming (IPCC, 2007).<sup>4</sup>

Likewise, living beings and organic habitats are being culled and destroyed in the name of human production and consumption at staggering rates. Tree consumption for paper products has doubled over the last thirty years, resulting in about half of the planet’s forests disappearing (Kovel, 2002, p. 4), while throughout the oceans, global fishing has also doubled resulting in a

recent report finding that approximately 90 percent of the major fish species in the world's oceans have disappeared (Weiss, 2003). Forty mile-long drift nets are routinely used to trawl the ocean bottoms, causing incalculable damage to the ocean ecosystem. Giant biomass nets, with mesh so fine that not even baby fish can escape them, have become the industry standard in commercial fishing and, as a result, there is expected to be no extant commercial fishery left active in the world by 2048 (Worm, *et al.*, 2006). Further, such nets are drowning and killing about one thousand whales, dolphins, and porpoises daily, some of the very species already near extinction from centuries of commercial hunting (Verrengia, 2003). Since the end of the 1960s, half of the planet's wetlands have either been filled or drained for development, and nearly half of the Earth's soils have been agriculturally degraded so as not to support life (Kovel, 2002). Finally, as giant corporate agribusinesses have consumed the family farm, and as fast food has exploded from being a cultural novelty to a totalizing cultural staple across the world, vast unimaginable slaughterhouses (brutal and ecologically ruinous production lines in which thousands of animals are murdered for meat harvesting every hour) have also become the business standard (Singer and Mason, 2006).

Almost all of these trends are escalating and most are accelerating. Even during what recently amounted to a current economic downturn, transnational markets and development continued to flow and evolve, and the globalization of *technocapital* (Best and Kellner, 2001) continues to fuel yet another vast reconstruction of the myriad planetary political, economic, and sociocultural forces into a futuristic information society. Over the last few decades then, humanity has unfolded like a shock wave across the face of the Earth, one that has led to an exponential increase of transnational marketplaces and startling achievements in science and technology, but one that has also had devastating effects on planetary ecosystems, both individually and as a whole. Most telling has been the parallel tendency over this time period toward mass extinction for the great diversity of nonhuman species, including vast numbers of mammals, birds, reptiles, and amphibians. Comparing the numbers involved in this catastrophe with the handful of other great extinctions within the prehistoric record has led the esteemed paleoanthropologist Richard Leakey to dub this age as the time of "the Sixth Extinction," a great vanishing of creatures over the last thirty-odd years such as the planet did not see during its previous sixty-five million (Leaky and Lewin, 1995).

The critical theorist Herbert Marcuse referred to the sort of systemic disregard for life evinced by statistics such as these as "ecocide" (Kellner, 2005, p. 173) – the attempt to annihilate natural places by turning them into capitalist cultural spaces, a process that works hand in hand with the genocide and dehumanization of people as an expression of the market economy's perpetual expansion. More recently, others speak of ecocide as the destruction of the higher-order relations that govern ecosystems generally (Broszmitter, 2002), as when economies of need take areas characterized by complexity and diversity (like the Amazonian rainforest) and reduce them to the deforested and unstable monoculture of soybeans for cattle feed. However, while it is no doubt possible to disable an ecosystem from sustaining much life, it is not clear that one can actually kill it. Instead, we are witnessing a process by which bioregions are being transformed pathologically from natural ecologies of scale that support life to capitalist ecologies that function beyond limit and threaten death. In this way, the current globalization of neoliberal capitalism, which institutes classist, racist, sexist, and speciesist oppression, is a sort of biocidal, or as I ultimately argue elsewhere (Kahn, 2006), a zoöcidal agent.

In response to the evidence of planetary ecocide, biocide, and zoöcide, critical educators have begun to wonder if global institutions are capable of interpreting the idea of the "limits to

growth” (Meadows, Randers, and Meadows, 2004) in any fashion beyond an open-market neoliberalism. Again, in its most egalitarian form, sustainable development is offered as a political and economic platform that can generate wealth among the poor (and rich), raise living standards for all, and protect the environment. Yet as the environmental theorist Ted Trainer notes, the mean present standard of living enjoyed by those across the planet is already estimated to utilize somewhere between two to four times the amount of sustainable resources provided by the Earth proper. Therefore, if the world’s population continues to rise toward nine billion people, and if global living standards increase commensurate to the rhetoric of sustainable development boosters, it can be reasonably calculated that in order to have a sustainable planet by the year 2070, it will be necessary to have technoscientific advances capable of enabling sixty times as much production and consumption as is presently maintained (Trainer, 2002). Further, future sustainable industries could afford to generate only one-half to one-third the amount of their counterparts’ present environmental costs (Trainer, 2002). But according to the United Nations Environment Programme’s *GEO-3* report, a vision of continued growth of this kind is consonant only with planetary extinction: either great changes are made in our global lifestyle now or an irrevocable social and ecological crisis will grip the world by 2032 (United Nations Environment Programme, 2002).

### **The Promises and Costs of Education for Sustainable Development?**

Even the most casual reading of the earth’s vital signs immediately reveals a planet under stress. In almost all the natural domains, the earth is under stress – it is a planet that is in need of intensive care. Can the United States and the American people, pioneer sustainable patterns of consumption and lifestyle, (and) can you educate for that? This is a challenge that we would like to put out to you.

– Noel J. Brown, United Nations Environment Programme

It was during 1992, at the first Earth Summit in Rio de Janeiro, Brazil, that an attempt to make a systematic statement about the interrelationship between humanity and the Earth was conceived of and demanded – a document that would formulate the environmental concerns of education once and for all in both ethical and ecological (as opposed to merely technocratic and instrumentalist) terms. This document, now known as the Earth Charter, failed to emerge from Rio, however. Instead, Chapter 36 of the *1992 Earth Summit Report* went on to address the issue in the following manner:

Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues. . . . It is critical for achieving environmental and ethical awareness, values and attitudes, skills and behavior consistent with sustainable development and for effective public participation in decision-making (United Nations Conference on Environment and Development, 1992, p. 2).

In 1994, Maurice Strong, along with Mikhail Gorbachev, renewed interest in the Earth Charter and received a pledge of support from the Dutch government. This led to a provisional draft of the document being attempted in 1997, with the completion, ratification, and launching of the Earth Charter Initiative at the Peace Palace in The Hague occurring on June 29, 2000. The initiative’s goal was to build a “sound ethical foundation for the emerging global society and to

help build a sustainable world based on respect for nature, universal human rights, economic justice, and a culture of peace” ([http://www.earthcharter.org/innerpg.cfm?id\\_page=95](http://www.earthcharter.org/innerpg.cfm?id_page=95)). While hardly a perfect document or initiative, the Earth Charter’s announced mission was still nothing short of revolutionary, as it attempted a bold educational reformulation of how humans should perceive their cultural relationship to nature, thereby casting environmental and socioeconomic/political problems together in one light and demanding long-term, integrated responses to the growing planetary social and ecological problems.

It was hoped that at the 2002 Earth Summit meetings in Johannesburg, South Africa (the World Summit for Sustainable Development) the United Nations would adopt and endorse the Earth Charter. However, the summit proved disappointing in many respects, and while Kofi Annan optimistically closed the summit by announcing that \$235 million worth of public–private partnerships had been achieved because of the conference and that this put sustainable development strategies firmly on the map, social and environmental activists found the World Summit for Sustainable Development to be a sham for mostly the same reason.<sup>5</sup> Thus, the W\$SD (as its critics called it, due to its apparent pro-business agenda and bad taste in staging an Olympics-style, posh event on the outskirts of the Soweto shantytowns’ appalling poverty) articulated a central divide between large-scale corporate and governmental technocrats and the more grassroots-based theorists, activists, and educators proper. As a result of the considerable pressure exerted by the U.S. delegates (and the additional political and economic interests of the other large states and NGOs [Non-Governmental Organizations]), the 2002 summit ultimately refused to consider ratification of the holistic, pointedly socialist in spirit, and non-anthropocentric Earth Charter educational framework. Instead, education for sustainable development was promoted as a new crucial educational field to be integrated across the disciplines and at all levels of schooling.

The critical environmental educator Edgar González-Gaudio (2005) has remarked that like environmental education before it, education for sustainable development might be a “floating signifier” or “interstitial tactic” capable of providing diverse groups opportunities to produce alliances as part of the construction of a new educational discourse. However, he also finds it troubling that non-environmental educators “either appear to be uninformed or have shown no interest in the inception of a Decade that concerns their work” (p. 244). For his part, Bob Jickling (2005) is worried by the apparently instrumentalist and deterministic nature of education for sustainable development thus far. In his opinion, it is extremely troubling that education for sustainable development’s tendency as a field to date is to treat education as merely a method for delivering and propagating experts’ ideas about sustainable development, rather than as a participatory and metacognitive engagement with students over what (if anything) sustainable development even means. Indeed, if this is all that is to be expected of and from education for sustainable development, then it may be concluded that it basically amounts to the latest incarnation of what Ivan Illich cynically referred to as the prison of the “global classroom” (Illich and Verne, 1981). Yet it should be pointed out that despite his serious reservations, Jickling notes that there may be many educators already doing good work under this moniker as well.

The next decade will ultimately decide whether education for sustainable development is little more than the latest educational fad, or worse yet, that it turns out to be nothing other than a seductive pedagogical “greenwash” developed by and for big business-as-usual in the name of combating social and ecological disasters. Due to the inherent ideological biases currently associated with the term “sustainable development,” the decade now underway demands careful

attention and analysis by critical educators in this regard. Specifically, educators will need to explain how, and if, notions of sustainability can critically question the various recipes for disaster (in all of their left, center, and rightist formulations) that are the well-established social and human development models (in this respect, see Gadotti, 2008). On the other hand, if education for sustainable development is utilized strategically to advance a radical ecopedagogy (Kahn, 2008), it could be the boost that education desperately needs in order to finally begin to adequately deal with the apocalyptic demands now being wrought upon society by planetary ecological crises. In this way, what has been heretofore known as environmental education could at last move beyond its discursive marginality and a real hope for an ecological and planetary society could be sustained through the widespread development of radical socioeconomic critiques and the sort of emancipatory life practices that could move beyond those programmatically offered by the culture industries and the State.

### **Pushing Forward with Ecopedagogy**

It is urgent that we assume the duty of fighting for the fundamental ethical principles, like respect for the life of human beings, the life of other animals, the life of birds, the life of rivers and forests. I do not believe in love between men and women, between human beings, if we are not able to love the world.  
– Paulo Freire (2004)

Though still relatively nascent, the international ecopedagogy movement represents a profound transformation in the radical political project that was derived from the work of Paulo Freire known as critical pedagogy.<sup>6</sup> Ecopedagogy seeks to interpolate quintessentially Freirean aims of humanization and social justice with a future-oriented ecological politics that radically opposes the globalization of neoliberalism and imperialism, on the one hand, and which attempts to foment collective ecoliteracy and realize culturally relevant forms of knowledge grounded in normative concepts such as sustainability, planetarity, and biophilia, on the other. While Paulo Freire was himself at work on a book of ecopedagogy upon his death in 1997, and important books such as Francisco Gutierrez and Cruz Prado's *Ecopedagogy and Planetary Citizenship* (1999) have thus far been published to wide acclaim in Portuguese, ecopedagogy should not be dogmatically reduced to the theories or practices developed by any particular set of individuals. Rather, akin to the World Social Forum and other related forms of contemporary popular education strategies, the ecopedagogy movement is best perceived as a loosely knit, worldwide association of critical educators, theorists, non-governmental and governmental organizations, grassroots activists and concerned citizens engaged in ongoing dialogue and political action that is attempting to develop ecopedagogical praxis in relation to the needs of particular places, groups, and time periods.

Ecopedagogy began in a Latin American educational context, growing out of discussions conducted at the first Earth Summit, held in Rio de Janeiro, Brazil in 1992, in which movement intellectuals desired to make a systematic statement about the interrelationship between humanity and the Earth and formulate a mission for education to universally integrate an ecological ethic – a document that would eventually be ratified as the Earth Charter in 2000. In 1999, the Instituto Paulo Freire under the direction of Moacir Gadotti, along with the Earth Council and UNESCO, convened the First International Symposium on the Earth Charter in the Perspective of Education, which was quickly followed by the First International Forum on

Ecopedagogy. These conferences led not only to the final formation of the Earth Charter Initiative but to key movement documents such as the Ecopedagogy Charter, as reiterated in Gadotti's essay *Pedagogy of the Earth and the Culture of Sustainability* (2000). Gadotti and others in the ecopedagogy movement have remained influential in advancing the Earth Charter Initiative and continue to mount ecopedagogy seminars, degree programs, workshops and other learning opportunities through an ever-growing number of international Paulo Freire Institutes.

As a form of critical theory of education, ecopedagogy can work at a meta-level to offer dialectical critiques of environmental education and education for sustainable development as hegemonic forms of educational discourse that have been created by state agencies that seek to appear to be developing pedagogy relevant to alleviating our mounting global ecological crisis. While environmental education strategies undoubtedly accomplish much that is welcome and good from an ecopedagogical perspective, ecopedagogy questions (especially within the context of the United States) the ways in which environmental education is often reduced to forms of experiential and outdoor pedagogy that deal uncritically with the experience of "nature" proffered therein – an ideological zone of wilderness representations that are potentially informed by a *mélange* of racist, sexist, classist and speciesist values. Further, ecopedagogy has begun to pose problems into the way environmental education has become tethered to state and corporate-sponsored science and social studies standards, or otherwise fails to articulate the political need for widespread knowledge of the ways in which modern society and industrial culture promotes unsustainable lifestyles, even as it remains marginalized in the research, teacher-training and educational leadership programs of graduate schools of education.

Ecopedagogy also maintains a critical relationship to the ongoing UN-sponsored Decade of Education for Sustainable Development (2005-2015). Ecopedagogues hope to utilize education for sustainable development to make strategic interventions on behalf of the oppressed, but ecopedagogy also attempts to generate conscientization upon the concept of sustainable development proper and thereby uncloak it of the sort of ambiguity that presently allows neoliberal economic planners in either their aggressively imperialist or Third Way economic/political variants to autocratically modernize the world despite the well-known consequential socio-cultural and ecological costs.

Freirean critical pedagogy is synonymous with its popular literacy campaigns<sup>7</sup> on behalf of democratic justice and ecopedagogy accordingly seeks to develop at least three varieties of ecoliteracy throughout society in the name of a more just, democratic and sustainable planetary civilization: the technical/functional, the cultural, and the critical. Taken together, these three forms of ecoliteracy should be seen as holistically complimentary to one another, overlapping, and not in a hierarchical, logical, or linear relationship.

Functional, or technical, ecoliteracy is largely congruent with what is often referred to in contemporary educational literature as "environmental literacy." It involves goals of learning to understand basic scientific ecology, geology, biology and other scientific insights to the degree that they are relevant to social life. Technical ecoliteracy also involves, at more advanced levels of research, knowing how societies can affect ecological systems for better or worse. At the immediate local level, this accords with bioregional literacy (Sale, 1985), but ecopedagogy should aspire for ecoliteracy into the ways in which the local, regional and global interact such as through work being done on critical rural literacies (Donehower, *et al.*, 2007) or critical place-based literacy (Gruenewald and Smith, 2007). This moves us towards generating cultural ecoliteracy.

As the ecological educational theorist C. A. Bowers has outlined throughout his wide body



of work (see <http://www.cabowers.net>), diverse cultures often maintain manifestly different epistemological relationships to nature, and have also developed varying anthropological perspectives on life that can be either more or less sustainable as a result. Hence, in the move to a second-order of cultural ecoliteracy, Bowers's work problematizes attempts to universalize and institutionalize ecoliteracy as functional forms of environmental knowledge that accord only with Western science and citizenship values. While ecopedagogy should carefully articulate the complexities of the Western liberal tradition and dialectically illuminate the manner in which Enlightenment individualism developed as an emancipatory form of counterhegemony, ecopedagogy should also be informed by Bowers's attempt to describe how a rigorous cultural ecoliteracy requires knowing why cultures centrally predicated upon Western individualism tend to produce ecological crisis through the pervasive homogenization, monetization and privatization of human expression – what he has termed “the enclosure of the cultural commons” (Bowers, 2007).

Against the progressive enclosure of culture and nature, Bowers calls for ecoliteracy into the way in which indigenous (and other) cultures that have long-standing traditions of sustainability in their cultural practices understand and relate to the world and ecopedagogy similarly shares an abiding interest in preserving and supporting traditional ecological knowledge. Additionally, in an age now characterized by the rampant globalization of cultures, Bowers's development of a form of ecoliteracy that seeks knowledge of how sustainable cultures are presently resisting their assimilation by re-defining themselves around vernacular social practices that strengthen community and commons-based approaches to living well is valuable and to be commended.<sup>8</sup>

Ecopedagogy therefore seeks to militate for cultural ecoliteracies that can produce multiculturally-relevant knowledge of how diverse cultures differ in their ways of relating to and understanding nature's order, how they may interact with one another in ecologically and educationally beneficial ways, and how they may learn to manifest cultural action for ecologies of freedom. This would include understanding, for instance, the manner in which: 1) cultures are built out of *foundational cosmologies* that may work ideologically in ways that are either more or less sustainable to life, 2) *develop technologies* that are more or less appropriate to the support of biological diversity and social flourishing across history, and 3) *organize their collective knowledge* via traditions and institutions that are either more or less democratic and integral to the daily life experiences of the people and places such knowledge is meant to support.

Lastly, while aspects of a critical ecoliteracy are clearly implicated in deriving rigorous elements of cultural ecoliteracy (especially when the culture is one's own), ecopedagogy intends a third-order critical ecoliteracy to accord with Freirean readings of literacy as inherently implicated within socio-cultural relations of power and politics. Therefore, in the particular example of Western society, a critical ecoliteracy would mean (amongst other things) understanding: the “dialectics of justice” (McLaren and Houston, 2005) between the Green and Brown ecopolitical agendas, the historical roles that waves of colonialism and imperialism have had in constructing society and nature; the ways in which industrial capitalism (including modern science and technology) has worked ecologically and anti-ecologically on the planet both locally and globally – including on human societies, demanding ecosocialist pedagogy (Hill and Boxley, 2007); the manner in which an ideological image of “humanity” has served to functionally oppress all that has been deemed Other than human by interested parties; and the way in which ruling-class culture and politics now terrorizes planetary life through obscene militarism whilst marginalizing, intimidating, jailing as “ecoterrorists,” and sometimes even

murdering ecological freedom fighters such as the Nigerian Ogoni movement's Ken Saro-Wiwa and Chico Mendes, the Brazilian rubber tapper union leader. But Freirean critical literacy always incorporates positive and active dimensions as well, hence a critical ecoliteracy as deployed by ecopedagogy would ultimately attempt to mobilize diverse peoples to engage with culturally appropriate forms of ecological politics and to engage in movement building on these issues through critical dialogue and constructive alliances (for example, see Best and Nocella, 2006). In this way, people and groups can then recognize their own ecopedagogy as a form of ethical epiphany that serves to individuate the state of planetary ecology as a whole within a given historical time period. Accordingly, it is the hope of ecopedagogy that such epiphanies will contain within themselves a cosmos of transformative energies, untapped life forces, and other liberatory potentials capable of aiding others in the reconstruction of society on the way to a more peaceful, harmonious, and beautiful world for all creatures great and small. Ecopedagogy is thus a total liberation pedagogy for sustaining life. Wherever it appears to take forms that appear overly complicit with forces that attack radical biophilia, one deals not with it but its sustainable development doppelganger.

## References

- Anderson, P. 2000. Renewals. *New Left Review* 11(1): 11.
- Bahro, R. 1994. *Avoiding Social and Ecological Disaster: The Politics of World Transformation*. Bath, U.K.: Gateway Books.
- Best, S. and D. Kellner. 2001. *The Postmodern Adventure*. New York: Guilford.
- Best, S. and A. J. Nocella, II. 2006. *Igniting a Revolution: Voices in Defense of the Earth*. Oakland, CA: AK Press.
- Bowers, C. A. 2007. *Critical Essays on the Enclosure of the Commons: The Conceptual Foundations of Today's Mis-Education*. Eugene, OR: Ecojustice Press.
- Browswimmer, F. J. 2002. *Ecocide: A Short History of the Mass Extinction of Species*. London: Pluto Press.
- Brown, L. R. 2006. *Plan B 2.0: Rescuing a Planet Under Stress and a Civilization in Trouble*. New York: W. W. Norton.
- Brundtland, G. H. 1987. *Our Common Future: Report of the World Commission on Environment and Development*. Oxford: Oxford University Press.
- Clinton, W. J. 2000. Remarks by the President to the Community of the University of Warwick. December 14, Coventry, Warwickshire, England.
- Diamond, J. 2005. *Collapse: How Societies Choose to Fail or Succeed*. New York: Penguin.
- Donehower, D., C. Hogg, and A. Schell. 2007. *Rural Literacies*. Carbondale, IN: Southern Illinois University Press.
- Dugger, C. 2006. Clinton, Impresario of Philanthropy, gets a Progress Update. *New York Times*, April 1.
- Esteva, G. and M. S. Prakash. 1998. *Grassroots Post-Modernism: Remaking the Soil of Cultures*. London: Zed Books.
- Flannery, T. 2006. *The Weather Makers: How Man is Changing the Climate and What it Means for Life on Earth*. New York: Atlantic Monthly Press.
- Freire, P. 2000. *Cultural Action for Freedom*. Boston, MA: Harvard Educational Review.
- , 2004. *Pedagogy of Indignation*. Boulder, CO: Paradigm Publishers.
- Gadotti, M. 2000. Pedagogy of the Earth and the Culture of Sustainability. Online at <http://www.earthcharterinaction.org/resources/files/gado.htm>.

- , 2008. Education for Sustainability: A Critical Contribution to the Decade of Education for Sustainable Development. *Green Theory & Praxis: The Journal of Ecopedagogy* 4(1).
- González-Gaudiano, E. 2005. Education for Sustainable Development: Configuration and Meaning. *Policy Futures in Education* 3(3): 243–250.
- Grunewald, D. and G. Smith. (eds.). 2007. *Place-based Education in the Global Age: Local Diversity*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Hardin, G. 1968. The Tragedy of the Commons. *Science* 162: 1243–1248.
- Hill, D. and S. Boxley. 2007. Critical Teacher Education for Economic, Environmental and Social Justice: an Ecosocialist Manifesto. *Journal for Critical Education Policy Studies* 5(2). Online at: <http://www.jceps.com/?pageID=article&articleID=96>.
- Illich, I. and E. Verne. 1981. *Imprisoned in the Global Classroom*. London: Writers and Readers.
- Intergovernmental Panel on Climate Change (IPCC). 2007. *Climate Change 2007: Synthesis Report*. Geneva, Switzerland: IPCC.
- Jickling, B. 2005. Sustainable Development in a Globalizing World: A Few Cautions. *Policy Futures in Education* 3(3): 251–259.
- Kahn, R. 2006. The Educative Potential of Ecological Militancy in an Age of Big Oil: Towards a Marcusean Ecopedagogy. *Policy Futures in Education* 4(1): 31–44.
- , 2007. Critical Environmental Theory (or Ecocriticism). In P. Robbins (ed.), *Encyclopedia of Environment and Society*. Thousand Oaks, CA: Sage Publications.
- , 2008. Towards Ecopedagogy: Weaving a Broad-based Pedagogy of Liberation for Animals, Nature and the Oppressed Peoples of the Earth. In A. Darder, R. Torres and M. Baltodano (eds.), *The Critical Pedagogy Reader* (2nd ed.). New York: Routledge.
- Kahn, R. and D. Kellner. 2005. Reconstructing Technoliteracy: A Multiple Literacies Approach. *E-Learning* 2(3).
- , 2007. Resisting Globalization. In G. Ritzer (ed.), *The Blackwell Companion to Globalization*. Malden, MA: Blackwell Publishing.
- Kellner, D. (ed.). 2005. *Herbert Marcuse: The New Left and the 1960s*. New York: Routledge.
- Kellner, D. and J. Share. 2007. Critical Media Literacy is not an Option. *Learning Inquiry* 1(1): 59–69.
- Klein, N. 2007. *The Shock Doctrine: The Rise of Disaster Capitalism*. New York: Metropolitan Books.
- Kolbert, E. 2006. *Field Notes from a Catastrophe: Man, Nature, and Climate Change*. London: Bloomsbury Publishers.
- Kovel, J. 2002. *The Enemy of Nature*. New York: Zed Books.
- Kunstler, J. H. 2005. *The Long Emergency: Surviving the Converging Catastrophes of the Twenty-First Century*. New York: Atlantic Monthly Press.
- Leakey, R. and R. Lewin. 1995. *The Sixth Extinction*. New York: Doubleday.
- McLaren, P. and D. Houston. 2005. Revolutionary Ecologies: Ecosocialism and Critical Pedagogy. In P. McLaren, *Capitalists & Conquerors: A Critical Pedagogy Against Empire*. Lanham, MD: Rowman & Littlefield.
- McPhee, J. 1989. *The Control of Nature*. New York: Farrar, Straus, and Giroux.
- Meadows, D. H., J. Randers, and D. L. Meadows. 2004. *The Limits to Growth: The 30-year Update*. Boston: Chelsea Green Publishing.
- Munro, D. A., and M. W. Holdgate. (eds.). 1991. *Caring for the Earth. A Strategy for Sustainable Living*. Gland, Switzerland: The World Conservation Union, United Nations Environment Programme, and World Wildlife Fund.

- Pew Research for the People and the Press. 2003. *Views of a Changing World*. Washington, DC: Pew Research Center for the People and the Press.
- Porter, D. and D. Craig. 2004. The Third Way and the Third World: Poverty Reduction and Social Inclusion in the Rise of 'Inclusive' Liberalism. *Review of International Political Economy* 11(2): 387–423.
- Posner, R. A. 2004. *Catastrophe: Risk and Response*. Oxford: Oxford University Press.
- Rahnema, M. and V. Bawtree. (eds.). 1997. *The Post-Development Reader*. London: Zed Books.
- Rees, M. 2003. *Our Final Century: Will the Human Race Survive the 21st Century?* London: William Heinemann.
- Reuter, W. 2007. Global Concern over Inflation: Rising Prices Widen Gap Between Rich and Poor. *Spiegel Online*, October 31. Online at: <http://www.spiegel.de/international/world/0,1518,514621,00.html>.
- Sale, K. 1985. *Dwellers in the Land: The Bioregional Vision*. San Francisco: Sierra Club Books.
- Scott, B. R. 2001. The Great Divide in the Global Village. *Foreign Affairs* 80(1): 60–177.
- Shiva, V. 2006. *Earth Democracy: Justice, Sustainability and Peace*. Boston: South End Press.
- Singer, P. and J. Mason. 2006. *The Way we Eat: Why our Food Choices Matter*. New York: Rodale.
- Steinfeld, H., et al. 2006. *Livestock's Long Shadow: Environmental Issues and Options*. Rome: Food and Agriculture Organization of the United Nations.
- Thompson, E. P. 1980. *Writing by Candlelight*. London: Merlin.
- Trainer, T. 2002. What is Sustainable Development? *EDucate! Magazine* 5. Karachi: 38–40.
- United Nations Conference on Environment and Development. 1992. Promoting education, public awareness and training. In *Agenda 21*, 221–227. Geneva: UN.
- United Nations Environment Programme. 2002. *Global Environmental Outlook 3: Past, Present, and Future Perspectives*, 13–15. London: Earthscan.
- Verrengia, J. B. 2003. Scientists Raise Alarm over Sea-Mammal Deaths. Associated Press, June 16.
- Weiss, R. 2003. Key Ocean Fish Species Ravaged, Study Finds. *Washington Post*, May 15.
- Worm, B., et al. 2006. Impacts of Biodiversity Loss on Ocean Ecosystem Services. *Science* 314(5800): 787–790.
- ZDNet. 2001. More News: Why Ballmer's "Monkey Boy" Dance was a Tour de Force. August 24, Online at: [http://review.zdnet.com/4520-6033\\_16-4206342.html](http://review.zdnet.com/4520-6033_16-4206342.html).

## Notes

<sup>1</sup> Ballmer is the CEO of Microsoft Corporation and was recently ranked as the 24th wealthiest individual in the world by Forbes.com (Online at: [http://www.forbes.com/lists/2006/10/Rank\\_1.html](http://www.forbes.com/lists/2006/10/Rank_1.html)).

<sup>2</sup> These occur about 300 miles north of New Orleans at what is called the Old River Control Structure. Due to numerous near failures of the structure, an auxiliary structure was built nearby in 1996.

<sup>3</sup> Part of the blame for this must be the inability of environmental education to have wide influence as a field. While there are many reasons for this, environmental education's tendency to focus on outdoor, experiential pedagogy, particularly premised on essentialized views of wilderness and nature, has helped to marginalize it further.

<sup>4</sup> It should be noted that despite the media spectacle tethering vehicular gas mileage to global warming as a primary cause of global climate change, the global livestock industry contributes

far and away more global warming emissions than all forms of transportation combined and should be considered a grave ecological harm. For instance, see the U.N.'s Food and Agriculture Organization's 2006 report *Livestock's Long Shadow* (Steinfeld, *et. al.*, 2006). In this respect, the ecomodernist "clean tech" guru, Al Gore, has himself been the subject of recent critique by animal rights organizations like PETA and some environmental groups such as Sea Shepherd Conservation Society for leaving livestock and dietary practices out of his agenda to combat global climate change.

<sup>5</sup> For coverage critical of the Bush administration's hand in the World Summit for Sustainable Development, see the stories dated August 26 to September 6, 2002 on my weblog at <http://getvegan.com/blog/blogger.php>. On Annan's speech, see "Sustainable Development Summit Concludes in Johannesburg: UN Secretary-General Kofi Annan Says It's Just the Beginning," online at [http://www.un.org/jsummit/html/whats\\_new/feature\\_story39.htm](http://www.un.org/jsummit/html/whats_new/feature_story39.htm).

<sup>6</sup> For background on critical pedagogy, see The Paulo and Nita Freire International Project for Critical Pedagogy, online at: <http://freire.mcgill.ca/>.

<sup>7</sup> While I cannot take it up here, Freirean literacy involves the dialectical engagement of continually "reading the world" and "reading the word" (Freire and Macedo, 1987, p. 35). In this respect, the ecoliteracy desired by ecopedagogy involves empirical and lived action-based literacies but it also requires ideologically critiquing and deconstructing various forms of cultural texts – including print materials like books, magazines, and newspapers articles; video texts such as films, television shows and other videographic forms; pictographical representations ranging from museum art pieces to t-shirt images; and digital texts of the Internet and association information-communication technologies. These latter forms of critically "reading the word" have been organized into movements that contribute meaningfully to the ecoliteracy project, such as for ecocriticism (see Kahn, 2007), on the one hand, and critical media literacy (Kellner and Share, 2007) or multiple technoliteracies (Kahn and Kellner, 2005), on the other.

<sup>8</sup> For two additional sources on this, see Shiva (2006) and Esteva and Prakash (1998).

## Education for Sustainability: A Critical Contribution to the Decade of Education for Sustainable Development

Moacir Gadotti<sup>1</sup>

The category of sustainability is central to a vision of an ecological cosmos and possibly constitutes the basis of a new paradigm of civilization that strives to harmonize human being, development and the Earth, understood as Gaia.  
– Leonardo Boff

### Preamble: Sustainability as an Historical and Existential Imperative

I would like to state a few words in order to present myself and my organization. I am a member of the Paulo Freire Institute (PFI), a Non-Governmental Organization located in São Paulo, Brazil, which is working in the fields of education, ecology, and communication, and which understands that education is not separable from culture, economics and politics. It is a great honor to be a member of the United Nations' Reference Group of the Decade of Education for Sustainable Development (2005-2014).

As a member of the PFI, during the 1992 Earth Summit held in Rio de Janeiro, I took part in the Global Forum, in which I worked on the elaboration of the Earth Charter's first draft and also on the Treaty on Environmental Education for Sustainable Societies and Global Responsibilities. Since then, I have been following the construction of the initiative of the Earth Charter, coordinated by the Earth Council. The Paulo Freire Institute, today an associated member of Earth Charter International Initiative, has already organized two international meetings under the theme "An educational approach to the Earth Charter" – one in São Paulo in 1999 and another one in Porto (Portugal) in 2000.

I became acquainted with education for sustainable development through the Earth Charter and environmental education. I believe there is a strong link between the Earth Charter Initiative and the Decade of Education for Sustainable Development. Mikhail Gorbachev, president of Green Cross International, sees the Earth Charter as sustainable development's "third pillar." The first pillar is the UN's Foundation Charter; the second is the Human Rights Declaration. He asserts that the Earth Charter has to be "universally adopted by the international community" (in Corcoran, *et al.*, 2005, p. 10). The Earth Charter has been an ethical inspiration for United Nations' "goals of the millennium." Peter Blaze Corcoran (2005), professor at the Florida Gulf Coast University, adds: the Earth Charter is an "arch of hope" (p. 16), centered on the new concept of "sustainable lifestyle."

Mirian Vilela, Executive Director of the Earth Charter International Initiative, who has written about its history and significance (Corcoran, *et al.*, 2005, pp. 17-22), says that the pan-continental consultation process impelled by Maurice Strong, General Secretary of the 1992 Earth Summit, has given global legitimacy to this document: the Earth Charter is a movement of the planetary civil society in order to "build consensus and shared values" (p.

---

**Moacir Gadotti** is a professor at the University of São Paulo, the Director of the Paulo Freire Institute, and author of several books, including: *Education against Education* (Paz e Terra, 1979: French and Portuguese), *Invitation to Reading Paulo Freire's Works* (Scipione, 1988: Portuguese, Spanish, English, Japanese, and Italian), *History of Pedagogical Ideas* (Ática, 1993: Portuguese and Spanish), *Pedagogy in Praxis* (Cortez, 1994: Portuguese, Spanish, and English), *Current Perspectives on Education* (Artes Médicas, 2000), *Pedagogy of the Earth* (Peirópolis, 2000) and *To Educate for Another Possible World* (Publisher Brasil, 2007).

22) around the search for a fair and sustainable lifestyle.

The Earth Charter has great educational potential, which has not yet been sufficiently explored by both formal and non-formal education. By means of its proposal of intertranscultural dialogue, the Earth Charter can contribute to overcoming the current conflicts in our civilization. We have been living through a civilization crisis. Education can help us to overcome this. The Earth Charter's principles and values may work as the basis for the creation of a global educational system, unique and universal, under the coordination of UNESCO, which may provide a common humanistic foundation for all national systems of education. This is not about creating a system that has a particular ideology, which would be a totalitarian initiative. Rather, it would be a matter of highlighting what we have in common. For, if we cannot find anything in common, war is our only future. Above all, we need to highlight what binds us together. Before highlighting our differences, we need to bring to light what we, as human beings, have in common. Educational systems are very similar all over the world, in spite of cultural diversity, which presents both advantages and disadvantages in this respect. The disadvantage is that such educational systems are rigid in their structure, which makes them resistant to changes; the advantage is that the innovation introduced in one system can more easily be introduced in another.

It is well known to all that environmental degradation generates human conflicts. The Earth Charter is, in many cases, now serving as the ground for the resolution of conflicts previously generated by an unsustainable approach to the production and reproduction of our existence on the planet. This is happening on a daily basis, though particularly between young people who have adopted the Charter's principles. The Charter helps us to overcome fundamentalisms that currently challenge a pacific co-habitation among nations and peoples on the planet. As affirmed by Abelardo Brenes, professor at the United Nations University for Peace, the principle of global responsibility established in the preamble of the Earth Charter "complements the Human Rights Declaration, recognizing each person as a citizen of the world" (in Corcoran, et. al., 2005, p. 35). Each person is equally responsible for the Earth's community as a whole, even if, individually, we have different roles and responsibilities.

The strategy of associating the Earth Charter with other UN documents and conventions has been widely used in order to develop its transformational potential. Among these documents, we can emphasize the Global Campaign for Education, the Literacy Decade, the Decade of Education for Sustainable Development, the Children's Rights Declaration, Agenda 21 and the HIV/AIDS Prevention trainings. It is evident that the values contained in the UN's Millennium Declaration are in agreement with the values defended by the Earth Charter: liberty, equality, solidarity, tolerance, respect towards nature, and shared responsibility.

Leonardo Boff, one of the founders of the liberation theology movement and a member of the Earth Charter Commission, asserts that the Earth Charter "represents an important contribution to a holistic and integrated view of humanity's social and environmental problems" (in Corcovan, et. al., 2005, p. 43). He also stresses that "human being is a sub-chapter of the chapter of life. For this reason, human beings must 'take care' of the community of life as a whole with love, the most powerful energy that exists within human beings and the universe" (p. 44).

Though we are yet far from a true integration between the two, the confluence of Agenda 21 and the Earth Charter has occurred because they have many complementary and convergent aspects. Agenda 21, as a new model of development, demanded a new ethical support structure. Based on fundamental principles and values which will guide peoples and States towards sustainable development, the Earth Charter will serve as an ethical framework for Agenda 21. As approved by the United Nations, the Earth Charter will be equivalent to

the Human Rights Declaration in its articulation of norms of sustainability, equality and justice.

The Earth Charter project is inspired by a variety of sources including the science of ecology, worldly religious traditions, literature on global ethics, environmentally sound development protocols, sustainable lifestyle cultures, as well as relevant non-governmental and intergovernmental treaties and declarations. In this sense, the Charter is a vital complement to the Decade of Education for Sustainable Development.

At the Paulo Freire Institute, we consider the Earth Charter an invitation from the Earth, a message, a guide for a sustainable lifestyle and a call for action. With this ethical view, we have included the Earth Charter as an *interdisciplinary* and *transversal generative theme* of all our projects, such as Adult Education, Literacy Programs, Citizen Education, Curriculum Development, and Popular Education. In order to achieve this, we have created a concept and vision of Ecopedagogy (initially called Pedagogy of Sustainable Development), as an appropriated pedagogy for the Earth Charter, environmental education (EE) and education for sustainable development (ESD). As a result of the actions presented above, Ângela Antunes, pedagogic director of PFI, and I have published a text about Ecopedagogy in the book *The Earth Charter in Action*, edited by Peter Blaze Corcoran (2005).

Below, I would like to mention some of the Paulo Freire Institute's working experiences and best practices with the Earth Charter.

1<sup>st</sup>) In our strategy, we associated the Earth Charter with Agenda 21 as an ethical framework for sustainable development. We tried not to discuss separately the ethical principles of a concrete action plan. In order to do so, PFI became part of the Earth Charter Working Group in the Brazilian Forum of NGOs and Social Movements for the Environment and Development, and we are deeply linked also to civil society organizations like *Mata Nativa*, *Sociedade do Sol* and *Sociedade da Terra*. In this way, we have been able to introduce the Earth Charter into the Brazilian response to Agenda 21.

2<sup>nd</sup>) The Paulo Freire Institute has been trying to introduce the Earth Charter through its training programs, primarily in the training of educational leaders. This has been done in an advisement project for the city of São Paulo Education Secretariat (2001-2004), which consisted in training school directors, supervisors and pedagogic coordinators.

3<sup>rd</sup>) We have been trying to keep the Earth Charter movement alive in solidarity networks. The Paulo Freire Institute is one of the NGOs that promote and organize the World Education Forum and the World Social Forum. Over 5 thousand people participated in two seminars held in a WSF event about the Earth Charter which had speakers such as Leonardo Boff, Moema Viezzer, Frei Betto, Mohit Mukherjee, Peter Blaze Corcoran and Rick Clugston.

4<sup>th</sup>) Training social educators is another PFI strategy. Some examples are: 1) “*Projeto Jovem Paz*” (The Youth-Peace Project), which aims at training social leaders for a culture of peace and sustainability; 2) “*Projeto da Escola Cidadã*” (The Citizen School Project), which uses Paulo Freire's “reading the world” methodology and works with sociability principles based on Earth Charter values in order to build an Eco-Political Pedagogical Project in schools and child/youth centers in different cities such as Nova Iguaçu (RJ), Sorocaba, Peruíbe and Osasco (SP) and 3) “*MOVA-Brasil*” Project (an adult education project). They all have the Earth Charter as an integral part of their training process.

One of the the goals of PFI's *Projeto da Escola Cidadã* (Citizen School Project) is to create an eco-political-pedagogical project in schools based on 4 main axes: sociability principles, democratic school management, curriculum and evaluation. The Earth Charter is one of the documents used as a reference to discuss and elaborate sociability principles as regards relationships that we have with ourselves, with others, with our community, with our parents, and as students and teachers, *etc.*



To us, sustainability is the dream of living well; sustainability is a dynamic balance with others and the environment, it is the harmony among differences. Paulo Freire said that we have hope not because it is persistent, but because it is an “historical and existential imperative,” as he affirms in his book *Pedagogy of Hope* (Freire, 1992). Based on the epigraph of this book we can affirm that today’s sustainability also represents a hope and as such is likewise an historical and existential imperative.

The first contact with the culture of sustainability can be odd, difficult and complex, because it demands that we maintain a different way of seeing reality. In order to implement the principle of sustainability in our projects and in our Institutional Development Plan, the PFI has been attempting to derive over the last few years, a pedagogy of the earth (Gadotti, 2001), or an ecopedagogy, grounded in the paradigm of ecological sustainability. As Paulo Freire said in his last book, “it is urgent that we take upon ourselves the duty of fighting for fundamental ethic principles, such as respect for the life of human beings, the life of other animals, of birds, rivers and forests. I do not believe in lovingness between men and women, among human beings, if we are not capable of loving the world. Ecology gains a fundamental importance in the end of this century. It has to be present in any educational practices that are radical, critical and liberatory...In this sense, it seems to me a distressful contradiction to have progressive and revolutionary speech and have, at the same time, a life-denying practice. A practice that pollutes the sea, the water, fields and that devastates forests, destroys trees, threatens animals and birds” (Freire, 2000, pp. 66-67).

Paulo Freire was the author of a grand book, *Pedagogy of the Oppressed*. In the present time we consider the Earth as an oppressed person as well, the greatest of all. Therefore, we also need a pedagogy of this oppressed which is for the Earth. We need a pedagogy of the Earth as a great chapter in the *Pedagogy of the Oppressed*, so we need an ecopedagogy.

Ecopedagogy is a pedagogy focused in life: it takes into account people, cultures, lifestyles and the respect towards identity and diversity. It acknowledges human beings as creatures that are always in movement, as “incomplete and unfinished” beings, according to Paulo Freire (1997), which are constantly shaping themselves, learning, interacting with others and with the world. The current dominant pedagogy is centered in tradition, in what is static, in what generates humiliation for the learner due to the way he/she is evaluated. In ecopedagogy, the educator should welcome the student. Acts of sheltering and caring are the basis for education for sustainability, which is being promoted since 2002 by the United Nations through its creation of a “Decade” entirely dedicated to it.

Ecopedagogy and education for sustainability are very linked. As Gro Harlem Brundtland said in the preface of the United Nations Report *Our Common Future*, “unless we are able to translate our words into a language that can reach the minds and hearts of people young and old, we shall not be able to undertake the extensive social changes needed to correct the course of development.” This is one of the tasks of education for sustainability.

In closing my self-presentation here I should offer one last remark: why do I prefer talking about education for a sustainable life or simply education for sustainability as opposed to education for sustainable development?

Education for sustainable development (ESD) seems to me as a limited concept and also as a way to limit education. It doesn't have the necessary scope to constitute an organizational conception of education. As Leonardo Boff has been urging in his works, however, the sustainability concept is paradigmatic. The concept of ESD does not at this time have the potential to transcend the ambiguous and vague notion of development. Only a critical vision of ESD will be able to carry us ahead. Doubtless we shall have to utilize such a contradictory concept, along with many others, although without ignoring its limitations. This is what will allow us to transcend it. On the other hand, it is not the case that we have to

polarize our theoretical positions and choose between sustainability and development or between environmental education and ESD. Rather, we can critically delineate the differences without necessarily opening ourselves up to useless and demobilizing contradictions.

### **For a Global Alliance for Sustainability**

The United Nations' Decade of Education for Sustainable Development was established in December, 2002, by the United Nations General Assembly, through Resolution no. 57/254. This resolution recommends UNESCO to elaborate a Plan that would emphasize the role of education in the promotion of sustainability. In May, 2003, during the Conference of Environmental Ministers, which took place in Kiev (Russia), the members further committed themselves to promote, in their countries, an international plan for implementing the Decade.

In 2006, UNESCO created a Reference Group in order to give conceptual and strategical support to the Decade's Secretariat. UNESCO's Secretariat for the Decade, based on studies and researches into ESD, is now producing educational materials for the necessary training in such pedagogy, in order to facilitate the emergence of an educational reform that would include sustainability as a guiding principle and an educational policy that would support a more qualified teaching and learning process. UNESCO's Decade Reference Group is oriented by five basic strategies:

- 1<sup>st</sup>) To establish the principles for a *large global alliance* for sustainability, at the governmental and non-governmental levels;
- 2<sup>nd</sup>) To concretely start working for the creation and monitoring of the work done by the Decade's National Commissions;
- 3<sup>rd</sup>) To create *reference centers* in different parts of the world in order to promote discussion, research and intervention on education for sustainable development;
- 4<sup>th</sup>) To establish strong ties with other UN initiatives and decades, such as: the Literacy Decade, Education for All initiative, HIV/AIDS and the Millennium Development Goals;
- 5<sup>th</sup>) To establish communication and information strategies strongly based in new technologies and, especially, the Internet.

Some alliances have already been established, such as the alliance with the Earth Charter Initiative. In its 2003 General Conference, UNESCO recognized the Earth Charter as an important reference for sustainable development and, now, for ESD.

The first Conference in which the theme of education for sustainable development was discussed took place in 1977, in Tbilisi, Russia. But the theme only gained force, of the kind it has today, 20 years later during the International Conference on Environment and Society, Education and Public Awareness for Sustainability, promoted by UNESCO in Thessaloniki (Greece), from December 8<sup>th</sup> to 12<sup>th</sup>, 1997. This conference gathered over 1200 experts from 84 countries and the most discussed topic was "responsible consumption." The importance of the role played by consumers became evident in Thessaloniki, and it was emphasized that they maintain a great power that can act towards a more sustainable lifestyle.

The Decade of Education for Sustainable Development (DESD), therefore, has various historical precedents that need to be considered. In Thessaloniki there were already talks about the importance of introducing the concept of sustainability in the re-orientation of formal education; of changing the production and consumption standards and of adopting a sustainable lifestyle. Current trends in modern lifestyle are globally celebrated by big corporations' publicity networks, but this does not mean we must be guided by them. Consumers' participation and mobilization may be decisive for the success of the DESD. In this sense, it is important to create propaganda against unsustainability, proposing alternative

forms of communication with all kinds of people, as we aim at patterns of sustainable consumption.<sup>2</sup>

Many regions, such as Europe, the Asia-Pacific region, and Latin America and the Caribbean, already have their own strategy to implement the Decade.<sup>3</sup>

In June, 2005, Europe defined its strategy during a summit meeting between Environment and Education Ministers, the Economic Commission for Europe and the Environmental Policy Committee. Among the strategies condoned by Europe was the importance of “training new educators so that they can include sustainable development in their teaching practice” and the need to “guarantee the access to tools and materials that are necessary for ESD” (Naciones Unidas, 2005, p. 4). Education for sustainable development is now part of the four main European educational programs: Comenius, Erasmus, Leonardo da Vinci and Grundtvig (Busch, 2007).

Europe has shown great concern (maybe even an exaggerated one) with analyzing indicators of sustainability, which are difficult to define. An International Conference promoted by the UNESCO German Commission, held in Berlin, on May 24<sup>th</sup> and 25<sup>th</sup>, 2007, whose main focus was to discuss the “European Contribution” to the Decade, discussed the indicators issue in depth – emphasizing the importance of such indicators, while also warning that it is crucial not to end up giving credence only to what can be measured.<sup>4</sup> This concern is being, first of all, integrated into UNECE (United Nations Economic Commission for Europe)’s demand for the generation of competences related to sustainability.

Germans have developed the concept of *Gestaltungskompetenz* in order to refer to competences and abilities linked to Education for Sustainable Development (ESD). According to Gerhard de Haan, professor of Future Studies in Education Science at the Free University of Berlin and Chairman of the German National Committee for the UN Decade of Education for Sustainable Development, the concept of *Gestaltungskompetenz*, sometimes translated as “participation skills” in English, “was formulated with ESD in mind. *Gestaltungskompetenz* describes the ability to apply knowledge about sustainable development and recognize the problems involved in non-sustainable development” (Haan, 2007, p. 7). In another text, he translates *Gestaltungskompetenz* as shaping competence, dividing this concept into ten parts: to create knowledge in a spirit of openness to the world, to integrate new perspectives; to think and act in a forward-looking manner; to acquire knowledge and act in an interdisciplinary manner; to be able to plan and act in cooperation with others; to be able to participate in decision-making processes; to be able to motivate others to become active; to be able to reflect upon one’s own principles and those of others; to be able to plan and act autonomously; to be able to show empathy for and solidarity with the disadvantaged; to be able to motivate oneself to become active” (Haan, 2007a, p. 12).

According to Alexander Leicht, head of the German Secretariat for the UN Decade, *Gestaltungskompetenz* includes: “anticipatory, future-orientated thinking; living, complex interdisciplinary knowledge; and participation in social decision-making processes. ESD is, thus, not simply about raising environmental awareness, as it is often supposed. It is, in fact, more concerned with empowering people in general to take action, orientated towards the goal of viable, long-term development” (Leicht, 2005, p. 27).

Indicators are important, as long as they are not established according to economic income-related criteria. As it has already been emphasized in the Berlin Conference, there may be some ambiguities and dualisms among indicators and competences, due to different competency models. Competences in ESD are not limited to cognitive aspects, since they involve challenges, behaviors, attitudes and intentions. Apart from the cognitive component, they also involve certain emotional and motivational components. Competences are not therefore limited only to one’s capacity or ability to solve problems according to the notion of

*Gestaltungskompetenz*. They also involve one's ability to organize his/her own work, to think critically, work in groups, and to feel bound to the human community.

Additionally, when talking about competences and indicators, relevancy criteria must be established and different teaching contexts and levels must be respected. However, that does not prevent the derivation of aspects that may be held in common. Governments that are engaged in including themes related to sustainability in their education policies need to consider poverty levels, the construction of peace, justice and democracy, security, human rights, cultural diversity, social equality and environmental protection, amongst other issues. This is also valid strategy for the implementation offered by UNECE in Europe, as Arjen E. J. Wals, professor of the University of Wageningen (Holland), reinforced at the Berlin Conference.

Among Europe's "best practices" we can mention Hungary's eco-schools. The Hungarian Network of Eco-Schools are schools whose pedagogical project is based upon values of sustainability, environmental education, education for a healthier lifestyle and education for democratic participation. Around 272 schools, approximately 6% of the total number of schools in the country, are already taking part in the network. In order to be part of the network, schools have to demonstrate how they monitor and evaluate their plans of action for ESD.

Supported by UNEP and the United Nations University, the Asia-Pacific region has developed a regional strategy (UNESCO Bangkok, 2005), which maintains the importance of the participation of ESD's principal actors: social activists, governments, communities, the private sector, formal-education institutions, civil society, the means of social communication, youth and international agencies. For each one of these sectors and actors the Asia-Pacific region dedicates special attention. The role that UNESCO's representative has been playing within the process, especially within its office in Bangkok, should be highlighted.

Aline Bory-Adams, Chief of the Section for Education for Sustainable Development at UNESCO Paris, affirms that UNESCO has two roles to play related to the Decade: "to catalyze, coordinate and support the global processes initiated under the International Implementation Scheme, particularly in supporting the re-orientation of national educational systems" and "to facilitate an enabling environment for the achievement of the objectives and goals of the DESD" (Bory-Adams, 2007, p. 41).

Latin America established its regional strategy in November, 2006, during a Latin-American meeting held in San Jose da Costa Rica (UNESCO/Earth Charter Center for Education for Sustainable Development, 2007). Latin America has a long tradition of environmental education movements, to which the challenge of the Decade of Education for Sustainable Development has now been added. Among the region's strategic axes, it is important to note, are: the articulation of convergent efforts, the iteration and harmonization of each Latin American country's educational policies vis-à-vis ESD, the strengthening of public policies for ESD's improvement, the establishment of communication and information on the concept of sustainability, and the strengthening of cooperation and strategic association among different sectors and agents within the public, private and civic spheres.

Apart from the above mentioned regions, many other countries already have their own national plans or strategies for education for sustainable development, such as Finland, Japan, Scotland, India, Sweden and Germany.

Finland has strongly involved adult education within the DESD. Among the principles that guide their Decade's strategic plan, we can highlight: transparency, interdisciplinarity, cooperation and the construction of networks, participation and research (Finland, 2006). The Finnish Ministry of Education has published a compilation of articles focusing on the implementation of the Decade in Finland on higher education (Kaivola, 2007).

Japan was one of the first countries to create its own plan, in the beginning of 2006, via a meeting between the Ministry of Education and the Ministry of Environment. "Japan's DESD Plan of Action" attaches ESD to the UN Millennium Goals and establishes many policy programs in order to promote quality education according to the principles of sustainability, especially in teacher training: "by actively promoting ESD, we aim to help everybody to come to grips with situations in the world, future generations, our society, in order to participate in the creation of a sustainable society...Among the diversity of issues involving the environment, economy, and society, what advanced countries including Japan are now required to do is to incorporate environmental considerations in their socioeconomic systems. Precisely speaking, we must change our lifestyles and industrial structure based on mass production, consumption and waste, and establish sustainable consumption and production systems that ensure biodiversity" (Japan, 2006, pp. 4-5).

In India, the Ahmedabad Center for Environmental Education (CEE), created in 1984 as a member of the Nehru Foundation for Development, has produced achievement in terms of the promotion of the DESD with its countrywide training program. In November, 2007, the Center for Environmental Education held the IV International Conference of Environmental Education of UNESCO.

Germany's "National Plan of Action" reinforces the Decade as a "continuous process" with an "integrative function that promotes global responsibility": "informal and lifelong learning grow in importance as traditional education institutions and formal educational sectors need to be redefined in the light of processes of rapid change" (German Commission for UNESCO, 2005, p. 8). Among the Plan of Action's aims, we can highlight the need of promoting "international cooperation." The program Transfer-21, which is coordinated by Gerhard de Haan, of the University of Berlin, and promoted by the Federal Ministry of Education and Research, develops ESD activities at the national level and produces materials for and aids in training in "*gestaltungskompetenz*."

Mário Freitas, from Minho's University, Portugal, proposes and contends that the DESD may be oriented to constitute itself as an opportunity to 1) propound radical theoretical and practical debates regarding the concepts of sustainability, sustainable development, and sustainable societies; 2) promote an intense and productive revisioning of our worldviews in order to build a sustainable future; 3) promote the emergence of complex methodological epistemological approaches that can empower interdisciplinarity and intertransculturality; 4) create conditions for the emergence and strengthening of civic and popular social movements, which will not be the mere instruments of power; 5) demand from the political and economical power blocs the clear, objective and public contribution of funds related to the sustainability practices which they assume; 6) create wide networks of sharing, which can divulge and debate experiences of sustainability; and 7) promote research and produce knowledge focused on popular and communitarian education (Freitas, 2007, pp. 135-6).

For Carl Lindberg, Special Advisor to the Swedish National Commission for UNESCO and Member of the High-Level Panel on the UN's Decade of Education for Sustainable Development, the DESD "is the golden opportunity now offered to us all – committed teachers at all levels, schools and university heads, students, education ministers and other education politicians all around the world – to take serious matters seriously, to work with others to change all levels of our education systems" (Lindberg, 2007, p. 38).

### *The Decade in the context of globalization*

Globalization, impelled by technology, has an increasing power in determining our lives. Decisions concerning what happens to us in our daily routines are less and less our own, since the structures that frame them are often designed far away from us, jeopardizing our

role in history. But things are not quite like that. As a phenomenon, as a process, there is no doubt that globalization is irreversible. Nevertheless, this does not apply to the model of globalization we live today: the “globalism” (Ianni, 1996) of capitalist globalization. Its immediate effects are unemployment, the increase of differences between a small amount of people who have too much and a large amount of people who have too little, the loss of power and autonomy by many nations. Therefore, we need to differentiate between countries that are currently in control of globalization – the globalizers (rich countries) – from globalized countries (poor countries).

Within this complex phenomenon, we can also differentiate between economic globalization, catalyzed by transnational companies, from the globalization of citizenship. Both of them use the same technology, but with opposing logics. The first one, which is led by capitalist interests, dominates nations; the second globalization – the “other” globalization, in the words of Milton Santos (2000), is produced through the organizations that characterize global civil society. It was those organizations that made the first World Summit meeting in Rio de Janeiro, in 1992. The ‘92 Global Forum was one of the most meaningful events of the end the 20<sup>th</sup> century: it gave great force to the globalization of citizenship. Currently, the debate around the Earth Charter and the DESD is becoming an important factor in the construction of this planetary citizenship. Any pedagogy that is thought without considering this new globalization and the global ecological movement finds serious contextualization problems.

The notion of planetary citizenship (i.e., global) is founded in a unifying view of the planet and of a global society. It reveals itself in many expressions: “our common humanity,” “unity in diversity,” “our common future,” and “our common nation.” Planetary citizenship is an expression that was adopted to express a group of principles, values, attitudes and habits that reveal a new perception of the Earth as a single community. Frequently associated with “sustainable development,” it is much broader than the mere association with economics. Rather, it is an ethical reference point that is inseparable from planetary civilization and ecology. The Earth is “Gaia,” a living super-organism in evolution. What is done to it will affect all its children.

Globalization itself is not a problem. It represents a process of advance never seen before in human history. In the same way there is not only one possible market system, there is not only one possible globalization. What we see nowadays is globalization under a capitalist perspective. But there are other possibilities. The problem now is the existence of a competitive globalization in which the interests of the market are more important than human interests, and in which people’s interests are less important than corporative interests of big transnational companies. Therefore, we must be able to distinguish a competitive globalization from a possible co-operative and solidary globalization, which we also call a process of “planetarization.” The first one follows the laws of the market, while the second one follows ethical values and human spirituality. It is to the second globalization that the Earth Charter and education for a sustainable development can and must give important contributions.

Where does the ecological movement stand when related to this theme?

It is important to point out, as did Alicia Bárcena in the preface of Francisco Gutiérrez and Cruz Prado’s book, *Ecopedagogy and Planetary Citizenship* (1998), that the construction of an environmental citizenship is a strategical component for the process of building a democracy. In her opinion, environmental citizenship is truly a planetary one since, within the ecological movement, local and global spheres are interlinked. The deforestation of the Amazon forest or of any forest in the world is not a simply local fact. It is an act of violence against planetary citizenship. Ecologism has recognized many merits by drawing upon the theme of planetarity; a pioneer movement that has led to the extension of the concept of

citizenship to the context of globalization and also to the practice of a global citizenship in such a way that, nowadays, global citizenship and ecologism are part of the same social action field, with common aims and sensibilities.

Planetary citizenship cannot only have an environmental focus, since there are agencies that act in global level with environmental policies that support a capitalist view. Planetary citizenship goes beyond the environmental dimension, since it involves understanding that the Earth is our common home: an alive and interdependent organism. Fixing only one room of the house is not enough. We are not going to save the planet by only saving the Amazon. Keeping the Earth alive is a task that has to be done by all of us, in all “rooms of the house” in its different dimensions: economic, social, cultural, environmental, *etc.* Planetary citizenship cannot have only an environmental dimension because poverty, illiteracy, ethnic wars, discrimination, prejudice, greed, traffic, corruption, all destroy our home and take the life of the planet away. Planetary citizenship involves understanding the interdependence, interconnection, and common struggle (e.g., that there is a challenge that is common to all of us, everywhere on the planet, and in different dimensions) for all forms of life in our home. Planetary citizenship involves learning how to work in networks in an intersectional and shared way.

Planetary citizenship must have a focus on fighting for the end of inequalities, the elimination of huge economic differences and humanity’s intercultural integration, in short, a culture of justpeace (peace generated by justice). It is not possible to talk about a planetary or global citizenship without having an effective citizenship in both local and national spheres. A planetary citizenship is an integral citizenship, therefore, it is an active citizenship, not only in regard to social, political, cultural and institutional rights, but also as regards economic rights. It further involves the existence of a planetary democracy. So, in contradistinction to what neoliberals say, we are actually far from a effective planetary citizenship. It still remains before us as a human project. It needs to be part of humanity’s own project. It will not be a simple consequence or product born of technology or economic globalization.

#### *A great opportunity for educational systems*

The Decade of Education for Sustainable Development is a great opportunity to renew the curricula of formal educational systems. The appeal contained within the United Nations document is mainly addressed to “State members.” The document remembers the history of fights for a sustainable culture since Stockholm (1972) and “Our Common Future” (1987) to the Rio Summit (1992), the Dakar Education Forum (2000), on up to the Millennium Development Goals (2002).

The Decade represents a way to implement Agenda 21’s 36th chapter, which calls for a re-orientation of existent educational policies and programs through potential platforms such as environmental education and initiatives like the Earth Charter. Agenda 21’s chapter 36 emphasizes that education is a “vital factor” in the promotion of sustainable development and, as well, in the development of people’s skills for dealing with environmental and development issues. Chapter 36 indentifies a few major goals for the work of ESD: improve basic education, reorient existing education to address sustainable development, and develop public understanding, awareness, and training around relevant issues.

What then are the goals of the DESD?

The document states that (Brazilian edition, May, 2005) “the Decade’s main goal is to integrate principles, values and practices of sustainable development to all aspects of education and teaching. This education effort should encourage changes in behavior in order to create a more sustainable future in terms of the integrity of the environment, of economic viability and of a fair society for present and future generations...The program of Education

for Sustainable Development demands the re-examination of educational policy, in terms of re-orientating education from kindergarten up to the university and lifelong learning, so that it is clearly focused on acquiring knowledges, competences, perspectives and values that are related to sustainability” (UNESCO, 2005, p. 57). According to UNESCO, the Decade’s specific goals are:

- a) To facilitate networks and bonds among activists that defend ESD;
- b) To improve ESD teaching and learning;
- c) To help countries to adopt the Goals of the Millennium by means of ESD;
- d) To offer countries new opportunities to adopt ESD in their efforts towards educational renewal.

Stimulating changes in attitudes and behavior is a simple idea: what are required are the tools for the mobilization and diffusion of information that strongly depends on partnerships, especially with NGOs. One of the goals of the Decade is to “facilitate bonds and networks, exchanges and interaction among social actors for Education for Sustainable Development (ESD), which means to facilitate contact, the creation of networks exchange and interaction among parties involved in ESD.”

The Decade has been reaffirming that “education is a vital element in order to achieve a sustainable development” (UNESCO, 2005, p. 27), but without changes in economic policies, education cannot be decisive. The economy can change if there is social mobilization against the current unsustainable capitalist model. An ESD without social mobilization against the current economic model will not reach its goals. And this is affirmed in the document itself, when it asserts that “global market economy, as it currently exists, does not protect the environment nor is it beneficial to even half of the world population” (UNESCO, 2005, p. 56).

Therefore, in order for ESD to be efficient, it must be a form of political education. And this is also present in the document: “sustainable development does not look to maintain the *status quo*, on the contrary, it looks to acknowledge tendencies for and the implication of change” (UNESCO, 2005, p. 39). And the document concludes: “a transforming education is necessary; an education that will give contributions to make possible the urgent and fundamental changes brought by the challenge of sustainability...However, a learning experience, within the ESD programme cannot limit itself to a personal sphere – learning must lead towards a active participation in the search for and adoption of new organizational standards and changes” (UNESCO, 2005, pp. 42 and 45).

What seems to be problematic within the Decade’s official documentation is the relationship between education for sustainable development and environmental education. It is stated in the document that “education for sustainable development should not be equated with environmental education. According to the document, environmental education is an already established school subject that emphasizes the relationship between men and natural environment, in terms of how to preserve it and how to appropriately manage its resources. Therefore, sustainable development conglomerates environmental education by putting it in a broader context that considers social and cultural factors and social-political issues, such as equality, poverty and quality of life” (UNESCO, 2005, p. 46).

Research carried out in November, 2004 during the 5th Brazilian Forum on Environmental Education, which had over 1500 participants, showed that only 18% of them knew of the Decade and 68% of the interviewed people thought it was inappropriate to use the expression “education for sustainable development” instead of “environmental education” because “environmental education already contains social and economic elements” and education for sustainable development is “confused.” It was also said that substituting environmental education with education for sustainable development “represents the loss of a symbolic capital that had already been built in the region with great difficulty, but with great



transforming potential.” I believe we need to further debate the relationship between environmental education and ESD in order to avoid this kind of miscomprehension.

There is in the United Nations a great legal set of declarations and programs, but little effectiveness. The impact is still small. There is no guarantee for achieving the proposed goals. It is urgently needed to improve mechanisms of evaluation and monitoring. It would be a good initiative to support “observatories” for the right to education and the “campaigns” that already exist all around the world.

The Decade recognizes the Earth Charter as “another international initiative” (UNESCO, 2005, p. 41). Strangely, the Charter appears in the “fields of sustainable development” (society, environment, economy), but the Decade does not recognize it as a strategy nor as a movement, but a global initiative. If the Earth Charter is recognized as a movement for ethics and as a global initiative, a global cause, it should also be present in the strategies for implementation and not only as one more initiative. Due to its 12 years of existence, the Earth Charter can make great contributions to the Decade in its implementation, and also in its monitoring and evaluation protocols.

I agree with the United Nations’ document on ESD in general terms. However, I wish it had given greater importance to the works that are being developed by NGOs and social movements. We are, essentially, a society of networks and movements. The Earth Charter and the DESD should also be more present in social movements, such as the World Social Forum and the World Education Forum. They would have more space within social movements if they were more deeply integrated into these Forums.

The 1992 Rio Declaration argued that “all sustainable development programs (...) must consider the three spheres of sustainability: *environment* (resources and fragility of the physical environment), *society* (including culture, participation, public opinion and media), and *economy* (the economic growth and their impact on society and environment)” (Fórum Global 92). These are the key areas of ESD.

Regarding the impact of the concept of sustainability on formal education, we can consider two levels:

a) The *legal level*: educational reforms (curriculum, content). The law and rules can introduce new standards, but we need another level.

b) The level of the *commitment of persons*, engaging the UN endorsement (for sustainable lifestyles), via a virotic process that is biological, intuitive (not a mechanical or rationalistic process) and made possible by different motivations (compassion, love, fear, anger, etc.).

ESD, despite this ambiguity, is a positive vision of a humane future and of a consensus supported by a broad majority. With the global warming, the Decade is very timely, and can contribute to the understanding of the current environmental crises (water, food, energy).

ESD implies a change to the system, implies life respect and care vis-à-vis the planet, as well as care for the entire community of life. This means that we must learn to share fundamental values, ethical principles and knowledge (to respect the earth and life in all its diversity; to care for the community of life with understanding, compassion, and love; to build democratic societies that are just, participatory, sustainable, and peaceful). ESD is a central point of future-oriented educational system. However, it is not enough to change individual behaviors; for this, we need political initiatives.

The formal educational system, in general, is based on predatory principles, on instrumental rationality, reproducing unsustainable values. In order to introduce a culture of sustainability into school systems we need to re-educate the systems as they help to reproduce part of the problem, not just part of the solution.

I believe that sustainability is a powerful concept and an opportunity for education to renew old systems that are founded in competitive principles and values. We should introduce a culture of sustainability and peace into the school communities in order to be more cooperative and less competitive. However, we need to adapt this concept to different realities. There are different applications of this concept that are necessary, depending on the context: we find different comprehensions of this concept, for example, in Europe, in Africa, in Iraq, and in Afghanistan. The risks (vulnerabilities) are global, but the solutions must be local and regional. We can reduce, but not eliminate, risks. Learning to live with risk is a requirement of ESD. We need to stress the idea that an universal model of ESD does not exist. Therefore, we can have different approaches to ESD, which means different pedagogies and methods to translate this common ethical vision at the local level.

ESD is an *integrative* (we must integrate education, health, jobs, sciences, *etc.*) and *interactive* concept. We need, for example, to establish a dialogue between ESD and the UN Education for All (EFA) strategies. EFA have come a long way (e.g., Jomtien, Dakar). ESD is now only beginning. We need to create synergies between these two processes and use the concept of sustainability to implement a new quality of formal education in order to arrive at a socio-environmental form of education. In this moment, the rich countries have paid more attention to ESD and the poor countries, due to their socioeconomic realities, have paid more attention to EFA (Wade, 2007).

There is a difference between these two global educational initiatives, then. To reiterate: what is the different emphasis of the two movements?

EFA refers to the need to secure basic education, a formalized system, basic learning needs, schools, working literacy, and the right of education for all. Basically, EFA involves mandates for Departments and Ministries of Education. By contrast, the ESD movement can go beyond the requirements for basic education and formal education. It is also a non-formal movement and involves lifelong learning (through all social levels, systems and organizations). However, ESD also wants to reorient curricular theory and practice. It is more emancipatory in this respect than EFA and in order to accomplish its goals it must involve other ministries and departments to the degree that it affects government, such as those concerned with the environment, with agriculture, *etc.*

### **Sustainability as a Production Pattern of Everyone's Well-Being**

Although only having been used for the first time in 1987's *Brundtland Report*, the concept of sustainable development has important historical precedents as far back as the 1960's. In 1968, the Club of Rome was created as a group of economists and scientists who warned humanity about the pace of "growth" (Meadows, 1972). In the Club's view, continued economic growth would bring us to a threshold situation that, if transcended, could put the survival of the species at risk. Meanwhile, the environmentalist Lester Brown created the Worldwatch Institute in 1974 to continue Club of Rome-styled research, though the Institute's major findings were not published for another decade in the *State of The World Report* (1984), which contained very preoccupying data on the environmental impact of the dominant economic model.<sup>5</sup> The concept of sustainable development can also be dated to 1982, where the idea was essentially utilized during the Stockholm Conference (Sweden),<sup>6</sup> in which the "Declaration on the Environment" demonstrated an international concern with the use of natural resources. The Stockholm Conference was also concerned with poverty and income distribution, but its main focus was on pollution caused by human activities, especially by industrial development, that was degrading the environment. At this time wealthy countries did recognize they were the ones that were responsible for most polluting

the Earth, but they did not discuss how to avoid this. Instead, they said it was the price that we all had to pay in the name of “progress.”

Also in 1982, the UN approved the *Nature Charter*, which defended all kinds of life and led to the creation of the *World Commission on Environment and Development* (1983), headed by Norway's Prime Minister, Gro Harlem Brundtland. The Commission aimed at creating proposals concerned with how to overcome the global environmental situation and it published a report four years later under the name *Our Common Future* (1987), also called the “Brundtland Report,” in which the expression “sustainable development” specifically appeared for the first time.

The Brundtland Report established several conditions for sustainable development (WCED, 1987, p. 65):

- 1) a political system that secures effective participation from citizens in decision making;
- 2) an economic system that is able to generate surpluses and technical knowledge on a self-reliant and sustained basis;
- 3) a social system that provides solutions for the tensions arising from disharmonious development activities;
- 4) a production system that respects the obligation to preserve the ecological base for development;
- 5) a technological system that can search continuously for new solutions;
- 6) an international system that fosters sustainable standards of trade and finance, and
- 7) an administrative system that is flexible and has the capacity for self-correction.

The concept of “sustainable development” was more firmly and finally established during 1992 Earth Summit, the United Nations Conference on Environment and Development, whose main result was the creation of Agenda 21, which contained a set of proposals and objectives designed to reverse the process of environmental deterioration. Five years later (in 1997), a Protocol signed by 84 countries (except the United States) in Kyoto, Japan, aimed at the reduction of greenhouse gas emissions. As it is known, the “greenhouse effect” is provoked by the excess of greenhouse gases in the atmosphere. Carbon dioxide is one of these gases. When solar radiation reaches the earth, part of its wavelengths are absorbed by the Earth's surface and part is reflected back towards space. With a very high amount of greenhouse gas in the atmosphere, such as carbon dioxide and methane, the Earth reabsorbs a higher quantity of reflected sunlight, causing the planet's “over-warming.”

Over the last decade one of the United Nations' bodies, the UNDP (United Nations Development Programme), has been working with the concept of “human sustainable development,” thereby broadening the initial concept and emphasizing various social dimensions that are necessary for people's development such as economical growth and environmental sustainability, the elimination of poverty, the promotion of equality, social inclusion, gender and ethnic equality, and also political participation. All these factors are considered important for the promotion of “sustainable living,” as is also supported by the Earth Charter.

In the Rio+10 Conference organized by the UN in Joannesburg, South Africa, in 2002, the cumulative failure of the measures adopted years prior became evident. By this time, the world began to know that the ecological awareness affirmed by the 1992 Earth Summit was not enough to avoid the kind of disaster that would later be confirmed by the Intergovernmental Panel on Climate Change (IPCC) in 2006 and 2007. Today, global

warming is no longer a distant fact. Its effects can be seen as manifest across the entire planet. In this way, we are now beyond the threshold situation previously highlighted by the Club of Rome and global warming is a scientific reality. Data given by the IPCC show that the main cause of global warming is human action. By the end of this century, the planet's temperature may rise an additional 1.8 to 4 degrees, which will entail serious consequences for all of the Earth's ecosystems. Therefore, we do not have a choice: we have to change our way to produce and reproduce our existence, or we will die.

The UN's IPCC reporting has showed that the growth rate of greenhouse gas emissions is due to the energy sector, which has increased its emissions in 145% in the last 15 years, to the transport sector's emission increase of 120%, the industrial sector's increase of 65% and the forest sector's of 40%, due to deforestation. We can all contribute to reduce the emission of greenhouse gases by changing our lifestyle, using less energy (e.g., turning off the lights, using less air-conditioning), walking, using public transport, working more at home (using the Internet), *etc.* We need to look inside ourselves and to our standards of unsustainable consumption. IPCC reports warn us to the fact that we have already gone beyond sustainable limits. Now we have to create strategies to survive, by first preparing ourselves for changes and, secondly, by reducing the negative effects of global warming through reforestation of the planet, for example, and not repeating what was wrongfully done in the past.

#### *The multiplicity of meanings of the concept of sustainable development*

Despite all the discussion surrounding the subject, the terms "sustainable" and "development" remain vague and controversial. That is why we need to qualify them both. We need to provide these concepts with a new meaning. It is a fact that the word "sustainable," when associated with standard development protocols, is worn out. While for some people it is only a label, for others it has become the expression of a logical absurdity: development and sustainability are logically incompatible. In my way of thinking, "sustainable" is more than a qualifier of economic development. It goes beyond the preservation of natural resources and feasibility of development without harming the environment. It involves human beings finding a balance between themselves and the planet, and more, with the universe itself. The sustainability we defend refers itself to the discussion of who we are, where we came from and where we are going to, as human beings.

This is one of the topics that should dominate educational debates in the forthcoming decades. What are we studying in schools? Aren't we building a science and a culture that are oriented towards the degradation of the planet and of humankind? The concept of sustainability should be linked to that of planetarity, which means, viewing the Earth as a new paradigm. Complexity, universality, and transdisciplinarity appear as categories associated to planetarity. What implications does this view of the world have on education? The topic leads us to a *planetary citizenship*, a *planetary civilization*, and a *planetary awareness*. As such, a culture of sustainability is also a planetarity culture, which means a culture that departs from the principle that the Earth is constituted by one single community of human beings, the earthlings, who are citizens of one single nation.

This debate began when the concept of "sustainable development" was first used by the UN in 1979 to indicate that development could well be an integral process that should include cultural, ethnic, political, social and environmental dimensions – not merely economics. Subsequently, the concept "sustainable development" was many times widely criticized due to its misuse, in spite of being considered as a "politically correct" and "morally noble" concept. José Gutierrez Pérez and María Teresa Pozo, from UniverAIDSd Autonomía de Nuevo León - UANL (México), say that the expression "sustainable

development” has been “converted into a new type of multi-use instrument that puts environmentalists in contact with real estate agencies, businessmen with conservationists, politicians and policy-makers, while the simple fact is that nothing has been done with the common use of the term; on the contrary, with the generated confusion around it, those who have won the most through using it have been the defenders of neoliberalism...now the term ‘development’ may signify anything depending on the way you look at it, and its meaning in the end is how you use it. We are therefore faced with a sweet appearance of semantical neutrality, and we can see how its polysemic use allows diametrically opposite acceptations” (Pérez, 2006, p. 28).

The same criticism made of the expression “sustainable development,” that it is not possible to realize in an acceptable manner, can by extension be made of “education for the sustainable development.” Pablo Ángel Meira Cartea, from UANL, contends that ESD is oriented by the neoliberal ideology of market: “we don’t find compelling reasons of a logical, epistemological, theoretical-pedagogical, methodological or ideological nature that ESD can become and provide something substantially distinct, superior or more efficient than environmental education” (Cartea, 2006, p. 42). Even accepting these criticisms, though, it should be understood that the DESD and, therefore ESD as it was conceived by the 4<sup>th</sup> International Environmental Education Conference (held in Ahmedabad, India from November 24 until November 28), represent a great opportunity for environmental education. It is not the case that we must polarize the two concepts, but rather we should strive to keep our radicalism, in practice, as environmental educators.

There are other expressions with a common conceptual foundation that complement each other, such as: “human development,” “sustainable human development,” and “productive transformation with equality” (Cepal, 1990). The expression “human development” has the advantage of putting human beings at the center of development agendas. The concept of human development, whose central axes are equity and participation, is still evolving as it opposes itself to neoliberal forms of development. As a humane form of development it conceives of a developed society as an equitable society, one to be achieved with the participation of people.

The concept of human development is as broad as the one of sustainable development and as such, at times, it is still vague. In the past few years, the United Nations began to use the expression “human development” as an indicator for quality of life based on indexes of health, longevity, psychological maturity, education, clean environment and creative entertainment, which are also the indicators for a sustainable society (or a society that is capable of satisfying the needs of today’s generations without compromising the capacity and the opportunities for future generations).

The criticisms made of sustainable development and of the idea of sustainability itself may be due to the fact that environmentalism has tended to deal with social issues and environmental issues separately. The conservation movement has emerged as an elitist attempt by wealthy countries to keep extensive natural areas preserved for themselves for their own entertainment and spiritual contemplation – the Amazon, for example. Such conservation isn’t a matter of caring about the planet’s sustainability, but is a matter of maintaining the privileges of wealth, in contrast with the needs of the majority of the world’s population. Without a social concern in mind, the concept of “sustainable development” loses any coherent sense. For this reason, we need to talk more about the social-environmental than only about the environmental, trying not to separate the needs of the planet from human needs. Ecologists, environmentalists, and those concerned with these issues all need to convince the majority of the population, the poorest population, that sustainable development is not only about cleaning rivers and reforesting devastated fields in order to live on a more healthy planet in a distant future. We are trying to solve environmental problems and social

problems simultaneously. The problems about which ecology is concerned are not only environmental, since they also affect humankind.

The concept of development is not a neutral one. It has a well-defined context within an ideology of progress that includes a concept of history, economics, society, and of human being. For many years, this concept was applied under a colonizing view, when countries were divided between categorizations of “developed,” “developing,” and “undeveloped”... always subjected to a single standard of industrialization and consumption. This assumes that all societies should guide themselves according to a single means of access to welfare and happiness which is only to be achieved through the accumulation and consumption of material goods. Development goals were imposed by neocolonialist economic policies of the so-called “developed” countries, which have, in many cases, resulted in a vast increase of poverty, violence and unemployment. Together with this economic model, ethical values and political ideals were likewise transplanted via neocolonialism, which led to the elimination of the structures of peoples and nations. It is, therefore, not surprising at all that many people are reticent when one talks about sustainable development. The developmentalist and colonialist conception and practice of development has led the planet into a state of agony. Today, we are aware that we are facing an imminent catastrophe if we fail to translate our awareness into actions, to change this predatory view of the term “development” by conceiving of it more anthropologically and holistically and less economically.

The multiplicity of meanings contained in the concept of sustainable development has been, and is still being, widely discussed. We build upon a concept in dispute. As Gabriela Scotto says, it is “a concept with much fame and little consensus” (Scotto et. al., 2007, p. 8). Everybody recognizes the ambiguity of this expression which is seen, on the one hand, as a hopeful revolution and, on the other hand, as the accomplishment of the liberal North-American dream. For this reason, many refuse to recognize the United Nations Decade of Education for Sustainable Development as a new opportunity for social-environmental and economic transformation. Yet, at a theoretical level, while we may endlessly discuss and refine ideas used by the Decade, in terms of practice, we all know what is sustainable and what is not. We know very well what is unsustainable: hunger, poverty, violence, waste, illiteracy.

The criteria by which to overcome this matter are practical. After all, many other concepts are ambiguous, such as the ideas of culture, democracy, citizenship, autonomy, justice, etc. Many concepts have different meanings that vary according to the context in which they are applied and to the authors that invoke them. The great number of definitions applied to these concepts do not prevent them from being essential to our lives. For this reason, we cannot let them remain ambiguous. We need to make their meaning explicit. Ambiguity can only be overcome through practice. Theoretical debates are very important, but they are limited if not put into practice. Concrete plans will provide the Decade with greater theoretical consistency and help to overcome generalist sustainable development proposals. After all, sustainability and sustainable development, which propose new ways of producing and reproducing life – new sustainable lifestyles – depend in their practice on the correlation of political forces that exist in society. Practice should therefore overcome the ambiguity already established due to the vacuity of the concepts presented within it.

When we talk about sustainable life we understand it as a lifestyle that promotes well-being and living well for everyone, in harmony (dynamic balance) with the environment: a fair, productive and sustainable lifestyle. Amartya Sen (2000), in his book, *Development with Freedom*, conceives the progress of humanity as a process of the expansion of peoples’ freedom, against a univocal view of development which aligns it with economic growth and the industrial production and reproduction the existence. The essential requirement of sustainability is that it guarantee people's freedom to build their lives and their well-being the

way they want. What governments should do is to offer opportunities so that everyone is able develop their talents, by guaranteeing economic, individual, cultural, social and political rights. Freedoms are interlinked planetarily nowadays. That is why democracy also needs to be planetary and radical.

It is perfectly clear that there is an incompatibility of principles between sustainability and capitalism. There is a basic contradiction between them that makes sustainable development unfeasible. However, attempts to reconcile the two incompatible expressions are being made. The failure of Agenda 21 is a good example. How would equitable growth be possible, sustainable growth, within an economy guided by profit, unlimited accumulation and labor exploitation? If taken to its ultimate consequences, sustainable development questions not only unlimited and predatory economic growth, but the whole capitalist style of production. Sustainable development makes sense in a solidarity economy context only, which is an economy guided by compassion and not by profit.<sup>7</sup>

The goal of sustainable development still remains centered in ecology. It needs to be considered by politicians and economists, as has been done by Joan Martínez Alier (2007), of the Autonomous University of Barcelona, one of the most highly regarded ecological economists of the world, and Ignacy Sachs (2007), president of the Advisory Group of experts from the Biofuel Initiative of UNCTAD. Sachs was the assessor of the Executive Secretary of the Earth Summit (Rio-92). According to Joan Martínez Alier (2007), poor people in fact favor the conservation of natural resources as they are those who are more likely to suffer the impact of rich nation's environmental problems. In his opinion, "the confrontation between economic growth, inequity and environmental degradation must be considered as the hallmark of poor people's relationships" (Alier, 2007, p. 356).

Serious social-environmental problems and the criticism of the contemporary development model have been generating an expansion of ecological awareness within society within the last decades. Although this awareness has not yet provoked deep changes of the capitalist economic model or of government policies, some evidence points to an increasingly sustainable society, as demonstrated during Habitat II, organized by the UN in Istanbul, Turkey in 1997. During this conference, concrete experiences of the struggle against "urban crisis," defined by violence, unemployment, the lack of housing and transport, were presented. These experiences point to the birth of a sustainable city. Little by little, economic and social sustainability policies have been emerging, giving us hope that we might face our global challenges in time.

#### *Another economy for sustainable development*

Solidary economy has emerged as a rich ongoing process in the world, one that is guided by the principles of solidarity, sustainability, inclusion and social emancipation. In this sense, it represents a great hope: "solidary economy is a movement of global reach that was born among the oppressed and the old and new excluded, the ones whose work are not valued by capitalist market, who don't have access to capital, technology nor credit. It is from them, from activists and people who promote solidary economy that emerge the desire and aspiration of a new paradigm for organizing economy and society" (Loureiro, ed., 2003, p. 162). It is actually a demercantilization of the economic process, a basic program for the construction of a new contemporary socialism. This demercantilization does not mean demonetization nor the end of the market, but the "elimination of profit as a category. Capitalism has been a programme that has a market-oriented view of everything. Capitalists have not put this into practice completely, but they have had improvements towards this direction, with all the negative consequences we know pretty well. Socialism must be a

programme that aims at eliminating this market-oriented idea of everything” (Immanuel Wallerstein, in: Loureiro, ed. 2003, p. 36). In this program, education plays a leading role.

Popular and solidary economy have incorporated, from their beginnings, the concepts of ecology and sustainable development. This incorporation represents a possibility of widening the scope of solidary socioeconomical ventures, such as had already occurred when gender, human rights and local and social control approaches were defended and incorporated. Sustainability and solidarity are emergent and convergent themes.

The relationship between sustainable development and the solidary economy is inevitable, as has been highlighted by the Brazilian Forum of Solidary Economy's (FBES) *Charter of Principles*: “solidary economy has constituted the fundings of a humanizing globalization, of a socially fair sustainable development, which aims at the rational needs of each person and of all citizens of the Earth, always following a path of sustainable development in life quality.” However, while the field of solidary economy is becoming better defined, the concept of sustainable development is still ambiguous, as was previously discussed. Leonardo Boff (2002, p. 55) underlines, the concept of sustainable development originates itself in the midst of an excluding economy, and sustainability, within ecology's inclusive paradigm. As concepts, they tend toward antagonism.

The concept of sustainable development has to do with what, during the 1972 UN Summit (Stockholm), Maurice Strong called “ecodevelopment” – a form of development attuned to people living well, that is able to fulfill human needs without destroying the environment (to grow and to preserve), as defined later by Ignacy Sachs in his book *Ecodevelopment* (Sachs, 1986). According to the Brundtland Report, the concept of sustainable development is very simple; it is a manner of development that “fulfills present human needs without jeopardizing the possibility of future generations to fulfill their own needs” (CMMAD, 1988, p. 46). And it seems to me that, in spite of being a broad and ambiguous concept, it is still valid in this way.

During the 1992 Earth Summit, in Rio de Janeiro, the concept of sustainable development gained more visibility through a document approved by 173 Heads of State and Government that were present at the event, the document entitled Agenda 21, which called for international cooperation and the exchange of technology between rich and poor countries. However, Agenda 21 was not able to overcome the ambiguity described by Leonardo Boff. For example, Agenda 21 does not mention the unsustainability that is inherent in the capitalist model of production. David Pepper (1992, p. 13) wrote after the Eco-92 conference: “many greens have expressed their dis-satisfaction with the Summit's poor results. I believe this means that, somehow, they hoped that the world's richest countries would sacrifice a substantial part of their wealth and, even more important, the means to obtain them, in order to help the poorest nations to protect the environment, which now these nations are obliged to destroy and develop according to the global economic system. However, we should understand that, being capitalist nations, the US, the EEC, Japan and others, cannot do this seriously and permanently without giving up being what they are.” David Pepper's thoughts were prophetic: after 15 years, these countries still owe a serious and permanent answer.

In order to be sustainable, development needs to be environmentally correct, socially fair, economically practicable and culturally respectful of differences. As Luiz Razeto (2001, p. 6) said, “fighting ecological degradation cannot be achieved by simply detaining the growth of current economy, since, even if it stopped growing, it would keep generating serious environmental unbalances at the same level as they are produced nowadays, or, maybe, even worse...It is evident that recovering the environment depends on creating a number of new economic activities, which must be put in practice according to the logic of an ecologically appropriate economy.” The correct formula would be to live happy, in harmony



with the environment, without destroying it. The theme is complex and cannot be seen separately.

Solidary economy is a rich and still ongoing process that follows the principles of *solidarity, sustainability, social inclusion* and *emancipation*. In this sense, it is an economy that gives us good hopes. Its management system is one of its main characteristics, since it clearly differs from the capitalist private sector's managerialism. Capitalist management is linked to the accumulation of capital and profit, while solidary management is linked to the improvement in its associates' quality of life, solidary ventures and its population well-living. These principles are opposed to the capitalist way of business management, which focus only on their leaders and owners.

Solidary economy's practices involve cultural changes that are only possibly established through cultural groundwork and deep changes in the values and principles that guide human behavior towards the determination of what is sustainable and what is not. Economic efficiency is not only attached to economic values, but also to cultural values that encourage solidary practices.

We need an economy in which free-market ideology and profit are not at the center of everything. There are relationships, natural resources, public-goods, knowledge, education and, above all, human beings, that should not be subject to the free-market. Food is not the only human need. People also need dignity, autonomy to decide upon their own existences, culture, knowledge, and awareness. Every human being needs self-determination.

In order to change the way human beings produce and reproduce their existence it is necessary to change the logic that determines the present manner of human existence. This is not a matter of extinguishing wealth and the market through which it circulates. It is a matter of making wealth circulate via different logics: moving from the logics of concentration and competition that rule the free-market to the logic of cooperation that rules the solidary market. We will only be able to revolutionize our way of existing on the planet through interference in present logics and these can only be transformed and overcome through the introduction of a new logic, one that seeks viable social, economic and political alternatives. One of the alternatives mentioned in the *Solidary Economy Charter of Principles* is to integrate solidary economy with sustainable development. This association between the two will provide a positive new meaning to "sustainable development." Sustainable development is an arena where many concepts and practices are constantly struggling, and the development of this new logic is one such struggle.

### **Education for Living Sustainably**

The feeling of being part of the universe does not begin in adulthood, nor does it arise from logical thinking. From our first moments in the crib, we feel tied to something that is much greater than ourselves. From childhood we feel deeply linked to the universe and we face it with a mixed feeling of respect and astonishment. And during our whole lives we look for answers to who we are, where we come from, where we are going, and in short, what the meaning of our existence may be. This is an unceasing and endless search. Education may play a very important role in this process, if it promotes the discussion of many fundamental philosophical issues, but if it also knows how to work well with our own knowledge – the capacity we all have to be fascinated with the universe.

Nowadays, we have become aware that the meaning of our lives is not at all separated from the meaning of the planet itself. Confronted by the degradation of our lives on the planet, we have reached a true crossroads between the *Technozoic* path, which places all our faith in the capacity of technology to pull us out of the current crisis without changing our polluting and consumption-oriented lifestyles, and the *Ecozoic* path, which is founded on a

new healthy relationship with the planet, recognizing that we are part of the natural world and live in harmony with the universe, and which is characterized by present ecological concerns. We are therefore confronted with a choice. This shall define the future we will have.

However, we cannot really understand these two paths as opposing ones. They can be orientated in parallel, and not opposed to one another. It was through the technozoic path that human beings were able to go to the moon and see the Earth. Technology and humanism are not opposed to each other. But, of course, there were excesses in our polluting and consumption-oriented lifestyles, impelled by technology and by an unsustainable economical paradigm. This is what needs to be discussed. This is one of the roles played by a sustainable or ecological education.

Even though it is ambiguous, the concept of sustainable development has an excellent educational component: the preservation of the environment depends upon the development of ecological awareness, which depends of education. And here is the contribution that can be made by the pedagogy of the Earth, ecopedagogy. It is a pedagogy that intends to promote learning the “sense of things, departing from our daily lives,” according to Francisco Gutiérrez and Cruz Prado (1998). We discover the sense of things within the process, by living the context and opening new paths. That's why it is a democratic and solidary pedagogy.

The research of Francisco Gutiérrez and Cruz Prado on ecopedagogy originates itself in its concern with the sense of daily life. Training is linked to the time/space in which relationships between human beings and the environment, on the one hand, and between human beings themselves, on the other, take place concretely. These occur, above all, within the level of sensibility, much more than within conscious awareness. The relationship man/women-nature is also a relationship that occurs in a sub-conscious level. For this reason, we need an eco-training to make it conscientious. And eco-training needs an ecopedagogy. As pointed out by Gaston Pineau (1992), there are a series of intellectual orientations which can be integrated in order to achieve this: Bachelardian inspiration, studies into the imagination, approaches produced through transversality, transdisciplinarity and interculturality, constructivism and the pedagogy of alternation.

We need an ecopedagogy and an eco-training today; we need an Earth pedagogy, because without this pedagogy, which is necessary for re-educating man/woman, especially Western man/woman, who are prisoners of a predatory Christian culture, we may no longer speak of the Earth as the “animal-man's” home, as stated by Paulo Freire. Without an education for sustainable living, the Earth will continue to be considered only as a space of our technical-technological domain that provides our sustenance and is the object of our research, essays, and at times, of our contemplation. But it shall not be the space of life, of shelter, of “care” (Boff, 1999).

We don't learn to love the Earth by only reading books on the subject, nor even books on integral ecology. Our own experience is fundamental. To plant and follow the growth of a tree or a flower, walking in the streets of a city, or venturing into a forest, feeling the birds' singing on sunny mornings, watching how the wind sways the plants, feeling the warm sand of our beaches, gazing at the stars in a dark night. There are many forms of enchantment and emotion before the wonders that nature reserves for us. There is, of course, pollution and environmental destruction to remind us that we are able to destroy this wonder, and also to create our ecological awareness and motivate us to act. To watch a small plant grow in the middle of a cemented wall. To gaze in awe at a sunset, smell the perfume of a *pitanga* (Surinam cherry) leaf, or the leaf of a guava, orange, cypress, or eucalyptus tree...there are many ways of living in constant fusion with this generous planet and to share our lives with all those who inhabit or form a part of it. Life does have a meaning, but it only exists when

relating to something else. As the Brazilian poet Carlos Drummond de Andrade once said, "I am a man dissolved in nature. I am flowering in every oak tree."

Drummond could only express this here on Earth. If he was on another planet in our solar system he would need to say something else. Only the Earth is hospitable to humankind. The rest of the planets are clearly hostile to human being, though they have been generated from the same cosmic dust. There might be other planets outside our solar system that harbor life, maybe intelligent life? If we consider that the matter from which the universe was originated is the same both here and there, then probabilities are high. But for now, we only have one planet that is our friend. We have to learn to love it.

### *Ecopedagogy and education for sustainability*

How is the principle of sustainability translated into education? It translates itself in questions like these: To what degree is there a meaning in what we do? To what extent do our actions contribute to the quality of peoples' lives and their happiness?

It is within the context of ecological evolution that the word "ecopedagogy" is born – and still crawls. Initially called "pedagogy of sustainable development," today it has gone beyond this meaning. Ecopedagogy is developing as a pedagogical movement as well as a curricular approach.

Just as with ecology, ecopedagogy must also be understood as a *social and political movement*. As with any new movement, it is in a process of evolution, it is complex and may take different directions. The term may be understood in different ways, such as through expressions of "sustainable development" and "the environment." Again, there is a capitalist view of sustainable development and of the environment which, by being anti-ecological may be considered a trap, as affirmed by the theologian Leonardo Boff. But there is also an emancipatory view. As occurs now with any new movement, the field of ecology is also one of terrains of ideological dispute.

Ecopedagogy implies a *curricular reorientation*, so that some of its principles may be incorporated therein. These principles should, for example, orientate curricular content and the elaboration of school material. Jan Piaget has taught us that a curriculum should include things that are meaningful to students. We know this is correct, but incomplete. From the perspective of ecopedagogy, the contents that are present in the curriculum have to be meaningful to the students, and they will only be meaningful to them if these contents are also meaningful for the health of the planet.

In this sense, ecopedagogy is not another pedagogy that comes to join the older ones. It only makes sense as a global alternative project, where the concern is not only the preservation of nature (Natural Ecology) or with lessening the impact of human societies on natural environments (Social Ecology), but with developing a new model of sustainable civilization from an ecological point of view (Integral Ecology) which involves change in economic, social and cultural structures. Ecopedagogy is, therefore, linked to a *utopic project*: to change the current human social and environmental relationships. This is where we find ecopedagogy's, or as I have called it (Gadotti, 2001), the *Pedagogy of the Earth's*, deep sense.

Ecopedagogy is not opposed to environmental education. On the contrary, environmental education is a basic point of departure for ecopedagogy. Ecopedagogy incorporates environmental education and offers strategies, proposals and the means for concrete action. It was exactly during the '92 Global Forum, at which one of the main topics was environmental education, when the important need for a pedagogy of sustainable development, of an ecopedagogy, was noticed. However, nowadays, ecopedagogy has become a movement and a perspective of education bigger than pedagogy of sustainable

development. It is closer to sustainable education and eco-education, which also has a wider scope than environmental education proper. Sustainable education is not only concerned with learning how to effect a healthy relationship with the environment, but also with a deeper sense of what we do with our existence as we consider our daily lives.

In this context, what is education for sustainable development?

In order to understand the nature of education for sustainable development, it is necessary to understand sustainable development. As we have seen, the most simple definition of sustainable development can be found in the Brundtland Commission's report *Our Common Future* (1987): "sustainable development is a transformation process in which the use of natural resources, the direction given to investments, the orientation given to technological development and institutional change get in harmony with each other and reinforce present and future potentials, in order to fulfill human needs and aspirations." As we can see, it is a very wide concept. *Our Common Future* does not provide details on how to achieve sustainable development, which caused ambiguity and left the concept open to interpretive creativity and ideological disputes.

It is also possible to consider sustainable development as an orientating concept for action, through which we would provide the context of concrete content. In this sense, *Our Common Future* recommends a "transition" to sustainability, which would demand a deep change in the current development model and also in the standards of production and consumption. Sustainability is therefore wider than sustainable development.

While the planet's dominant model of development now leads to planetary unsustainability, the concept of sustainable development points toward planetary sustainability. And here is where we can find the mobilizing strength of this concept. The challenge is to change the route and walk towards sustainability for a different kind of globalization, for an alterglobalization. If we want sustainability to take us to this different globalization we can unfold it in two axes, the first one related to nature, and the second one related to society:

1<sup>st</sup>) Ecological, environmental and demographic sustainability (natural resources and ecosystems), which refers to the physical basis of the development process and with the capacity of nature to tolerate human action, regarding its reproduction and the limits of population growth rates;

2<sup>nd</sup>) Cultural, social and political sustainability, which refers to the maintenance of diversity and identities, directly related to people's quality of life, to distributive justice and to the process of building citizenship and the participation of people in the development process.

On the other hand, we also need to distinguish, without separating, education *about* sustainable development from education *for* sustainable development. The first one refers to acquiring awareness, to the theoretical discussion, information and to data on sustainable development; the second refers to how to use education as a means to build a more sustainable future. It is, therefore, a matter of going beyond theoretical discussion to give an example of a sustainable life. Education for sustainable development is more than a set of knowledge related to the environment, the economy and society. Education for sustainable development should take care of how to learn new attitudes, perspectives and values that guide and impel people to live their lives in a more sustainable way. The crisis that has been created by the planet's human beings is showing everyday that we are irresponsible. Education for sustainable development is a way to educate how to be aware of this irresponsibility and overcome it.

The beginning of this millennium is characterized by big technological achievements and also by a large lack of political maturity: while the Internet puts us in the center of the Information Era, human government remains very poor, generating poverty, degradation and endless wars. 500 transnational companies control 25% of global economic activity and 80%

of the technological innovations. Capitalist economic globalization has weakened States by imposing limits to their autonomy, making them follow the economic logic of transnational companies. Gigantic external debts rule countries and hinder the implementation of equalizing social policies. Transnational companies work for 10% of the world population that is located in richest countries, generating a deep and inadmissible exclusion. This is the scenario that forms the basis for the change towards a new globalization.

Classical paradigms are running out of possibilities for responding adequately to this new context. They are not able to explain this transition nor to take part in it. There is an intelligibility crisis to which many false prophets offer magical solutions. A new spirituality emerges very well profited by market-religions. The answer given by a bureaucratic and authoritarian State is as inefficient as the neoliberalism of the market-god. Neoliberalism proposes more power to transnational companies and state-supporters propose more power to the State, reinforcing its structures.

In the midst of everything, there is the common citizen who is neither a capitalist nor a State. The answer forward seems to be beyond these two classical models and much more beyond a “third road” that wishes to maintain capitalism, causing even greater social exclusion. The answer, today, seems to come from strengthening the citizen’s control over both the state and the market. This means civil society is enhancing its capacity of governing itself and of creating tools for non-state oriented public management. And here we find the important role played by education and training for an active citizenship. This is not only an ecological commitment, but an ethical-political one supported by pedagogy, which means, by a science of education and a well-defined set of social practices. In this sense, ecopedagogy arises within these social-historical movements, building citizens who are capable of choosing their own future’s quality indicators and who will constitute an entirely new and radically democratic pedagogy.

The ecopedagogy movement has gained strength especially since the first international Earth Charter in the Perspective of Education conference (August 24<sup>th</sup> to 26<sup>th</sup>, 1999), organized by the Paulo Freire Institute in São Paulo, with the support of UNESCO and the Earth Council, and the International Forum on Ecopedagogy (from March 24<sup>th</sup> to 26<sup>th</sup>, 2000), which took place at the College of Psychology and Social Sciences of Porto University (Porto, Portugal). From these meetings, some of the movement’s guiding principles emerged and were assembled into an “Ecopedagogy letter.” Some of these principles are: the planet is a single community, the Earth is a mother and a living organism in evolution; there is the need for a new awareness that knows what is appropriate and sustainable, what makes sense for our existence; we must deliver social-cosmic justice: the Earth is poor, the poorest of all; we require a pedagogy that promotes life: one in which one can involve, communicate, share, question and relate oneself; we need to make our everyday lives more sensible and meaningful; we must re-educate the way we look at things, our hearts, our senses, for a culture of justpeace and sustainability.

Traditional pedagogies were anthropocentric. Ecopedagogy is based on a planetary awareness (that transcends, for instance, gender, species, distinctions between formal and non-formal education). We have widened our point of view. From an anthropocentric view we move to a planetary awareness, towards a new practice of planetary citizenship and a new ethic and social reference: planetary civilization.

The ecopedagogy movement, which emerged from the heart of the Earth Charter initiative, supports the Earth Charter’s process of discussion and diffusion, and attempts to indicate an appropriate educational methodology, one that is not a simple methodology of governmental proclamation, of a formal declaration, but is rather the translation of a process lived through the demand for critical participation on the part of people, as is said by Francisco Gutiérrez and Cruz Prado (1998).

Gaia equals life for ecopedagogy. Many people think that it is not legitimate to consider the Earth as a living organism. In their minds, this is a characteristic the Earth does not have. In truth, we can see this life only through our perception of the animals, the plants and our own everyday lives. It is a fact that we don't have the opportunity of looking upon the planet from the outside as do the astronauts while in space. But we can try to have the same perspective as the astronauts do as concerns geologic time, which is considerably more dilated than our own lifetimes. The "Gaia hypothesis," which conceives of the Earth as a complex, living superorganism in evolution, finds support in its billionaire history. For the first cell appeared some 4 billion years ago. Since then, life's evolutionary process has not ceased to be more and more complex, forming interdependent ecosystems within an evolving macrosystem. The Earth itself is a microsystem, if compared with the macrosystem of the Universe. We can only understand the Earth as a being if we detach from it our own limited conceptions of space and time.

In order to re-envision ourselves as members of an immense cosmos, so that we can incorporate new values based on solidarity, love, transcendence and spirituality and overcome the logics of competitiveness and capitalist accumulation, we must follow a difficult path. There is no such thing as a pacific change. And we won't change the world only by praying or by having the mere desire to do so. As Paulo Freire (1997) has taught us, changing the world is urgent, difficult and necessary. But, in order to change the world, it is necessary to know, to read the world, to understand the world, also to know scientifically and not only emotionally, as well as to, above all, intervene in the world in an organized way.

Rationalism must be condemned without condemning the use of reason. The rationalist logic led us to destroy nature, and has led us to death in the name of progress. But reason has also led us to discover planetarity. The astronauts' poetic and moving phrase, "the Earth is blue," was only possible after thousands of years in which rational laws of nature were derived as the dominant paradigm. When getting to the moon, for the first time, the astronaut Neil Armstrong said: "a small step for a man and a giant leap for mankind." By saying this, he was representing all of us.

Armstrong's speech was possible only through a great collective human effort, which considered all the technical, scientific and technological knowledge that had been accumulated by humanity up to that moment. And this was huge. If today we are able to build networks within networks of planetary communication through the Internet, this too is possible due to the collective imagination, intuition, emotion and reason of humanity, as they are enlisted in service of the gigantic and truly human effort to discover ways of living better on this planet and how we can better interact with it. It is true that we have done the planet wrong many times. We have considered ourselves superior beings due to our rationality and we have exploited nature without care or respect for it. We have not yet truly learned how to deal respectfully with nature with emotion and sensitivity. In this field of pedagogy, we are still crawling, but also learning.

What we see today, then, is the birth of the planetary citizen. We have not yet been able to imagine all of the consequences of this unique event. We do feel, notice and are moved by this fact, but we are not able to adapt our minds to this spectacular happening in human history. Yet, we know, as Edgar Morin (1993) has said, that it is necessary now to ecologize everything.

### *Education for a culture of peace and sustainability*

Today we know that we can destroy life on the planet, as the UN's IPCC reports have intimated. Global action is a necessary response in the form of a movement of great civilizing work undertaken by everyone. It is vital for us to put in practice this other globalization, this

planetarization, based on ethical principles different from those that led us to economic exploitation, political domination and social exclusion. The ways in which we are going to produce our existence on this small planet will serve to decide its life or its death, as well as of its sons and daughters. The Earth is not only a geographical phenomenon anymore; it is also an historical one.

The traditional paradigms, based upon an industrial, predatory and anthropocentric view of the world, are weary and unable to cope with having to explain the moment we are living today, nor are they able to answer our future needs. We need another paradigm, based on a sustainable view of the planet Earth. Globalism is essentially unsustainable. It fulfills the needs of the capital first to later fulfill human needs, and many human needs which are globalism fulfills today are needs that became “human” only because they were produced as such in order to serve capital.

We need an Earth pedagogy, based on a new paradigm – the Earth’s paradigm – which will be appropriate to the culture of sustainability and peace. This pedagogy has been slowly constituting itself, profiting from various reflexions that have been made during the last few decades, especially within the ecological movement. Such pedagogy bases itself in a philosophical paradigm (e.g., Paulo Freire, Leonardo Boff, Sebastião Salgado, Boaventura de Sousa Santos, Edgar Morin, Milton Santos) which has emerged from education that proposes a variety of interdependent knowledge and values necessary to a sustainable life. We call sustainable life a lifestyle that harmonizes with human environmental ecology by means of appropriate technologies, co-operation economies and individual effort. It is an intentional lifestyle whose characteristics are personal responsibility, commitment to other people and a spiritual life. A sustainable lifestyle is related to ethics in managing the environment and economy, trying to keep balance between fulfilling current needs and guaranteeing the fulfillment of the needs of future generations.

Among the pedagogical values and principles of the culture of sustainability and peace and future-oriented education, we can highlight:

1<sup>st</sup>) Educate for a thinking globally. In the information era, considering the speed at which knowledge is produced and becomes outdated, there is no need to accumulate information. It is vital to know how to think, and think about our reality, not to think about what has already been thought. Given this, we need to reconsider what it means to know how to learn, how to know something, and the methodologies involved in this. We must educate so that people learn that there is only one home. We must educate to transform both the local and global levels of society. Some struggles are planetary. Our survival on the planet is a common cause. Therefore, it is crucial to educate people not to be neglectful, indifferent or conniving with the destruction of life on the planet.

2<sup>nd</sup>) Educate one’s feelings. The human being is the only being who asks about the sense of existence. We must educate to feel, to care, to take care, to live every moment of our lives making sense of this existence. We are human because we feel, not only because we think. We are part of a whole that is under construction.

3<sup>rd</sup>) Teach our identity to the Earth as a vital human condition. Our common destiny on the planet is to share life on the planet with others. Our identity is at the same time individual and cosmic. We must educate to be emotionally bound to Earth.

4<sup>th</sup>) Educate for planetary awareness. It is important to understand that we are interdependent. The Earth is a single nation and we, the people of the Earth, are its citizens. We don’t need passports. Nowhere on Earth should be considered foreigners. To separate the world into first and third worlds means to divide the world in order to let it be ruled by the most powerful; this is the globalist division, between globalizers and globalized, which is opposite to the process of planetarization.

5<sup>th</sup>) Educate for understanding. Educate for human ethics and not for the market's instrumental ethics. We must educate for communication – not an exploitative communication or how to communicate how to take advantage of others, but to learn how to better understand others. Intelligence is not characterized by one who knows how to solve problems (instrumental intelligence), but by the one who manifests a life project with solidarity. This is because solidarity is not only a value nowadays, it is the condition of our survival.

6<sup>th</sup>) Educate for voluntary simplicity and quietness. Our lives need to be guided by new values: simplicity, austerity, quietness, peace, serenity, listening, living together, sharing discoveries and building together. We need to choose for a world that is more responsible in opposition to the current dominant culture, which is a culture of war, and to start to act concretely by sharing and putting sustainability into practice in our daily lives, with our families, at work, at school and in the street. The simplicity to be defended is not synonymous with simple-mindedness, and quietness is not the culture of silence. Simplicity has to be voluntary, by willingly changing our consumption habits, reducing our demands. Quietness is a virtue, which can be conquered through inner-peace and not through imposed silence. Quietness has to do with hearing, listening, knowing, learning with the other, which is different from giving speeches, ready-made ones, right from the start, dictating rules, and imposing specific speech. Quietness has to do with creating the conditions for many narratives, the ones currently silenced, to come to life.

In 2007, while fishing, I received from my father, an agriculturalist who is 93 years old, a lesson on voluntary simplicity: "Son, you must only possess the land that your arms can cultivate." In this, he affirmed that we can live well and for much time, as he is living, without a lot of goods and just with some meters of land to cultivate our vegetables.

Robert Goodland (1997, p. 293) points out 13 changes in lifestyle that can promote environmental sustainability: walking or riding a bicycle and using public transport, which is less harmful to the environment than using a car; using more quilts and sweaters, which causes less harm than turning on the heat; opening the windows, which costs less than turning on air-conditioning; insulation, which costs less than turning on the oven; recycling, which costs less than throwing out the garbage; durability, which costs less than obsolescence; big families cost more than small ones, so keep small; overconsuming families from the North cost more than poor families from the South, so follow the latter model; grain-based diets are more efficient in terms of resources and more equitable than carnivorousness, so move to a grain-based diet; agroforestry lands that sell to small communities are more productive than food sold by the agribusiness, so adopt community foodstuffs; preventing pollution and garbage are less harmful than treating them, so prevent them; intensive labor growth costs less in environmental terms than intensive capital increases, so invest in labor; and the majority of renewable resources are less harmful than coal and petroleum, so move to use renewables. Of course, all this assumes justice and justice assumes that everyone has equal access to the same quality of life and to dignity. It would be inappropriate to talk about reducing demands of consumption and to attack excessive consumption with people who do not yet have access to even basic consumption. Peace is impossible if there is no justice.

In order to stave off the possible extermination of our planet, some alternatives must emerge as a culture of peace and culture of sustainability. Sustainability has to do not only with biology, the economy and ecology. It has to do with the relationship we keep with each other, how we relate to ourselves, and with nature. Pedagogy should start by teaching, first of all, how to read the world, as Paulo Freire tells us – a world that is our own universe because it is our first educator. This first education is an emotional one, and it shows us the mystery of universe, how we are intimately bound to it, and it produces emotions within us around how we pertain to this sacred being in constant evolution.



We do not understand the universe as something which is composed of separate parts or bodies, but as a sacred and mysterious whole that challenges us in every moment of our lives, in evolution, in expansion, in interaction. Reason, emotion and intuition are parts of this process in which the observer/him/herself is involved. This Earth paradigm is a civilizing one. And since a culture of sustainability offers a new perception of the Earth, in which we consider it as a single community of human beings, it becomes the basis for a culture of peace. As Ricoeur (1991) says, wars and violence exist because we do not know each other.

The universe is not outside. It is inside us. It is very close to us. A small garden, a vegetable garden, a piece of land, these are small universes within the whole natural world (De Moore, 2001). We find in them different life forms, life resources, life processes. And having this in mind we can change our school programs. And we will learn many things by building and taking care of such gardens. Children see them as a place full of mysteries! They teach emotional values towards the Earth: life, death, and survival, values of patience and persistence, creativity, adaptation, transformation, renewal. All our schools can turn into gardens and teacher-students can transform into gardeners. The garden teaches us ideals of democracy, connection, choice, responsibility, decision, initiative, equality, biodiversity, colors, classes, ethnicity, and gender.

We are facing restless and parallel growth in both poverty and technology: we are a species of great success in the technological domain, but we have been unsuccessful in terms of human governance. We live in the era of information, but not of knowledge and communication. Communication technologies do equate with human communication. That is why we need a "citizen public sphere" (Habermas, 1984), which is a non-governmental decision-making public sphere. We need, as already said by Adela Cortina (1997), a "civil public ethics," based in a plural society (for example, to respect different answers about life's meaning, which means to put ethical pluralism in practice). These must take the form of authentic co-habitation (living together and not only juxtaposed to one another), of collective construction (as a task to be constantly done, since convergence points are not automatic), and of mutual discovery and dialogue (we must look for what we have in common).

The Earth Charter explicitly speaks of a "sustainable life." It has provided a great contribution to the DESD, and to the culture of peace and sustainability. The Earth Charter needs to be considered as delivering a group of planetary principles and values that will lead us to a world where the values of solidarity and sustainability are dominant; a project, a movement, a process, that can turn the risk of extermination into an historical opportunity and fear into hope. It cannot only be the commitment of States and Nations to adopt and promote the practices of the Earth Charter's values, but this is the responsibility of each human being, each individual personal, as an historic personage, such as UNESCO's 2000 Manifest has described. We urgently need a culture of peace with social justice to face barbarity. If we accept barbarity, we will get used to a violent and unsustainable daily routine.

*Ahmedabad: The first encounter of environmental education with education for sustainability*

The 4<sup>th</sup> International Environmental Education Conference was convened from November 24<sup>th</sup> - 28<sup>th</sup>, 2007 at the Center of Environmental Education in Ahmedabad (India). This institution was founded in 1984, in the heart of the Gujarat state, amidst some 48 regional districts for which it serves as a nucleus. There were 1200 participants at the conference and 30 working groups covered all aspects of the general theme. The conference itself was developed in a participatory manner with preparatory meetings held first in Durban, South Africa, and then New York and Paris.

In Ahmedabad, many references were made to Tbilisi (Georgia), where thirty years prior (1977), the 1<sup>st</sup> International Environmental Education Conference was conducted. Prior

to Tbilisi, the United Nations conferences at Stockholm (1972) and Belgrade (1975) had raised the theme of sustainable development. But until Tbilisi, environmental education was known much more as a form of conservation education (conservationism). Tbilisi moved this a step ahead, and thereby reconnotated the expression “environmental education” to conjoin it with the broader vision of such education that we maintain today. Tbilisi, therefore, was a landmark for environmental education.

The 1960's and the 1970's were decades in which formal education was questioned and environmental education seemed to be an alternative to the dominant teaching system. The work of figures such as Rousseau, Froebel, Dewey, Montessori, Steiner and later, Freire, formed the basis for the area knowledge and pedagogical practices of this environmental education. This diversity of inspirations and practices turned environmental education into a rich field of studies, research and projects for political intervention.

Ten years later, the 2<sup>nd</sup> International Environmental Education Conference took place in Moscow (1987). At this conference, environmental education became associated with ideas of “environmental management.” The conference also provided a lot of emphasis on gender issues in education and “gender and environment” became a theme that was suddenly on the educational agenda. Further, the conference discussed ideas about education for development, as well as for peace and human rights. Immediately following Moscow, came the RIO-92 event, where the Global Forum of NGOs and popular movements approved the *Environmental Education Treaty for Sustainable Societies and Global Responsibility*. RIO-92 gave much greater emphasis than had previously been done to three interdependent dimensions of sustainable development: *ecology, economy and society*.

It was in Thessaloníki (Greece), in 1997, at the 3<sup>rd</sup> International Environmental Education Conference, that the idea of education for sustainable development first became officially associated with environmental education. This occurred in response to the guidelines that had been set out in Chapter 36 of the Agenda 21 document that was previously approved at the RIO-92 Summit. In 2002, at the Rio+10 Summit held in Johannesburg, attempts to redefine environmental education as a field continued as officials sought to offer it as a governance strategy concerned with questions pertaining to the three dimensions of sustainable development that had been outlined in Rio.

Accordingly, from Tbilisi to Ahmedabad, there has been a great deal of practical and theoretical advancement in environmental education. Initial preoccupations with the environment in this respect were more focused on “preserving” nature, to conserve wilderness and natural resources. Soon thereafter, the central theme of environmental education became protecting biodiversity. These themes have not now been relegated to the past, but as we now face global warming and the climatic crisis head on, the central theme of environmental education has necessarily become people's lifestyles: if we do not change our ways of producing and reproducing our existence, we may be putting all of the lives on our planet in danger.

The Ahmedabad Declaration reflects this new context. In a way, it harkens somewhat back to the initial version of the Earth Charter from the RIO-92 Global Forum: a call for education for a sustainable life. The debates at Ahmedabad were dominated by the presence of a central thought from Gandhi's work: “my life is my message”.<sup>8</sup> Undoubtedly, we do need to give examples of sustainability and we also need to be the difference we pray to find in the world. The Ahmedabad Declaration makes it clear: “Our example is very important. By our actions, we add substance and dynamism to the search for a sustainable life. With creativity and imagination we ought to rethink and change our values, our choices and actions. We need to reconsider our instruments, methods, and prospectives, our politics and our economy, our relationships and partnerships, as well as the own principles and objectives of education and how it relates with our kind of life.”

In Ahmedabad, global warming was a frequently discussed topic, in response to the impact of the IPCC's recent reports on the subject. As such, it was asserted that the risk of climate change is global, but that solutions are ultimately local, and therefore it is through environmental education that we can directly act to abate the problems of global warming. But the climate issue was not set apart from the issue of economic growth, and this raised the necessity of affecting the relationship among nations to demand cooperation, equity and transparency on this matter. We came out from Ahmedabad, therefore, with the firm conviction that all possible efforts are needed as educators to transform the global economy and that the difference can be made through education. The Ahmedabad Declaration reflected this intense debate about the nature of the economy, of development and of our ways of living: "Our vision is of a world in which our work and lifestyle contributes to the wealth of all life on the planet. We believe that through education, human ways of life can maintain ecological integrity, social and economic justice, in a sustainable way and respect all kinds of life. Through education, we can learn to prevent and solve conflicts and respect cultural diversity, as well as create a careful society and live in peace."

Being as it relates directly to the way we live our lives, sustainable consumption was considered a highly relevant topic at Ahmedabad. Indeed, there is no way of talking about education for sustainable development without talking about the nature of education for sustainable consumption. The state of Gujarat, in India, which held the 4<sup>th</sup> International Environmental Education Conference, is essentially a vegetarian state. As a result, perhaps, there was much discussion as to the way in which people nurture habits based on animal protein.

The conference provided a reminder that meat consumption is the major polluter of the planet. In order to feed carnivorous consumers, it is necessary to farm some 16 billion animals. Moreover, over a period of five years, the amount of meat consumed globally has doubled. In this context it was also underlined that the burgeoning farming and cattle ranching frontier is the principal factor of planetary deforestation, as well as a major water threat, considering the fact that one kilogram of meat needs approximately 15 thousand liters of water to be produced. Additionally, while global transportation contributes 14% of the emissions of global greenhouse gases, 18% of these same emissions come from the animals being raised for meat consumption.

Furthermore, the massacre of animals involves violent acts that are contrary to the ethical engagement that we must have with life. All life is sacred. What we eat becomes us, through our body it belongs to us. What we eat reflects, up front, our behavioral posture – our ideal of life and vision for the world that we want to build. Our basic principle should thus be compassion for all of the community of life.

In Ahmedabad, it was revealed that the nutritional model of rich countries cannot be generalized to others in the world due to the simple fact that we would need one more planet (we would need 2.6 planets total) to be able to feed everyone based on the requisite resource requirements. The Earth surface alone that would be needed to produce animal protein for everyone would be 15 times larger than the space necessary to produce equivalent vegetable protein. Added to this is the fact that animal protein is also the cause of numerous illnesses, among them: cancer, diabetes, and vascular illness. The agricultural model of the carnivorous diet is thus at the root of all these issues. What is required, then, is to invent another model, one that is more sustainable and which supports people's health as much as it does the protection of the environment.

We must eat to survive, but unlike other animals, we don't have to do this by pure instinct. We feel pleasure upon eating and we are able to make choices. The act of eating is transformed by us into a very significant act. It is not the mere satisfaction of an instinctive necessity. Eating is also a cultural act. Society transformed that into a social act. There is a

huge variety of aliments and some of these victuals are sufficient for all the human beings on Earth. However, there is a lack of equal distribution.

The best choice for our sustenance is that which is produced locally and the worst is the one that comes packaged from far away, for that produces much more garbage (i.e., the industrialized products) as well as greater social and environmental costs. It is all important to know how the products that we devour were processed. We must know the food production system.

In November 27, 2007, the IPCC (Intergovernmental Panel on Climate Change), released its fourth Report, a synthesis of its findings for policymakers so that they might make informed and necessary decisions in response to the threat of global warming. This document reaffirmed what the IPCC had concluded in its previous reports: that the Industrial Revolution, beginning in the middle of the 18<sup>th</sup> century, has been a primary determinant factor in the increase of CO<sub>2</sub> concentration in the atmosphere, which causes the greenhouse effect and an increase of planetary temperature. This trend shall continue for many centuries, even if humanity proves able to control CO<sub>2</sub> emissions and to stabilize gas concentrations behind the greenhouse effect. As the IPCC affirms, "The rising of sea level and global warming are inevitable."

Considering that we will have to live, inevitably, with global warming, our goal must be to diminish its harmful effects. In this respect, we must consider that our lifestyle and, particularly, our food choices have considerable impact on the greenhouse effect. We must also contemplate the ways in which ESD and, more specifically, education for sustainable consumption can be a fundamental part of the educational impetus towards achieving a positive impact on the diminishment of CO<sub>2</sub> emissions. As an educator, I proposed that we gather and engage with the greatest possible number of schools and students in order to mobilize a change in their lifestyles and to create habits for a sustainable life, particularly through sustainable and ecological food choices. We still have not used the organizational and transformative potential of schools to their full effect. Currently, more than one billion children and youth study across the world and a change in their lifestyles would make a significant difference as regards our current problem.

### **How to Educate for Sustainability within the Unsustainable Economic Model?**

As we have seen, we are presently engaged in consumption of natural resources beyond the Earth's capacity for self-renewal. In order to feed the whole population of the planet, if we were to dignify everyone's needs according to capitalism's consumption standards, almost 3 planets would be required. But everyone's needs are not the immediate concern, as, nowadays people who are the most educated are often exactly the ones who are producing the most relevant harm to the planet due to their unsustainable lifestyle. The countries that offer the greatest amount of access to education (which claims to be of good quality) are the same countries that have in their histories (both past and present) habits and values that are deeply harmful to life on the planet.<sup>9</sup> It is important to understand that environmental degradation is basically the result of an economic policy conceived and put into practice initially by the First World. Usually, poor countries are the ones who are held out to be judged and condemned for having disrespected the environment. But it is a false idea that environmental degradation lives in the Third World, and that it is due to the lack of responsibility and competence that is widely disseminated among us who live there. There is environmental degradation in the Thrid World, undoubtedly, but the history that led us to such a reality, and the part played in it by the richest countries in world, is never mentioned.

Something is happening within our educational systems. The form of education that has been developed in the world up until now can be considered to be more of *a problem for*

*sustainable development than part of the solution.* Education now reproduces principles and values that are part of the unsustainable economy. It is urgent that we end this paradigm and the scheme of competitive proceedings in education. Our main development model is guided by an instrumental rationality that has been copied likewise by our educational system. In order to grow, education for sustainable development needs to draw for its own favor upon contradictions that exist within current educational systems. It is not enough to simply introduce the idea of sustainability into schools without rethinking other school subjects through a different communicative and emancipatory logic and without changing the habits that structure school spaces. In order to make education for sustainable development possible within educational systems such that it is incorporated in their pedagogical processes, those in charge of the systems must first be educated for and with sustainability.

Education for sustainable development is, in its essence, inter and transdisciplinary, as well as intersectional. Education cannot be understood as something sectorial. Educational results can never rely for their development only on pedagogical measures. The DESD must be combined with other UN campaigns and initiatives, such as the fight against HIV, the Literacy Decade, the aims of “Education for All” and the Millennium Goals. In this way, education for sustainable development can be used synergistically as a way to fight HIV/AIDS as part of the agenda of education for a healthy life. On this matter, work on education for sustainable development needs to begin very early within the formal school system as well as in nonformal health programs. Access to information on this matter is vital, especially for youngsters. On the other hand, the Dakar Action Plan already called our attention to the urgent need to fight HIV/AIDS if we want to meet the goals of “Education for all.” One way to move forward positively on this issue may be to try to lighten any repercussions that result for students from testing HIV+ in schools. Another important agenda will be to help students avoid infections that can potentially arise through cohabitation within the school environment itself.

We all know that infection causes serious emotional and economic challenges for people’s quality of life, as well as for their families, friends and communities. On the other hand, HIV also affects social income and causes problems in social security and health care systems. For this reason, it will be necessary for educational systems not to be isolated from other fields of society, such as the economy, healthcare, social services, industry and agriculture, employment and social development agencies, in order to be able to combat the social and economic consequences of a disease such as HIV/AIDS. The problem of HIV/AIDS must be discussed at all teaching levels in a transdisciplinary and inter-institutional way. The DESD may be another opportunity to fight this disease.

Education for sustainable development is also a kind of educational opportunity to fight illiteracy throughout the world. Here ESD may synergize with the UN Literacy Decade (2003-2013). Bringing illiteracy to an end starts by putting all children in schools. The Literacy Decade address defends the right to a high-quality public education, giving special attention to gender issues/differences and social inclusion. It is important that the different UN Decades be coordinated at a national level as well as by local governments in partnership with civil society. The delay in providing education for all is huge among developing countries and the State won’t be able to overcome this delay by itself.

The DESD documentation supports the notion that there is neither a unique nor a universal model of ESD. Here it is possible to see the importance of translating this concept into different realities and different pedagogies, such as Paulo Freire’s pedagogy, which departs from reading the world with respect for each learner’s context and which offers an emancipatory and dialogical methodology. In Latin America, for example, consideration must be granted to its rich tradition of environmental education instead of simply planning to replace it. The Decade was responsible for putting the theme of development on the world’s

environmental education agenda. For us, environmental education and education for sustainable development are necessarily both dimensions of a civic education which involves moral values.

The Decade's documentation makes it explicit that the UN considers that the global economy which is guided by profit, by the accumulation of goods and by exploitation of workers, is essentially unsustainable. Poverty and hunger are also unsustainable. Wars and the military industrial complexes that support them are unsustainable. Also unsustainable is the current armamentism – the main cause of the environmental disaster we are now facing, as declared by Nobel Peace Prize winner and current president of Costa Rica, Oscar Arias, in the opening ceremony of the Latin-American meeting "Building an Education for a Sustainable Development in Latin America" (San Jose, October 31, 2006). The mass production of armaments not only puts the world population in danger, but it causes serious damage to the environment. Even in times of peace, armamentism increases the emission of carbon dioxide more than any other human activity. The world's military industrial complex spends billions of dollars every year buying weapons and maintaining a military contingent upon them, thereby depriving the world's poorest populations of the possibility of fulfilling their basic needs and services. The production and maintenance of weapons and war generates catastrophic environmental effects, besides being an extreme violation of human rights. We all pay a very high cost to maintain the capitalist military industrial complex. The army is nowadays the most pollutant factor in the world. Our priorities are highly mistaken.

The unsustainable military model is currently responsible for great global crises, all of which are interlinked:

1<sup>st</sup>) *World social crisis*: cruel and pitiless poverty and the exclusion of members of our own species from participating in society;

2<sup>nd</sup>) *Drinking water crisis*: many children die from diseases caused by the non-treatment of water and sewage; drinking water is becoming scarce;

3<sup>rd</sup>) *Food crisis*: which will come attached to water shortage crisis;

4<sup>th</sup>) *Greenhouse effect crisis* (climate change): if this crisis is not overcome, there will be nothing to share;

5<sup>th</sup>) *Energy crisis*: how long will we be able to remain using non-renewable fuels? Petroleum is currently the planet's blood.

There is no doubt as regards the fact that education for sustainable development is a great opportunity for the further instantiation of environmental education, but in order for this to take place, we must understand the development of the field from a more holistic point of view, not as plain and simple vegetative growth. We need an alterglobalization view of sustainable development, one that does not separate economic, political and social aspects from the search for a sustainable existence. Hence, to educate for sustainable development is to educate for a sustainable lifestyle, in contrast with educating for a capitalist model of development.

In the document announcing the DESD, UNESCO indicates a set of factors that could provide more consistency for the practice of the sustainable development concept and that could help to transform educational systems. The factors on which education for sustainable development should work include poverty, rural development, health, consumption, environmental conservation and protection, gender equality, human rights, and cultural diversity. Both environmental education and education for sustainable development have previously dealt with these themes, however, without thereby obtaining the expected result of significantly changing the quality of human development. How the DESD can intervene in the real world, and not just the world of theory and conferences, remains its main challenge. The answer lies in knowing how to implement the concept of sustainable development in

programs of formal and non-formal education, in involving governments, communities, the private sector, trade unions, civil society, the media, and international agencies.

Education is fundamental for achieving sustainability and for creating a more sustainable future. All subject teachers can contribute to education for sustainability: mathematics can work with data that refers to environmental pollution and the growth of poverty; linguistics can analyze the role played by the means of communication and of the effect of propaganda on consumption habits; history and the social sciences can discuss ethnic issues and gender inequality. UNESCO's role can be, besides promoting the diffusion of learning and cultural changes that can occur through education for sustainable development, one of strengthening tools for evaluation and monitoring by making annual assessments and propagating successful experiences. Civil society is a strong ally in this project. After two years, most governments of the UN member countries have not yet seen the importance of the DESD. More engagement is expected and demanded from them in the forthcoming years.

### *The great challenges of the Decade of Education for Sustainable Development*

The greatest challenge for the Decade is still its implementation – how to transform its declaration of principles into concrete demands. The discourse of the proclamation is expositive and enunciative while the discourse of the demand is more communicative and dialogical. It is not enough to define the Decade's mission and main objectives. At this point, the most important thing to do is to create a participatory movement around it, one that will show the best ways forward and serve to create alternatives, both over time and horizontally.

It is not enough to know the Decade's various objectives and targets. The Decade needs to pertain to a social movement in order to change the world, which demands more sensitivity than just scientific knowledge. The meaning of the movement-building process does not derive from knowledge or from ecological discourse, but from the problems of daily life. The process needs to make sense to its participants. This way, the DESD is a true calling with a mandate from the people. It is not a program, but a challenge – a philosophy of life for a sustainable existence.

Along with the Decade, the global agenda for change involves transforming education in general, environmental education specifically, and especially, raising the issue of a quality education as a public right for all people. This said, education has an important, but limited, role compared to the changes that are needed in the present day model of global economic development. Education is not able to revert, all by itself, the pollution in the atmosphere or 150 years of gas emissions that have generated the greenhouse effect. But it certainly can contribute to change by stimulating a collective awareness that is able to revert the process of the planet's destruction. The Decade, in this way, represents an opportunity for educators to better know what they need to know and do in order to save the planet.

Education is a long and non-sectarian process, therefore, it represents a privileged space for integrating people's knowledge and service, one of the main objectives of the Decade. Education looks with hope upon itself, a hope for the 781 million illiterate people in the world. Overcoming illiteracy is a necessary condition for the ESD.

The challenges we have to face in order to reach the Decade's goals are many, and some of them are evident, such as:

1<sup>st</sup>) Re-think paradigms: to create dialogue between knowledge and ignorance (what do I ignore, what don't I know, what don't I need to know?), as well as a dialogue of civilizations.

2<sup>nd</sup>) The reconstruction of ethics: this, not as part of training in philosophy or religion, but as an ethics of life.

3<sup>rd</sup>) A theleological view of education: what do we educate for? There is a need to re-found educational processes to base them in sustainability. If education does not aim at stimulating critical thinking, it will sooner or later become training.

4<sup>th</sup>) Environmental education as a social movement and a field of knowledge: studies and research are vital on this topic in order to have an ESD. We as people have broad political and pedagogical capital and we should present it to the DESD.

In order to change the dominant educational paradigm we need to recognize that the knowledge crisis which has been caused by the positivist model reduces the environment to a mere object of study. This positivist model has promoted environmental destruction. Education for sustainable development must continue to work together with environmental education, which ushered in a new view of the world and of human beings' relationship with the environment (not conceived as an object, but as a living creature in evolution that shares the same destiny with human beings). That is why environmental knowledge is an ethical-political one. Such knowledge is not only a matter of delivering to humankind the possibility for awareness of the ecological principles that can defend nature, but it also involves producing a new concept of reality, one that is intimately linked to human beings.

The Decade is also an opportunity for formal education in general. Sustainability can be a fundamental category for rebuilding the educational systems we have today, which are still based on a predatory view of the world. Environmental education and education for sustainable development, when linked to human rights, gender rights, democratic rights, peace and sustainability, are fundamental axes for these reforms. That is why I believe that the Decade's major objective will end up being the construction of a new quality of education, a social-environmental quality, and cannot merely be content with the improvement of the same education we have today. Improving contemporary education is simply to continue with an educational model that has been destroying the planet since the 19<sup>th</sup> century.

In 2007, we celebrated the 20<sup>th</sup> anniversary of the Brundtland Report (1987), which was a landmark for the sustainable development issue. This Report affirmed that it was possible to maintain dynamic balance between democratic equality, social growth and the health of the environment. But it recognized that in order to achieve this balance, deep social and ecological changes would be necessary. The Report thus defined three fundamental components for sustainable development: environmental protection, economic growth and social equality; and it outlined that, in order for these to be achieved, there must be a change in the relationship between the developed and non-developed countries. Since then, there has not been any radical change in this international relationship – it remains a relationship of independence and not reciprocity.

After almost three years since the DESD was first established, the results have been very little. What developments we can see are to be found in the expanse of ecological awareness, which had already been growing since at least 1992. After three years, there are more questions than answers for those involved with the DESD: What educational systems have already adopted the concept of sustainability into their curricula? How many networks have been built around this project? What projects and programs (and other activities), besides the ongoing conferences and meetings, are really being implemented? What quality indicators for ESD are being developed? What strategies for ESD are being used?

In order to monitor and evaluate the Decade's progress, we need to consider its objectives and its conception of ESD. On the one hand, there is a conception of ESD that relates itself better to formal education and, on the other, a conception of ESD that relates better to non-formal education. In the first case this involves the commitment of various educational bodies and, in the second, the main agents are civil society, NGO's and the social movements. We cannot afford to lose ourselves to petty disputes as to which sector is



ultimately more important for realizing sustainability. I personally don't believe that formal and non-formal education are contradictory paradigms. They are complementary. One strategy does not exclude the other.

It is widely insisted that we need to have a “common view” when, in fact, we need to build this view out of a diversity practices, and from good practices. We don't all have to agree about any given practice in order to start acting for sustainable change. Our consensus can be built through our practices, by means of solidary actions undertaken in order to achieve the development of “common views.” We can easily reach commonality amongst ourselves by beginning to expose what we have in common. If there is time, we can also dedicate ourselves to deepen our differences. But we still have a lot to do in order to show what we have in common, which is a lot.

Common environmental problems have been revealed across the globe within the last few years. Al Gore's movie about global warming, *An Inconvenient Truth*,<sup>10</sup> has touched the whole world and even won an Oscar award in 2007 for its depiction of how the Kyoto Protocol has revealed itself completely inefficient in the fight against the problems of climate change.<sup>11</sup> The Protocol's goal is to reduce, by 2012, the atmospheric emissions of CO<sub>2</sub> by 5.2% below that of the year 1990, but this will not avoid the consequences of the greenhouse effect. Even if the Protocol was entirely implemented, it would only barely stabilize the greenhouse effect over time, and it wouldn't at all help us to avoid an increase in global warming. This is especially true to the degree that the Protocol maintains the industrialized countries' “right to pollute” in exchange of buying carbon credits from poor countries that pollute less. In the end, the “right to pollute” has also become a commodity under present strategies.

Is it possible, though, that the new market for carbon credits can reduce deforestation, we might ask? Researchers from IPAM (the Amazon Institute for Environmental Research) and the Woods Hole Research Center (of United States) have estimated that the economics of forest conservation carbon credits are something like \$10 per ton of carbon thusly reduced. Indigenous peoples and farmers could maintain their forests in this way by compensating their lost income through the sale of allowances for carbon emissions from other polluting activities. Countries such as the United Kingdom are attempting to establish internal official aims for the lowering of greenhouse gas emissions, in part through market-based schemes. For some, however, carbon credits have become an entrepreneurs market pure and simple. The commercialization of carbon credits is thus akin to a commodity nowadays. The quantity of atmospheric CO<sub>2</sub> gas that is presently negotiated for reduction becomes despicable when it is compared to the quantity of carbon dioxide emitted via the combustion of fossil fuels. The problem, then, remains: how to reduce greenhouse emissions? We have to recommit, vigorously, to the methods by which we can combat global warming – what has elsewhere been denominated as the three “Rs”: reduce, recycle, and reuse.

The future impacts of global warming, such as were revealed by the UN's Intergovernmental Panel on Climate Change (IPCC) in 2007, involve risks to public health, especially in the less developed countries like Brazil. According to the IPCC projections, there will be a dramatic increase of intestinal, heart and respiratory diseases among developing countries. These illnesses will also increase the number of deaths amongst more vulnerable populations. The impacts of global warming will be even more severe for the poorest regions: “In middle of this century, the rise of temperature associated with the decrease of water in the soil will cause savannization of tropical forests...and desertification of rural areas. The growth productivity of some important crops will decrease and cattle breeding will decline. There is a big risk to biodiversity with the loss of endangered species in tropical forests” (Miguel, 2007, p. 7). The forecasts outlined by the IPCC are alarming: because of global climate change, millions of people are being exposed to an

increase in hydric stress, to droughts, to floods and storms, to endangered coral reefs, to ecosystem alteration, to lessened production by small farmers and fishermen, and to a tendency towards the decrease of cereal production in the lower latitudes.

*To educate for another possible world*

The contemporary ecological problems we face are not related as much to the problems of the sea, the forests or the air, as they are to the problems of the megalopolis, which has been caused by the dominant model of production – neoliberal capitalism – in its manifestation of political dominance and economic exploitation.

Having this in mind, I would like to state a few more points for consideration, in thinking about the Earth Charter and the Decade of Education for Sustainable Development as the basis for future education – an education for another possible world (Gadotti, 2007). For another possible world to be realized, another form of education is necessary.

Education for another possible world will be, most definitely, an education for sustainability. It is not possible to change the world without also changing people: changing the world and its people are interlinked processes. In the 21<sup>st</sup> century, in a society that increasingly uses information technologies, education necessarily plays the main role in creating possible worlds that will be fairer, more productive and more sustainable for everyone.

What, then, is it to educate for another possible world? John Holloway showed us in his book, *Changing the World without Taking Power* (2003) that educating for another possible world is to educate to *dissolve power*. In his opinion, a social revolution today must overcome relationships of power and subordination in order to mutually recognize the dignity of each person involved. To change the world is to understand power as the capacity of doing, as a service, asserting that “we” – the “common people” – are the ones who can change the world due to our capacities to do so.

That is why, to educate for another possible world is to educate for awareness (after Paulo Freire), in order to “unalienate” and “defetishize.” The fetishism of neoliberal ideology affirms that the world as such is immutable. Fetishism transforms human relationships into static phenomena, as if it is impossible to modify them. When fetishized, we become incapable of acting on our own behalves because the ideological fetish serves to block our capacity for self-doing. When so fetishized, we only manage to repeat what has been already done and said, and to focus on what already exists.

To educate for another possible world is to make visible what has been heretofore hidden due to oppression and to give voice to the ones who have not been heard. The feminist struggle, the ecological movement, the Zapatista movement (Mexico), the landless movement (Brazil), amongst others, have made things visible that were previously invisible due to centuries of oppression. Paulo Freire is a prominent example of an educator for another possible world, in that he revealed how the history of the oppressed constructed them as “the oppressed” through their relationships with the oppressors.

To educate for another possible world must include a pedagogy of absences. As said by Boaventura de Souza Santos (2005), this means that we must illuminate what has been deemed historically absent by the dominant cultures and reveal the true nature of what became considered strange due to the overvaluation of scientific over non-scientific knowledge, as well as by the non-recognition of knowledge derived through practice. There is no social justice without cognitive justice. To educate for another possible world is, as Paulo Freire counseled, to teach for the arising of what does not yet exist, of utopia, of the “possible dream.”

Therefore, we must understand history as a possibility and not as a fatality. That is why, to educate for another possible world is to educate for breakthroughs, for non-conformity, for refusal, for saying “no,” for yelling, for dreaming with other possible worlds. Annunciation and denunciation are the methods. Neoliberalism conceives of education as a market good, thereby reducing our identities to mere consumers in its disregard of public spaces and the humanistic dimension of education. In opposition to this paradigm, education for another possible world respects and co-exists with differences, promoting “intertransculturality” (Padilha, 2004). The centerpiece of the neoliberal conception of education is the denial of dreams and utopias. That is why an education for another possible world is, first of all, education for dreams and for hope.

The market-oriented view of education is one of the most decisive challenges of contemporary history, because it over-values the economic and under-values the human. Only education can invert this logic, through education for a critical conscience and for unalienation. To educate for another possible world is to educate for human qualities “beyond capital,” as affirmed by István Mészáros (2005), in Porto Alegre, during the opening of the World Education Forum's 3<sup>rd</sup> meeting. Capitalist globalization has stolen people's time for living well and also the space of their inner-lives; it has stolen people's ability to produce our lives with dignity: more and more people are therefore reduced to the machines of production and reproduction of capital.

To educate for another possible world is to make formal and non-formal educational spaces for producing critical minds and not just for training the market workforce; it is to invent new spaces of complementary pedagogy to formal educational systems and to deny formal education the right to take a hierarchical structure designed to give orders and subordinate its members; it is to educate so as to articulate different ways of showing non-conformity to and denial of contemporary capitalist social relations; and it is to educate to radically change our way of producing and reproducing our existences on the planet. To educate for another possible world, therefore, is an education for sustainability.

To educate for another possible world is to educate for a networked life, in which one is capable of communicating and acting in groups, and in which one learns to create co-operative ways of production and reproduction of our human existence. It is a form of education for self-determination. Diversity is humanity's main characteristic. That is why there cannot be only a single way of producing and reproducing our existence on the planet. Diversity is what we have in common. Human diversity imposes the need for building a diversity of worlds. To have but one single thought: we should not be opposed to another's singular thought. To educate for another possible world is not to educate for just one single possible world, but it is education for other's possible worlds. Modern “technicist” education has lost its humanity and the capability of being open to the other. To educate for another possible world is education undertaken to re-humanize education itself.

We weren't educated to have a planetary awareness, but to have an awareness of the Nation-State (Hardt & Negri, 2001). National educational systems were born as a part of the Nation-State's constitution. The school we have today is a result of modern thinking (a la Hegel and Marx), and is shaped by the agendas of Nation-States, not according to the thoughts of a globalization/planetary era. To educate for another possible world demands a commitment from educators to seriously abide the non-mercantilization of education and an ethical-political-pedagogical approach of paying attention to the universe of which we are all a part. Educators need to not only address students, but the inhabitants of the planet, and to consider them all as citizens and children of the same “Motherland” (O'Sullivan, 1999; Boff, 1995).

The Earth is our first educator. To educate for another possible world is also to educate one to find his/her place in history, in the universe. It is educating for peace, for

human rights, social justice and cultural diversity, against sexism and racism. It is to educate for planetary awareness and for a planetary conscience, to educate for pertaining to a planetary human community and to deeply feel the universe.

It is an era of globalization but we must educate for planetarization and not for globalization. We live on a planet and not on a globe. The globe corresponds to the planet's surface, its geographical divisions, its parallels and meridians, while the planet refers to a totality in movement. The Earth is a living super-organism in evolution. Our destiny, as human beings, is linked to the destiny of this being that is called the Earth. To educate for another possible world is to educate for having a sustainable relationship with all of the Earth's beings, both humans and not.

We must educate for life in the cosmos – a cosmological education – in which we broaden our comprehension of the Earth and the universe. We must educate towards a cosmic perspective. This is the only way in which we will be able to better understand problems like desertification, deforestation, and global warming. Classical educational paradigms, that are arrogantly anthropocentric and industry-oriented, do not have enough reach to explain this level of cosmic reality. Since they do not entail an holistic view, they are not able to provide the answers related to how to take the world off of this route that leads us to extermination and to cruel differences between the rich and the poor. Such classical paradigms are leading the planetary society to a loss of natural resources. The current crisis requires a civilizatory paradigm. To educate for another possible world necessitates such a new holistic paradigm.

*What do we need to learn to save the planet?*

The journalist Antonio Martins, based on a Greenpeace report, stated that what we now need is an “energetic revolution” (Martins, 2007). We need a political revolution, one that sees the future as a problem to be solved and not as something determined by “the invisible hand” of the market. We require this as much as we need an economic revolution that can prove able to multiply alternative sources of energy (solar, windpower, biomass, hydroelectric, geothermal and tidal). Nowadays, 80% of the energy we use come from fossil fuels, 13% come from renewable fuels and 7% from nuclear fuels. We need to increase renewable sources so that we can reach at least 50% clean energy use, as soon as possible.<sup>12</sup>

The energetic paradigm that has contributed to modern industrial development is based upon non-renewable sources of energy (petroleum, gas and coal) and on an anthropocentric and individualistic view of humanity's well-being. It is a model that can never be democratic. By means of this paradigm, only a small part of humanity will be able to have access to energy. It is not only “impossible” to make it democratic, its democratization is also “undesirable,” Antonio Martins concludes. By contrast, the new energetic paradigm is based on emergent values, on multiple sources of energy, and on the association of small producers instead of a few gigantic energy companies.

The conclusion is simple: in order to save the planet we need another paradigm that will allow everyone to have access to the energy for their needs. We require a more sustainable relationship with nature: instead of considering ourselves “lords” of the earth, we should consider ourselves to be a part of it. And towards the creation of this new mentality, education for sustainable development can provide a great contribution.

Attached to changes in the modes of production (for example, producing cars that pollute less) it is necessary to change our consumption standards. Education for sustainable development can work to change people's energy consumption and distribution habits (the conservation of water, the non-use of plastic cups, *etc.*). We have to transform our current consumption habits in order to reduce wastefulness and irresponsible resource utilization.

What can education do in order to save the planet? The DESD's main goal is to influence curricular change through the introduction of the theme of sustainability. Some countries have already started in this direction. For example, Scotland has created a Sustainable Development Liaison Group whose responsibility is to implement the concept of sustainability in school curricula (as well as non-formal education institutions), and make curricula more flexible and able to incorporate the needs of teachers, students, parents and communities. Per the Scottish model, communities meet both in and out of the schools in order to discuss sustainability and to build eco-political-pedagogical projects. The result is the construction of an eco-school.

As Scotland has been showing, national responsibility is a decisive factor in the promotion of the DESD. We need greater diffusion of information about the Decade in order to stimulate local and regional initiatives. We need to have clear political goals when choosing the content and appropriate pedagogical norms of sustainability education. Finally, we need teaching-learning materials and methods whose production is based upon principles and values generated by sustainable lives. In short, education for sustainable development must be holistic, transdisciplinary, critical, constructive, participatory and an education that is guided by the principle of sustainability.

We need to re-orientate existent educational programs to promote knowledge, competences and abilities, principles, values and attitudes related to sustainability. A concrete strategy so that we can start this debate inside our schools would be to construct an eco-audit in order to discover where exactly we are presently being unsustainable. It is very simple: we only need to trace everything we do and compare this data to the principles of sustainability. It is not hard to identify where we are and where we are not integrating sustainable development (in a broad sense) into our history, social and physical science curricula, as well as in our daily lives.

In terms of teaching levels, we have to adopt different strategies: in primary school, for example, our children need to experience (experiences stick with children more than talk) and they need to know the needs of plants and animals, their habitats, how to reduce, re-use and recycle materials that have been used, and how to keep ecosystems in tact. At a more advanced level, we need to discuss biodiversity with students, along with environmental conservation, energy alternatives and global warming. At the university level, besides relaying environmental information, we need to produce new knowledge on the issues at hand with students and to do research that aims at looking for a new development paradigm.

To educate for sustainable development is to educate for the use of renewable sources of energy, to save energy and to re-think our lifestyles. But it would be something altogether fake if we insisted only on changing people's individual behaviors whilst leaving the system in which they live out of it. The challenge is to change the Earth's current life system – the capitalist system. Marx used to say that capitalism not only exhausts only the workers, it also exhausts the planet. The capitalist model is being questioned now because it is making people and the planet exhausted.

It is important to know what each one of us can do to “save the planet.” But it is not enough. The responsibility of each person must be attached to the global struggle for the transformation of capitalism. We can manifest different attitudes towards food, transport, cleaning, light, family planning, and the reduction of household energy demand. A lot of energy is wasted. These behaviors are vital. But this change of behavior, as we have seen, is connected up with large-scale production. Changing the system is what matters. For this reason, we must continue to make our small changes, which, if followed by millions of people, may promote the necessary big changes.

The DESD's role is to promote education as a foundation for another possible world, for another society, one that is less cruel to humanity. It is, therefore, an essentially solidary

education and not only an education for a certain kind of development program. Sustainability demands solidarity and the search for our common well-being, an old liberal thesis that is not very often put into practice by contemporary economical liberalism. An ESD is incompatible with the current state of aggressive diffusion and planetary promotion of products that is accomplished through the communicative means of a unsustainable lifestyle, one based on irresponsible consumption and promoted by unsolidary capitalism. The success of capitalist competitiveness represents the failure of sustainable development. No individual and isolated action can be effectively sustainable as a result.

Essentially, the DESD aims at making people aware of sustainable development through the means they have at hand. Therefore, it will work for the planet's survival with ethical values and principles that are related to people's own quest for a sustainable livelihood. For this reason, the Decade is, above all, a call for a transformational action, a call for popular education. It is a cry for an education of and for planetary citizenship, for an intertranscultural and intertransdisciplinarity dialogue, for a culture of peace and of sustainability – that promotes the end of poverty, of illiteracy in the world, of political domination and economic exploitation. Finally, the DESD is a demand for an emancipatory education.

## References

- ABONG (*Associação Brasileira de Organizações Não-Governamentais*). 2002. *Desenvolvimento e Direitos Humanos: Diálogos no Fórum Social Mundial*. (Human Rights and Development: Dialogues During the World Social Forum). São Paulo: Peirópolis.
- Abraham, G. 1988. *Economia Libertaria: Alternativa para un Mundo en Crisis*. (Economics for Freedom; Alternatives for a World in Crisis). Bilbao: Anselmo Lorenzo.
- Acsegrad, H. 1999. *Sustentabilidade e Desenvolvimento: Modelos, Processos e Relações* (Sustainability and Development: Patterns, Processes and Relations) Rio de Janeiro: Fase (*Série “Cadernos de Debate Brasil sustentável e democrático”*, no. 5).
- Aliev, J. M. 2007. *O Ecologismo dos Pobres: Conflitos Ambientais e Linguagens de Valoração*. (Ecology for Poor People: Environmental Conflicts and the Language of Values). São Paulo: Contexto.
- Amaral, M. T. do, 2007. A Dimensão Ambiental na Cultura Educacional Brasileira (The Environmental Dimension of the Brazilian Educational Culture). In *Revista Brasileira de Estudos Pedagógicos*. Vol. 88, No. 218, Jan/Apr. Brasília: MEC/INEP: 107-121.
- Andrade, L, G. Soares and V. Pinto, 1995. *Oficinas Ecológicas: Uma Proposta de Mudanças*. (Ecological Workshops: A Proposal for Change). Petrópolis: Vozes.
- Antunes, Â. 2002. *Leitura do Mundo no Contexto da Planeterização: Por uma Pedagogia da Sustentabilidade*. (Reading the World in the Planetary Context: For a Sustainable Pedagogy). São Paulo, FE-USP, (Tese de Doutorado).
- Apple, M. W. 2003. *Educando à Direita: Mercados, Padrões, Deus e Desigualdade*. (Educating the Right Way: Markets, Patterns, God and Inequality). São Paulo: Cortez/IPF.
- Arroyo, J. C. T. and F. C. Schuch. 2006. *Economia Popular e Solidária: A Alavanca para um Desenvolvimento Sustentável* (Popular and Solidarity Economics: The Lever for Sustainable Development). São Paulo: Fundação Perseu Abramo.
- Bauman, Z. 1999. *Globalização: As Conseqüências Humanas*. (Globalization: The Human Consequences) Rio de Janeiro: Jorge Zahar.

- , 2003. *Comunidade: A Busca por Segurança no Mundo Atual* (Community: The Search for Today's Security). Rio: Zahar
- Beck, U. 2004. *Que és la Globalización? Falacias del Globalismo, Respeitos a la Globalización*. (What's Globalization? The Lies of Globalization, The Answers to Globalization). Buenos Aires: Paidós.
- , 2004a. *Poder y Contra-Poder en la Era Global: La Nueva Economía Política Global*. (Power and Counter Power in the Global Era: The New Global Political Economy). Barcelona: Paidós.
- Berry, T. 1988. *The Dream of the Earth*. San Francisco: Sierra Club Books.
- , 1999. *The Great Work: Our Way into the Future*. New York: Bell Tower.
- Boff, L. 1994. *Nova Era: A Civilização Planetária*. (The New Era: The Planetary Civilization). São Paulo: Ática.
- , 1995. *Princípio-Terra: Volta à Terra como Pátria Comum*. (Earth-Principles: To Return to the World as a Common Homeland). São Paulo: Ática.
- , 1996. *Ecologia, Mundialização, Espiritualidade: A Emergência de Um Novo Paradigma*. (Ecology, Worldization, Spirituality: The Emergence of a New Paradigm). Petrópolis: Vozes.
- , 1999. *Saber Cuidar: Ética do Humano, Compaixão Pela Terra*. (To Know How to Take Care: Human Ethics, Compassion for the Earth) Petrópolis, Vozes.
- Bory-Adams, A. 2007. We Have to Respect the Different Pace Chosen by Each Country. In *UNESCO Today*, Journal of the German Commission for UNESCO, Bonn: 41-46.
- Baudrillard, J. 1995. *A Sociedade de Consumo*. (Consumption Society). Rio de Janeiro: Elfos.
- Brasil. Senado Federal do. 2000. *Agenda 21: Conferência das Nações Unidas sobre Meio Ambiente e Desenvolvimento*. (Agenda 21: United Nations Conference about the Environment and Development). Brasília: Senado Federal.
- , Governo. 1999. *Política nacional de educação ambiental – Lei no. 9.795 de 27 de abril de 1999*. (National Politics for Environmental Education). Brasília: Governo do Brasil.
- , Ministério da Educação e do Desporto. 1997. *Parâmetros Curriculares Nacionais*. (National Curriculum Parameters). Brasília: MEC.
- , Ministério do Meio Ambiente e Ministério da Educação. 2004. *Programa Nacional de Educação Ambiental – ProNEA*. (National Program for Environmental Education). 2. ed. Brasília: Governo do Brasil.
- Brown, L. 2004. *Salvar el Planeta: Plan B, Ecología para un Mundo em Peligro*. Barcelona: Paidós.
- Busch, A. 2007. *Education for Sustainable Development in the EU-Education Programmes Comenius, Erasmus, Leonardo da Vinci and Grundtvig*. Lüneburg: Universität Lüneburg.
- Camargo, A. L. de Brasil. 2006. *Desenvolvimento Sustentável: Dimensões e Desafios*. (Sustainable Development: Dimensions and Challenges). Campinas: Papirus.
- Caride, J. and P. Meira. 2004. *Educação Ambiental e Desenvolvimento Humano*. (Environmental Education and Human Development). Lisboa: Instituto Piaget.
- Carson, R. 1962. *Silent Spring*. Boston: Houghton-Mifflin.
- Cartea, P. A. M. 2006. Elogio de la Educación Ambiental. In *Trayectorias*, Revista de Ciencias Sociales, UniverAIDS de Autónoma de Nuevo León (México), ano VIII, no. 20-21, Jan-Feb.: 41-51.
- Carvalho, I. C. de Moura. 2007. *Educação Ambiental: A Formação do Sujeito Ecológico*. (Environmental Education : The Formation of an Ecological Subject). São Paulo: Cortez.

- Cascino, F, P. Jacobi and J. F. de Oliveira (eds). 1998. *Educação, Meio Ambiente e Cidadania: Reflexões e Experiências* (Education, the Environment and Citizenship: Reflections and Experiences). São Paulo: Secretaria do Meio Ambiente do Estado de São Paulo.
- Cattani, A. D. (ed.). 2003. *A Outra Economia*. (The Other Economy). Porto Alegre: Veraz.
- Cavalcanti, C. (ed.). 1998. *Desenvolvimento e Natureza: Estudos para uma Sociedade Sustentável*. (Nature and Development : Studies for a Sustainable Society). São Paulo: Cortez.
- CEPAL. 1990. *Transformación Productiva con Equidad*. (Productive Transformation with Equity). Santiago: CEPAL.
- CMMAD (Comissão Mundial sobre Meio Ambiente e Desenvolvimento). 1988. *Nosso Futuro Comum*. (Our Common Future). Rio de Janeiro: Fundação Getúlio Vargas.
- Comin, P. And B. Font. 1999. *Consumo Sustentável*. (Sustainable Consumption). Barcelona: Icaria.
- Coraggio, J. L. 2004. *La Gente o el Capital: Desarrollo Local y Economía del Trabajo*. (People or Capital: Local Development and the Work Economy). Buenos Aires: Espacio.
- Corcoran, P. B., M. Vilela and A. Roerink (eds.). 2005. *The Earth Charter in Action: Toward a Sustainable World*. Amsterdam: KIT Publishers.
- Cortina, A. 1997. *Ciudadanos del Mundo: Hacia una Teoría de la Ciudadanía*. (Citizens of the World: Towards a Theory of Citizenship). Madrid: Alianza.
- Cortina, A. and Others. 1998. *Educación en la Justicia*. (Educate in Justice). Valencia: Generalitat Valenciana.
- Davidson, E. A. 2000. *You Can't Eat GNP: Economics as if Ecology Mattered*. Cambridge: Perseus.
- De Moore, E. A. 2000. O Jardim como Currículo: Valores Educacionais para a Sustentabilidade (The Garden as a Curriculum: Educational Values for Sustainability). In *Revista Pátio*. Artmed, No. 13 Jan/Jul. Porto Alegre: 11-15.
- , 2001. *Seeds of the Future: The Garden as the Primary Educator for Ecological Sustainability & Transformation* (mimeo, 5 pages). Text sent to me by the author by email.
- Delors, J. and Others. 1999. *Educação: Um Tesouro a Descobrir; Relatório para a UNESCO da Comissão Internacional sobre Educação para o Século XXI*. (Education: a Treasure to be Found, a Report for UNESCO from the International Commission on Education for the 21st Century) São Paulo: Cortez, (3<sup>a</sup> ed.).
- Faure, E. 1977. *Aprender a Ser* (Learning to Be). São Paulo: Difusão Editorial do Livro.
- Finland. 2006. A National Strategy and Guidelines (2006-2014) for Education for Sustainable Development ([www.minedu.fi/julkaisut/koulutus/2006/tr07/tr07.pdf](http://www.minedu.fi/julkaisut/koulutus/2006/tr07/tr07.pdf)).
- Fórum Global 92. *Tratados das ONGs*, Aprovados no Fórum Internacional das Organizações Não Governamentais e Movimentos Sociais no Ambito do Fórum Global ECO 92. (Treaties of the NGOs, Approved in the International Forum of the Non-governmental Organizations and Social Movements during the Global Forum of ECO 92). Rio de Janeiro: Fórum das ONGs.
- Freire, P. 1992. *Pedagogia da Esperança: Um Reencontro com a Pedagogia do Oprimido* (Pedagogy of Hope: A Re-encounter with the Pedagogy of the Oppressed). São Paulo: Paz e Terra.
- , 1997. *Pedagogia da Autonomia: Saberes Necessários à Prática Educativa*. (Pedagogy of Autonomy: Necessary Wisdom for Educational Practices). São Paulo: Paz e Terra.



- , 2000. *Pedagogia da Indignação: Cartas Pedagógicas e Outros Escritos* (Pedagogy of Indignation: Pedagogical Letters and Other Essays). São Paulo: Unesp.
- Freitas, M. 2007. A Década de Educação para o Desenvolvimento Sustentável: Do que não Deve Ser ao Que Pode Ser” (The Decade of Education for Sustainable Development: From What Cannot Be to What Will Be). In PNUMA, *Perspectivas de la Educación Ambiental em Iberoamérica: Conferencias del V Congreso Iberoamericano de Educación Ambiental*. Joinville, Brasil, 5 al8 de abril. México: PNUMA: 125-139.
- Furtado, C. 1974. *O Mito de Desenvolvimento Econômico* (The Myths of Economic Development). Rio de Janeiro: Paz e Terra.
- Gadotti, M. and F. Gutiérrez (eds.). 1993. *Educação Comunitária e Economia Popular*. (Communitarian Education and Popular Economy). São Paulo: Cortez.
- Gadotti, M. 2000. *Perspectivas Atuais da Educação*. (Current Perspectives on Education). Porto Alegre: Artmed.
- , 2001. *Pedagogia da Terra*. (Pedagogy of the Earth). São Paulo: Peirópolis.
- , 2007. *Educar para um Outro Mundo Possível*. (To Educate for Another Possible World). São Paulo: Publisher Brasil.
- Gaidger, L. I. 2003. *A Economia Solidária Frente a Novos Horizontes* (Solidarity Economy in Front of New Horizons). São Leopoldo: Unisinos.
- Garcia, E. 2004. *Educación Ambiental, Constructivismo y Complejidad*. (Environmental Education, Constructivism and Complexity). Sevilla: Diada.
- , 2004a. *Medio Ambiente y Sociedad*. (Environment and Society). Madrid: Alianza.
- Gaudiano, E. G. 2007. *Educación Ambiental: Trayectorias, Rasgos y Escenarios*. México: Instituto de Investigaciones Sociales.
- (ed.). 2007. *La Educación Frente al Desafío Ambiental Global: Una Visión Latinoamericana*. México: CREFAL.
- German Commission for UNESCO. 2005. *National Plan of Action for Germany*. October. Bonn: UNESCO.
- Germany, Federal Republic of. 2004. *National Plan of Action for Germany: United Nations Decade of Education for Sustainable Development*. Berlin: Federal Ministry of Education.
- Goodland, R. 1997. Sustentabilidade Ambiental: Comer Melhor e Matar Menos. In C. Cavalcanti (ed.). *Meio Ambiente, Desenvolvimento Sustentável e Políticas Públicas*. São Paulo: Cortez: 271-298.
- Guha, R. 2000. *Environmentalism: A Global History*. Oxford: Oxford University Press.
- Guigue, B. 2001. *L'économie Solidaire: Alternative ou Palliatif?* Paris: L'Harmattan.
- Guimarães, M. 2000. *Educação Ambiental: No Consenso, um Embate?* (Environmental Education: In agreement, or Shock?). Campinas: Papirus.
- (ed.). 2006. *Caminhos da Educação Ambiental: Da Forma à Ação*. (The Destinies of Environmental Education: From Form to Action). Campinas: Papirus.
- Gutierrez, F. and C. Prado. 1989. *Ecopedagogia e Cidadania Planetária*. (Ecopedagogy and Planetarian Citizenship). São Paulo: Cortez.
- Haan, G. de. 2007. Education for Sustainable Development: A New Field of Learning and Action. In *UNESCO Today*, Journal of the German Commission for UNESCO, Bonn: 6-10.
- , 2007a. *ESD Guide, Secondary Level: Justifications, Competences, Learning, Opportunities*. Berlin: Frie Universität.
- Habermas, J. 1984. *Mudança Estrutural da Esfera Pública*. (Structural Change in the Public Sphere). Rio de Janeiro: Tempo Brasileiro. (original 1961).
- Hardt, M. and A. Negri. 2001. *Império*. Rio de Janeiro: Record.

- Holloway, J. 2003. *Mudar o Mundo sem Tomar o Poder: O Significado da Revolução Hoje*. (Change the World Without Taking Power: The Meaning of Revolution Today). Tradução de Emir Sader. São Paulo: Viramundo.
- Huckel, J. and S. Sterling. 1996. *Education for Sustainability*. London: Earthscan
- Hutchison, D. 1999. *Educação Ecológica*. (Ecological Education). Porto Alegre: Artes Médicas.
- Ianni, O. 1996. *A Sociedade Global* (The Global Society). Rio de Janeiro: Paz e Terra.
- Ikeda, D. 2002. *The Humanism of the Middle Way: Dawn of a Global Civilization*. Tokyo: The Soka Gakkai.
- Illich, I. 1973. *Énergie et Équité*. Paris: Seuil.
- IUCN, UNEP and WWF. 1980. *World Conservation Strategy*. Amsterdam: Noord-Hollands Uitgeversmaatschappij.
- Jackson, J. T. R. 1996. *The Earth is Our Habitat: A Proposal to Support Eco-Habitats as Living Examples of Agenda 21 Planning*. Copenhagen: Gaia Trust and The Global Eco-Village Network.
- Jacobi, P. (ed.). 1999. *Ciência Ambiental: Os Desafios da Interdisciplinaridade* (Environmental Science: The Challenges of Interdisciplinarity). São Paulo: Annablume.
- Japan. 2006. *Japan's Action Plan for the UN-DESD*. Japanese National Commission for UNESCO, March.
- Kaivola, T. and L. Rohweder (eds.). 2007. *Towards Sustainable Development in Higher Education – Reflections*. Helsinki: Ministry of Education.
- Keiner, M. 2005. *History, Definition(s) and Models of 'Sustainable Development'*. Zürich: ETH.
- Laville, J-L. 1999. *Une Troisième Voie pour le Travail*. (A Third Path for Work). Paris: Desclée de Brouwer.
- Leff, E. (ed.). 2000. *Complexidad Ambiental*. (Environmental Complexity). México: Siglo XXI.
- , 1998. *Saber Ambiental: Sustentabilidad, Racionalidad, Complejidad, Poder*. (To Know Environmentally: Sustainability, Rationality, Complexity, Power). México: Siglo XXI.
- Leicht, A. 2005. Learning Sustainability - The UN Decade of Education for Sustainable Development (2005-2014) in Germany: An International Education Initiative. In *UNESCO Today*, Journal of the German Commission for UNESCO, Bonn: 26-31.
- Leis, H. R. 2000. *A Modernidade Insustentável: As Críticas do Ambientalismo a Sociedade Contemporânea* (Unsustainable Modernity: Critics of Environmentalism by Contemporary Society). Petrópolis: Vozes.
- Levy, P. 2001. *A Conexão Planetária: O Mercado, o Ciberespaço, a Consciência*. (The Planetarian Connection: Market, Cyberspace, and Consciousness). São Paulo: Trinta e Quatro.
- Lindberg, C. 2007. The Need to Take Responsible and Long-Term Decisions. In *UNESCO Today*, Journal of the German Commission for UNESCO, Bonn: 37-40.
- Loureiro, C. F. B. (ed.). 2007. *A Questão Ambiental no Pensamento Crítico: Natureza, Trabalho e Educação* (Critical Thinking on the Environmental Issue: Nature, Work and Education). Rio de Janeiro: Quartet.
- , 2006. *Pensamento Complexo, Dialética e Educação Ambiental*. (Complex Thought, Dialectics and Environmental Education). São Paulo: Cortez.
- Loureiro, C. F. B., P. P. Layrargues and R. S. de Castro (eds.). 2005. *Educação Ambiental: Repensando o Espaço da Cidadania*. (Environmental Education: Rethinking the Space of Citizenship). São Paulo: Cortez.

- Louriro, I. L., J. C. Leite and M. E. Cevasco (eds.). 2003. *O Espírito de Porto Alegre*. (The Spirit of Porto Alegre). São Paulo: Paz e Terra.
- Maheshvarananda, D. 2003. *Após o Capitalismo: Uma Visão de Prout para um Novo Mundo*. (After Capitalism: Prout's Vision for a New World). Belo Horizonte: Proutista Universal.
- Martins, A. 2007. A Possível Revolução Energética. (The Possible Energetic Revolution). In *Revista Fórum*, Mario: 30-33.
- Mattelart, A. 2002. *História da Utopia Planetária*. (The History of the Planetarian Utopia). Porto Alegre: Sulina.
- McKeown, R. 2002. *Education for Sustainable Development*. Toolset (USA): University of Tennessee.
- Meadows, D. H. and Others. 1972. *Os Limites do Crescimento*. (Limits to Growth). São Paulo: Perspectiva.
- Meadows, D. et al. 1974. *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. New York: Universe Books (First edition: 1972).
- , 1992. *Beyond the Limits: Confronting Global Collapse, Envisioning a Sustainable Future*. Vermont: Chelsea Green.
- Meadows, D. H. J. Randers and D. L. Meadows. 2004. *Limits to Growth: The 30 Year Update*. Vermont: Chelsea Green.
- Meszaros, I. 2005. *A Educação para Além do Capital*. (Education Beyond Capital). São Paulo: Boitempo.
- Miguel, S. 2007. O Futuro Climático da América Latina. (The Future of Climate in Latin America). In *Jornal da USP*. São Paulo, 16 a 22 de abril: 6-7.
- Minc, C. 1998. *Ecologia e Cidadania*. (Ecology and Citizenship). São Paulo: Moderna.
- Morin, E. and A. Brigitte. 1993. *Terre-Patrie*. (Homeland-Earth). Paris, Seuil.
- NACIONES UNIDAS, Consejo Económico y Social. 2005. *Estrategia de la CEPE de Educación para el Desarrollo Sostenible*. (Strategy of CEPE on Education for Sustainable Development). UN/CES.
- Nicolescu, B. et. al. 2000. *Educação e Transdisciplinaridade*. (Transdisciplinarity and Education). Brasília: UNESCO.
- O'Sullivan, E. 2004. *Aprendizagem Transformadora: Uma Visão Educacional para o Século XXI*. (Transformative Learning: An Educational Vision for the 21st Century). São Paulo: Cortez/IPF.
- Padilha, P. R. 2004. *Currículo Intertranscultural: Novos Itinerários para a Educação*. (Intertranscultural Curriculum: New Paths for Education). São Paulo: Cortez/Instituto Paulo Freire.
- Palmer, J. A. 1998. *Environmental Education in the 21st Century: Theory, Practice, Progress & Promise*. London: Routledge.
- , 2006. *50 Grandes Ambientalistas: De Buda a Chico Mendes*. (50 Great Environmental Experts: From Buddha to Chico Mendes). São Paulo: Contexto.
- Pelizzoli, M. L. 1999. *A Emergência do Paradigma Ecológico: Reflexões Etico-Filosóficas para o Século XXI*. (The Emergence of the Ecological Paradigm: Ethical-Philosophical Reflections for the 21st Century). Petrópolis : Vozes.
- Penna, C. G. 1999. *O Estado do Planeta: Sociedade de Consumo e Degradação Ambiental*. (The Planetary Condition: Consumption Society and Environmental Degradation). Rio de Janeiro: Record.
- Perez, J. G. and M. T. Pozo. 2006. Stultifera Navis: Celebración Insostenible. In *Trayectorias*. Revista de Ciencias Sociales, UniverAIDSde Autónoma de Nuevo León (México), Ano VIII, No. 20-21, jan-ago: 25-40.
- Pezzey, J. 1998. *Definitions of Sustainability*. London: CEED.

- Pineau, G. 1992. *De l'air: Essai sur L'écoformation*. Paris, Païdeia.
- PNUMA. 2007. *Perspectivas de la Educación Ambiental em Iberoamérica: Conferencias del V Congresso Iberoamericano de Educación Ambiental*. Joinville, Brasil, 5 al8 de abril de 2006. México: PNUMA.
- Razeto Migiano, L. 2001. *Desarrollo, Transformación y Perfeccionamiento de la Economía en el Tiempo* (Libro Cuarto de "Economía de Solidariedad y Mercado Democrático") (The Timely Development, Transformation and Improvement of the Economy, the Fourth Book of "The Solidarity Economy and Democratic Market"). Santiago: UniverAIDSd Bolivariana.
- Reigota, M. 2003. *A Floresta e a Escola: Por uma Educação Ambiental Pós-Moderna*. (Forest and School: For a Post-Modern Environmental Education) São Paulo: Cortez.
- Ricoeur, P. 1991. *O Si-Mesmo como um Outro*. (The Self as Another). Campinas: Papirus.
- Roberts, C. and J. Roberts. 2007. *Greener by Degrees: Exploring Sustainability through Higher Education Curricula*. Gloucestershire (UK): University of Gloucestershire.
- Sachs, I. 1986. *Ecodesenvolvimento: Crescer sem Destruir* (Ecodevelopment: To Growth Without Destruction). São Paulo: Vértice.
- , 2007. *Rumo à Ecosocioeconomia: Teoria e Prática do Desenvolvimento*. (Towards Ecosocioeconomy : The Theory and Practice of Development). São Paulo: Cortez.
- Salgado, S. 2000. *Exodus*. São Paulo: Companhia das Letras.
- Santos, B. de Sousa. 1995. *Pela Mão de Alice: O Social e O Político na Pós-Modernidade*. (By the Hand of Alice: The Social and Political in Post Modernity). São Paulo: Cortez.
- (ed.), 2002. *Produzir para Viver: Os Caminhos da Produção Não Capitalista*. (Products for Living: The Paths of Non-capitalist Production). Rio de Janeiro: Civilização Brasileira.
- , 2005. *Fórum Social Mundial: Manual de Uso*. (World Social Forum: Guide Book). São Paulo: Cortez.
- Santos, M. 1997. *A Natureza do Espaço: Técnica e Tempo, Razão e Emoção*. (The Nature of Space: Time and Technics, Reason and Emotion). São Paulo, Hucite.
- , 2000. *Por uma Outra Globalização: Do Pensamento Único à Consciência Universal*. (For Another Globalization: From the Unique Thought to the Universal Consciousness). São Paulo: Record.
- Sarabhai, K. V. and P. R. Kanaujia, (eds.). 2007. *Environmental Education in the Indian School System: Status Report 2007*. Ahmedabad: CEE.
- Sarabhai, K. V., M. Pandya and R. Namagiri. 2007. *Tbilisi to Ahmedadab: The Journey of Envrionmental Education: A Soucebook*. Ahmedabad: CEE.
- Sato, M. and I. Carvalho (eds.). 2005. *Educação Ambiental: Pesquisa e Desafios*. (Environmental Education: Research and Challenges). Porto Alegre: Artmed.
- Schmied-Kowarzik, W. 1999. *O Futuro Ecológico como Tarefa da Filosofia*. (The Ecological Future as a Task for Philosophy). São Paulo: Instituto Paulo Freire.
- Scott, W. and S. Gough, 2003. *Sustainable Development and Learning: Framing the Issues*. London: Routledge.
- Scott, W, A., D. Reid and J. Nickel, 2007. *Indicators for Education for Sustainable Development: A Report on Perspectives, Challenges, and Progress*. Anglo-German Foundation for the Study of Industrial Society (<http://www.agf.org.uk/pubs/pdfs/51515web.pdf>).
- Scotto, G, I. C. de Moura Carvalho and L. B. Guimarães. 2007. *Desenvolvimento Sustentável*. (Sustainable Development). Petrópolis: Vozes.

- Sen, A. 2000. *Desenvolvimento com Liberdade*. (Development with Freedom). São Paulo: Companhia das Letras.
- Soros, G. 1999. *A Crise do Capitalismo*. (Capitalism Crisis). Rio de Janeiro: Campus.
- Tamarit, J. 1996. *Educar o Soberano: Crítica ao Iluminismo Pedagógico de Ontem e de Hoje*. (Educate the Sovereign: Critics of Pedagogical Illumination from Yesterday and Today). São Paulo, IPF/Cortez.
- Tellegen, E. 2006. *Sociology and Sustainable Development*. Amsterdam: Universiteit Amsterdam.
- Trajber, R. and L. H. Manzochi (coord.), 1996. *Avaliando a Educação Ambiental no Brasil: Materiais Impressos*. (Evaluating Environmental Education in Brazil: Press Materials). São Paulo: Gaia.
- Trigueiro, A. (ed.), 2003. *Meio Ambiente no Século 21: 21 Especialistas Falam da Questão Ambiental nas Suas Áreas de Conhecimento*. (Environment in the 21st Century: 21 Experts Talk about the Environmental Question in their Areas of Knowledge). Rio de Janeiro: Sextante.
- UNESCO Bangkok, 2005. *Working Paper: Asia-Pacific Regional Strategy for Education for Sustainable Development – UN Decade of Education for Sustainable Development (2005-2014)*. Bangkok: UNESCO Bangkok.
- UNESCO, 1999. *Educação para um Futuro Sustentável: uma Visão Transdisciplinar para uma Ação Compartilhada*. (Education for a Sustainable Future: a Transdisciplinary Vision for Shared Action). Brasília: UNESCO/IBAMA.
- , 2005. *Década das Nações Unidas da Educação para o Desenvolvimento Sustentável (2005-2014)*. (Decade of the United Nations in Education for Sustainable Development). Brasília: UNESCO.
- , 2005a. *UNESCO and Sustainable Development*. Paris: UNESCO
- , 2006. *Education for Sustainable Development Toolkit*. Paris: UNESCO
- , 2006a. *Framework for the UNDESD International Implementation Scheme*. Paris: UNESCO.
- , 2007. *Framework for a DESD Communication Strategy in Support of the UN Decade of Education for Sustainable Development*. Paris: UNESCO.
- , 2007a. *Good Practices in Education for Sustainable Development: Teacher Education Institutions*. Paris: UNESCO.
- UNESCO. German Commission for, 2006. *Education for Sustainable Development Worldwide*. Bonn: German Commission for UNESCO.
- UNESCO/Centro da Carta da Terra de Educação para o Desenvolvimento Sustentável. 2007. (Center of the Earth Charter of Education for Sustainable Development). *Encuentro Latinoamericano Construyendo una Educación para el Desarrollo Sostenible en América Latina y el Caribe*. San José (Costa Rica): UNESCO/ Carta de la Tierra Internacional.
- UNESCO/Earth Charter International. 2007. *Good Practices in Education for Sustainable Development: Using the Earth Charter*. Paris: UNESCO/EARTH CHARTER INTERNATIONAL
- UNESCO/UNEP. 2002. *Youthxchange – Towards Sustainable Lifestyles: Training Kit on Responsible Consumption*. Paris: UNESCO/UNEP.
- UNICEF. 1997. *Desarrollo Sostenible: Un Derecho de la Niñez*. Nueva York: UNICEF.
- Veyret, Y. 2007. *Os Riscos: O Homem como Agressor e Vítima do Meio Ambiente*. (The Risks: Man as an Aggressor and Victim of the Environment). São Paulo: Contexto.
- Wackernagel, M. and W. Rees. 1996. *Our Ecological Footprint: Reducing Human Impact on the Earth*. Gabriola Island, BC (Canada): New Society Publishers.

- Wade, R. and J. Parker. 2007. Background Discussion Paper for UNESCO/EFA – ESD Dialog. Paris: UNESCO, Meeting of DESD Reference Group (September).
- Wals, A. E. J. (ed.). 2007. *Social Learning: Towards a Sustainable World*. Wageningen: Wageningen Academic.
- WCED, 1987. *The World Commission on Environment and Development: Our Common Future*. Oxford: Oxford University.
- Ziaka, Y. (ed.). 2003. *Educação ambiental: seis proposições para agirmos como cidadãos*. (Environmental Education: Six Propositions to Act for Citizenship) São Paulo: Instituto Polis.

## Notes

<sup>1</sup> This booklet is translated by Marcia Macedo, Instituto Paulo Freire, with additional editing by Richard Kahn, University of North Dakota.

<sup>2</sup> In 2002, a guide published by UNESCO and UNEP, in partnership with a number of NGOs, worked with the concept of “sustainable consumption” and showed, mainly to youngsters, practical ways of how to live sustainably. One of the strategies is to create responsible consumption groups and networks, for exchanging ideas, optimizing energies and discovering the “global village” (UNESCO/UNEP, 2002).

<sup>3</sup> According to Aline Bory-Adams, UNESCO Secretary of the DESD, the Decade “is a process and needs to take into account the specificities of each country. While it is possible to identify countries where ESD has acquired visibility and is included in the educational priorities, we have to respect the different pace chosen by each country” (Bory-Adams, 2007, p. 42).

<sup>4</sup> For further information read Scott, William, A. D. Reid, and J. Nikel, 2007. *Indicators for Education for Sustainable Development: A Report on Perspectives, Challenges, and Progress*. Anglo-German Foundation for the Study of Industrial Society ([www.agf.org.uk/pubs/pdfs/51515web.pdf](http://www.agf.org.uk/pubs/pdfs/51515web.pdf)).

<sup>5</sup> According to Egbert Tellegen (2006, p. 7), “the first document that puts 'sustainable development' on the worldwide environmental agenda was the 'World Conservation Strategy', a joint publication of two international nature protection organizations: the International Union for the Conservation of Nature and the World Wildlife Fund, together with the United Nations Environmental Protection Agency” (IUCN, UNEP and WWF, 1980. *World Conservation Strategy*. Amsterdam: Noord-Hollands Uitgeversmaatschappij).

<sup>6</sup> This was the first major international event in which the People's Republic of China participated as a new member of the United Nations. The Conference was chaired by Canadian Ecologist Maurice Strong. Only two heads of State attended, Mr. Olof Palme, the Prime Minister of Sweden and Mrs. Indira Gandhi, the Prime Minister of India. “She traveled to Stockholm to emphasize the close link between the deteriorating environment and poverty. She argued that one problem could not be solved without addressing the other. The seeds of sustainable development concept had been sown” (Sarabhai and Others, 2007, p. 1).

<sup>7</sup> “Solidarity Economy is a new way of naming, conceptualizing, and interconnecting the many types of transformative economic values, practices, and institutions that exist all over the world. They include, but are not limited to, socially responsible consumption, work and investment; worker, consumer, producer, and banking cooperatives; fair trade businesses, progressive unions, high road and community businesses, local currencies, and unpaid care work. The Solidarity Economy is also about uniting these various forms of transformative economics in a network of solidarity: solidarity with a shared vision, solidarity with shared values, and solidarity with the oppressed” ([www.transformationcentral.org](http://www.transformationcentral.org), August, 2007).

---

<sup>8</sup> According to Kartikeya V. Sarabhai (2007, p. 1), “the Gandhian philosophy of education is all about the development of Body, Mind and Spirit. His concept of education has impacted the framing of the objectives of Indian education, emphasizing self-reliance and dignity of the individual which would form the basis of social relations characterized by non-violence within and across society”.

<sup>9</sup> “Just as statistics are so convincingly demonstrating that people more rich have the longest and most advanced education, their lifestyles are consuming most of the world's limited resources” (Lindberg, 2007, p. 38).

<sup>10</sup> Al Gore's movie does not talk about values and education. It only talks about technical recommendations. It doesn't include education as a part of the strategy. On this issue we could say he was “inconvenient,” but above all, he was limited as concerns the strategies to confront global warming.

<sup>11</sup> In December, 2007, the UN Conference on Climate Changes, held in Bali, Indonesia, had overcome the initial pessimism. This happened because the US, in the last moment, agreed with the commitment to reduce gas emissions after 2012. On the other side, China, India, Brazil, and South Africa, also agreed on taking measures, in a voluntaristic manner, to contain the increase of emissions.

<sup>12</sup> Despite the current promotion of a global ethanol market as an utopian replacement for oil, ethanol is not the fuel of the future. Agro-fuels are not clean and green, as they result in deforestation and cause hunger. The costs of ethanol are: water pollution, monocropping, land degradation, genetic contamination, smallholder dispossession, exploited labor, poverty and food insecurity. The Brazilian Forum of NGOs and Social Movements for the Environment and Development inform that the agro-industries in Brazil promoted illegal deforestation for new sugar cane, soy or eucalyptus plantations; expulsion of small farmers and land concentration; pollution of soil, rivers, and subterranean waters from deforestation and chemicals used in monocultures; “green deserts” of poverty (for each 100 hectares of plantation there are 2 poorly-paid jobs in eucalyptus, ½ for soy, and 10 for sugar cane).

# **Moving Toward a Liberatory Pedagogy for all Species: Mapping the Need for Dialogue Between Humane and Anti- Oppressive Education<sup>1</sup>**

Brandy Humes

## **Introduction**

As someone who is concerned about the injustice and oppression<sup>2</sup> experienced by humans, the environment, and animals<sup>3</sup>, I came to graduate studies to both better familiarize myself with the existing literature and theories around these issues and to make a contribution to this field through my own research. While I did not assume the field dedicated to examining these issues holistically would be well populated or burgeoning with scholars or research, I did expect to find some work being done on these issues which are of such importance to me. Perhaps it would be a small field of research and praxis, or a subset of another discipline. However, as I began to seek out the theorists and practitioners who attempted to holistically examine the common roots and manifestations of human, ecological and animal oppressions and the role education could play in working against those oppressions, I realized there are no such fields or subsets. I discovered that these disciplines are largely theoretically disconnected from one another and, as such, are generally divided into sharply demarcated fields of human or social justice (including theorists such as Judith Butler, 1990; 1992; Derrick Bell, 1992; Henry Giroux, 1989; 1997), ecological justice (J. Baird Callicott, 1989; 1999; Lester Brown, 1981; 2003; David Orr, 1992; 2005; among many others), and animal justice (Tom Regan, 1985; 2004; Steven Wise, 2000; 2003; Gary Francione, 1995).<sup>4</sup> While I see these three categories as making up the “social” and as a result require necessary consideration in working towards “social justice,” this seems not to be a commonly held or practiced belief.

Although no one complete framework seems to exist, I have found two pedagogies I feel inspired by and believe (and hope) can somehow be connected to provide a framework for looking at these issues in concert. These arenas are anti-oppressive education (as developed and articulated mainly by Kevin Kumashiro, 2000; 2001; 2002a; 2002b; 2004) and humane education (as developed and articulated mainly by David Selby, 1994; 1995; 1996; 2000 and Zoe Weil, 1991; 1998; 2002; 2004).

While these two frameworks and paradigms have significant differences – the former, from my reading of it, focuses primarily on various manifestations of human oppression, and the latter on non-human oppression (although it attempts to present itself as otherwise) – I do think there exists a possibility for a coming together of sorts. The commonalities of anti-oppressive education and humane education are what create this possibility; mainly that they share a foundational analysis and approach that is broad and far-reaching in scope and it is this, in part,

---

**Brandy Humes** has a Masters of Education from the Feminist Approaches to Social Justice in Education program at the University of British Columbia and a Bachelor of Environmental Studies from York University. She is currently coordinating an urban agriculture project involving vulnerable youth for a non-profit environmental and social justice organization in the Parkdale community in Toronto, Ontario. She can be reached at [brandyhumes@gmail.com](mailto:brandyhumes@gmail.com).



that is used to guide and inform their work in challenging oppression. Each view oppressions as interconnected and recognize how they often work in concert. However, both seem to stop short of crossing an invisible boundary. That is, anti-oppressive education fails to take up notions of non-human injustice or oppression (which includes animals and the environment) and humane education fails in its current iteration to truly investigate or challenge human injustice or oppression in an in-depth or nuanced way.

A coupling of these two frameworks is important because there is presently a political necessity for this type of theoretical broadening. That is, if anti-oppressive and humane educations are to most effectively challenge oppression and truly succeed at creating a less oppressive “better world”, it is my opinion (which will be elaborated on in what follows) that they need to broaden their scope of justice, namely by taking into serious consideration an integral view of non-human and human justice respectively. I maintain that the subjugation and oppression of non-human animals (and the natural world) will not slow, much less cease, as long as humans are subjugated and oppressed. Similarly, humans will not be free from oppression as long as non-human animals (and the environment) are oppressed. It is my hope that each can learn from the other’s strengths and move toward a more complete and holistic understanding and analysis of injustice and oppression.

For the purposes of this paper, I surveyed some of the most recent materials in the fields of humane and anti-oppressive education – including program descriptions and course syllabi, theoretical works including essays, book chapters and books, conference presentations, teacher manuals and trainings, and so on. By conducting a close reading of materials such as these, as well as drawing from my own history and experiences, I present a brief outline of some of the histories and key philosophies of both anti-oppressive education and humane education, pointing to and exploring where I see the two theories meeting, as well as what I identify as their shortcomings, and where they miss each another. In concluding, I argue my belief that each *needs* to incorporate the other – in other words, why non-human oppression needs to be considered in the discussion of human oppression, and why human oppression needs to be central in discussions of non-human oppression if oppression is to be countered and challenged more effectively (in education and beyond).

### **Coming Full Circle: A Brief History of Humane Education**

Humane education<sup>5</sup> has a long history in both Canada and the United States. Emerging over a century ago (circa 1870) with the formation of humane societies whose mandates encompassed both animal and child protection, the field of humane education identified the fostering of “humane public sentiment toward neglected, abandoned and orphaned children, and towards animals by purely educative influences in schools” as its primary goals (Selby, 2000, p. 269). This link between animal cruelty and family violence was soon after largely disregarded as child-specific welfare societies became established and humane societies relinquished their child-protection role, moving to work solely on animal-protection issues (Selby, 2000). In the century that followed, humane societies worked primarily on promoting “pet” responsibility and protection, leaving any human related issues to the responsibility of other organizations (American Society for the Protection of Cruelty to Animals, n.d.). This goal of humane education to promote kindness to animals was not for entirely altruistic reasons (for example, because animals mattered in and of themselves) but because having compassion for animals was seen as having benefits for other social behaviours. Said differently, those who were kind to animals

were usually also more kind to people and so humane education was seen as a way to promote ‘pro-social’ attitudes towards humans (Thompson and Gullone, 2003).

However, for the past two decades, humane education has been reinventing and revisioning itself, at times in radical ways. For example, in the 1980s, humane education theory and practice shifted away from focusing only on companion animal issues to include other animal-related issues, including co-existing with urban wildlife, learning respect for animals that traditionally provoke fear or distaste (such as, from a Western perspective, wolves, bats, and snakes), and investigating the ethics of keeping animals in zoos, marine parks, and circuses (Selby, 2000).

Another major shift came in the 1990s when some humane educators began to return to the roots of the field: focusing on violence, exploitation, and injustice and how each are connected (Selby, 1994).<sup>6</sup> In this iteration, advocates such as Selby and Weil, among other grassroots proponents and organizations, broadened humane theory to encompass not only animal-related issues, but also environmental and human rights issues (Weil, 1998). According to the Institute for Humane Education, current humane education theory,

examines the challenges facing our planet, from human oppression and animal exploitation to materialism and ecological degradation. It explores how we might live with compassion and respect for everyone – not just our friends and neighbours but all people; not just our cats and dogs but all animals; not just our own homes but the earth itself, our ultimate home. Humane education inspires people to act with kindness and integrity and provides an antidote to the despair many feel in the face of entrenched and pervasive global problems. Humane educators cultivate an appreciation for the ways in which even the smallest decisions we make in our daily lives can have far-reaching consequences. By giving students the insight they need to make truly informed choices, humane education paves the way for them to live according to abiding values that can lend meaning to their own lives while improving the world at the same time (“Humane Education for a Humane World,” IHE publication, n.d.).

Possible causes for this shift in the focus of humane education are not documented; it would appear that a convergence of factors contributed to its partial transformation. One factor was likely the founding of the US-based Center for Compassionate Living in 1996 by two long-time educators, Zoe Weil and Rae Sikora, whose goal was to provide humane education training to others (Weil, 1998). The Center for Compassionate Living (which would later become the International Institute for Humane Education, and later still the Institute for Humane Education) was and remains the only institution in North America (and possibly the world) to offer a certificate program in humane education and a Masters of Education focused on humane education in affiliation with Cambridge College. The Center also conducted workshops across North America, something the Institute for Humane Education continues today, introducing thousands to humane education theory and practice. The publicity generated by the work the Center/Institute has undertaken has brought humane education to the attention of many.

Another factor that possibly contributed to the shift in humane education was the publication of David Selby’s *Earthkind: A Teachers’ Handbook on Humane Education* in 1995, a 400-page teachers’ manual which has sold thousands of copies around the world (D. Selby, personal communication, May 5, 2002). This first of its kind publication explores some of the

theory of humane education as well as provides over one hundred lesson ideas and plans for teachers wishing to incorporate or integrate those types of issues in their classrooms.

A third factor contributing to this shift in humane education could be the upsurge in the late 1980s and early 1990s of the animal advocacy movement, and of those advocates' concern with and desire to make links to other issues. For example, a 1991 survey found that animal advocates were likely to be involved with other movements, including, "the environment (98%); civil rights (88%); anti-apartheid (86%); feminist (83%); anti-war (83%); students rights (70%); and gay rights (58%)" (Canadians for Health Research, in Selby, 1995, p.6). Humane education, with its focus on a broad range of human and animal issues, likely drew the attention and participation of some of these activists to the field.

### **Human Rights, Environmental Sustainability and Animal Protection: The Scope of Current Humane Education**

According to Weil (2004), much of the current day humane education "challenges all the social ills we face, from exploitation of other species and the planet itself, to poverty and war, to prejudice and greed" (p. 19). Indeed, humane pedagogy, as it is increasingly advocated and practiced, attempts a broad analysis of injustice by examining relationships between humans, other species, and the earth, and encourages caring, compassion, empathy, kindness, non-violence, respect, responsibility, and sensitivity to others, as well as promotes critical thinking and resistance to all injustice and oppression (Selby, 2000).<sup>7</sup> Humane education, then, is seen by many as a way to promote a more holistic understanding of how human and nonhuman injustice and oppression are reinforced by and interlinked with each other. Because violence and oppression are seen as bound together in this way, humane pedagogues believe they need to be examined holistically with an analysis that is broad in scope (Weil, 2004).

Further, humane education proponents believe that looking at one injustice leads to looking at and understanding other injustices (Weil, 2004). As such, humane pedagogies endeavor to present a web of connection between issues, showing how one can effect and be affected by others simultaneously. As a result, humane theorists examine the various layers of injustice, suggesting that they see a necessity in issues not being tackled alone, but rather taken up in concert. The clear-cutting of forests, for example, would not just be an environmental and animal issue to many humane pedagogues, but also a labor and a First Nations or indigenous peoples issue. Humane educators would encourage people/students to look at concerns from multiple angles, to critically think through the possible outcomes, and to then move towards more just solutions.

When I first discovered the field of humane education eight years ago, this approach seemed to be markedly different from my experiences with other types of education and activism which advocated for social change. The other fields of education, as I experienced them, were largely focused on taking up one or, at most, two issues or forms of injustice or oppression. Even those pedagogues that I found to be more broadly focused (for example, those who strive to examine together issues of "race," nation, socio-economic status, sexuality, and so on (in concert) most often only attended to human issues, keeping nonhuman animal issues out of the discussion and analysis, whether deliberately or not. Very few scholars attempted to or placed importance on interrogating the human/nonhuman binary, and even among those that do presently, the focus is still often limited to some rather than all non-humans. For example, some environmental education theories and practices (including those which come under the often

post-structuralism influenced moniker of “socio-ecological education”) work at challenging and deconstructing this human/nonhuman binary, but they often do so by constructing others, one which could be labeled “wild/domesticated.” That is, they often only include certain “nonhumans” (e.g., “wild” animals, nature, and so on) while ignoring some others (in particular, domesticated animals). As such, I argue that the broad scope humane education attempts to take is unique in fields of education in that it endeavors to educate on all issues of injustice.

Humane education when I discovered it also seemed to offer an approach that was very different than the advocacy strategies previously familiar to me. Having been engaged with a wide variety of animal, human and ecological justice activist movements for several years, I was quite frustrated with the vast majority of them. I did not feel comfortable working along-side groups that I saw as “single-issued,” which seemed to be the dominant form of group existing. I found that the intersections of various issues were often ignored and that the boundaries between humans, other animals, and the environment were often treated as very solid and held firmly in place. Issues relating to other groups were mostly ignored and often dismissed as, “not important,” “not my/our project,” or “not relevant to this struggle.”

For example, some animal advocacy organizations such as the well-known group People for the Ethical Treatment of Animals (PETA) employ what are often labeled sexist and sometimes racist images to draw attention to animal injustices.<sup>8</sup> For many, PETA’s use of these images reveals their position that some oppressions are more important than others. Human justice organizations also seem to ignore or look away from some issues. For example, when a large anti-poverty rally in Toronto turned into a riot, protestors were instructed to hit the horses ridden by police with their wooden protest signs to keep them from advancing. In a debriefing session, this incident was shrugged off by the organization by stating, “There will always be victims in a war – horses in this instance were the victims.” Was that not the same mentality that resulted in poverty and homelessness being crisis issues in Canada, and the mentality that the organizers were working to resist? Why was it viewed as appropriate to perpetuate violence against some (animals) while protesting against violence to others (humans)? These examples are but two among many I have experienced, at both institutional and individual levels, all which made my discovery of humane education, and the idea that justice issues could be worked on holistically and across species borders, that much more welcome and inspiring.

Humane education offers an important and useful paradigm in that it works to concretely reveal other ways to promote animal and human justice that do not involve theories or actions which deliberately look away from other issues, or which employ the questionable or oppressive strategies and tactics employed by some. Nor does it position (in theory, at least) the rights of some over those of others (as some human and animal justice groups blatantly do). It is promising to me then that humane education does not position itself as having the goal of either “animal rights” or the elimination of classism and/or heterosexism and/or racism, and so on, to the exclusion of other struggles (or vice versa). Rather, humane education’s goals (which is not to say that they are always accomplished to my or their own standards, something I will touch on in the following section) include all of these things, and as such attempt to educate for a more sustainable, less violent, and more just society for all beings, both human and nonhuman.

### **Human Rights Versus Human Oppression? The Discursive and Other Shortcomings of Humane Pedagogy**

From my perspective, humane education, despite its potential and promise, has several pressing

shortcomings.<sup>9</sup> One shortcoming stems from the seemingly narrow and very limited view it takes regarding what constitutes injustice and how oppression exists. Humane education theory tends to present oppression through more of a liberal and materialist lens, “in stark terms of naked power, the master beating the slave, for example” (Bell, 1997, p. 11). Power, instead of being seen as something that circulates and shifts within a web of connections and relations in which everyone ultimately participates (Foucault, cited in Bell, 1997), seems to be understood by humane educators in terms of something more often imposed from the top down. Per humane educational theory, injustice is marked by those in power wielding injustice and those not in power receiving its crushing effects. Examples of this can be seen in humane education’s focus on such “human rights” issues as sweatshops, fair trade, and the “new” slave trade: one group is seen as oppressing, the other as being oppressed. Seeing power in this dichotomous way not only over-simplifies these relations but it also greatly limits the analysis of what constitutes oppression.

While oppression certainly manifests in a top-down fashion, to view it solely or almost exclusively in this way, neglects the more hidden or systemic ways that oppression exists. Oppression is not simply a set of beliefs which positions one group over another, nor is it only random or systemic acts of violence, harassment, or discrimination (Kumashiro, 2002a). That is, oppression also exists in the form of unmarked and unacknowledged norms which bolster the power and privilege of some while subjecting those who fall outside those norms to injustice, violence, exclusion, and so on (Bell, 1997). Such manifestations may not always be as visible as, for example, forced or indentured labor at garment factories in “free-trade” zones, or severely physically abused children on cocoa plantations, but that does not mean that, through looking more closely, injustices and oppressions would not also be found lurking in taken-for-granted, everyday relations.

In addition, those oppressed human groups that are taken up by humane educators are most often “out there,” existing in “far off” countries, and not in the Canada or the US. Many humane educators do not seem to recognize the oppression “in their own back yards” and in their own schools. A few almost perfunctory examples aside, when humane educators write or talk about human issues, very rarely (and in some cases, never) do words like racism, white supremacy, sexism, ageism, heterosexism, homophobia, neo/colonialism, imperialism, ableism, fat phobia, classism, transphobia, and so on, enter the dialogue.<sup>10</sup>

A human justice issue frequently taken up by humane educators are the labor conditions for sweatshop workers in so-called developing countries. Rarely however do they look at the “closer to home” slaughterhouse workers who arguably are subjected to very similar labor conditions (Stull, Broadway and Griffith, 1995, and if slaughterhouses are brought up in educational spaces by humane educators, most often there is not an explicit examination of issues relating to “race,” class, gender and so on of who works there and why. How can slaughterhouses be understood *without* looking at those human related issues? Also, humane educators regularly discuss fair-trade issues, and the children forced from schools and often kidnapped from their families to work as slaves or indentured laborers in the cocoa, coffee, or rug industries, and who are often physically and psychologically abused. They do not however discuss the children in Canadian and US schools who are regularly and systematically excluded, ignored, and oppressed and who, as a result, are slowly pushed out of the educational system due to their “race,” class, sexuality, and so on (as outlined in the work of Willis, 1977; McLaren, 2002; Loutzenheiser, 1996). I believe that this type of limited analysis and narrow focus is problematic and that humane educators should explore these issues in greater depth to more

effectively work against oppression. While they do attempt to argue and present issues and injustices as linked, with each having implications (both positive and negative) for others, humane educators do not, from my perspective, go into enough depth in their exploration or interrogation. By conceiving of oppression in this way, humane educators are not only overlooking the other important ways oppression manifests, but also neglecting to seriously examine or seek to understand the deeper dynamics of oppression.

While many humane theorists and pedagogues maintain that there is a broad focus to their work, David Selby (1995), a humane pedagogue and theorist himself, points out:

The altogether commendable rhetoric notwithstanding, a perusal of current humane education curricula and learning materials...suggests that humane education in practice narrows its focus to animal-related issues and that, with the exception of environmental themes, little studied effort is being made to relate the learning taking place to the broader goals laid down for the field. Equity, justice, development and peace...are rarely built into learning programmes in a conscious, consistent and structured way (p. 4).

That is, although humane educators pay lip service to the issues of human injustice, they do not attend to them to the same degree that they do issues relating to animals or even the environment. Further elaborating on this point, Selby (1995) writes:

[Although] the ultimate aim of humane education is ‘developing respect for all animals and people’... publications for schools tend to focus on animal-related topics and only rarely draw parallels and establish the links that would help achieve that aim. Within such materials, admirable as they very often are, the realization of an unfractured compassion and seamless sense of justice...*remains largely a matter of faith, not strategy* (p. 5, my emphasis).

Again, this points to humane education’s lack of developed analysis and engagement with theories around human oppression issues, and to its lack of strategy for integrating those issues into educational spaces in concert with the others.

While there are a number of illustrations that I might offer to point to this limited or incomplete analysis or theory and praxis on the part of humane educators, the following stood out in particular. In the introduction to one of her most recent books, Zoe Weil (2004) presents a list of “the pressing issues of our time” (p. 2). This list is divided into environmental concerns, animal concerns and human concerns. For the latter, Weil lists the most dire concerns as including:

- A population that is rapidly increasing, creating an even larger consumer-based society, which puts extreme strain on the planet and its ecosystems;
- Warfare, terrorism, and violence as the increasing way of dealing with conflicts;
- A growing disparity between rich and poor countries causing more conflict, suffering, inequity, and war;
- Rising human slavery (an estimated 27 million people are victims in what’s called the ‘new slave trade’);
- A lack of access to clean water and sufficient food; and

- A proliferation of sweatshops (Weil, p. 2-3).

It is perplexing to me that she does not include, for example, the continuing violence directed at the LGBTTI community, the disturbingly high drop out rates among non-white youth in high schools, the increasing numbers of working poor and homeless in Canada and the US, the racially motivated clampdown on “illegal” immigrants in North America and Europe, the colonialism-inspired crises faced by Canadian and US aboriginal communities, the vilification of Muslims worldwide, and so on. To be clear: I think that the issues that Weil raises are very important, but there are also issues “close to home” that are in urgent need of attention as well, issues that I think ought to feature on her list. It is this type of consistent overlooking of certain issues that I am challenging, not necessarily the validity or importance of those that she and others do include in their analyses.

In part, I suspect this lack of development is because the practice of educating for compassion for and just treatment of animals is seen to also encourage the fostering of “humane” or “pro-social” attitudes and behaviors toward people, especially from different backgrounds (Selby, 2000; Thompson and Gullone, 2003). Illustrating this point, one humane educator writes:

[W]hen I protest a pig factory farm, I am not only condemning the treatment of animals; I am also condemning the degradations of the environment and the loss of the small factory farm caused by agribusiness. When I protest against vivisection, I also condemn the bad science which suggests that evidence extrapolated from animal research can be applied to humans (Robert Stanford, quoted in Selby, 1995, p. 28).

While less oppressive relations with animals may indeed result in less oppressive relations with humans, humane educators who are committed to challenging injustices and oppression on a broader scale need to go further. If human oppression will be lessened by working against animal oppression, then for the same reason, educating for “race” and gender equity, for example, should share a symbolic relationship with humane education in that they will likewise work against animal oppression (Selby, 1995). Humane pedagogues, however, do not often begin with an analysis of human oppression, nor do they present a strong case for why anti-oppressive or social justice education for human groups as important to lessen animal oppression. This is likely due in part to the fact, as touched on earlier, they do not have an in-depth understanding of human oppression issues and of their interconnections and may as a result see them as of lesser importance. Unfortunately, training programs (such as the Institute for Humane Education’s Sowing Seeds workshops and Masters of Education program), at this point at least, do little to challenge this – although in the case of the Masters program, it’s being newly established perhaps explains some of these oversights. For example, there are very few readings in the graduate program in humane education that would prepare students to begin to grapple with issues and concepts like feminism, anti-racism, neo/colonialism, and so on.<sup>11</sup> Further, having taken three separate weekend-long Sowing Seeds workshops, I have never witnessed class, sexuality, ability, amongst others issues, discussed. Both of these education programs remain much more academically rigorous and thorough in their animal and environmental focus/modules.

Although no pedagogy or theory is ever complete or free from contradictions, humane educators, by not committing themselves to working equally against these other forms of

oppression, are complicit in them. As such, they are aiding in the reinforcement of some oppressions. Kevin Kumashiro (2002a) articulates this when he states:

[S]tudents, educators, and researchers...often want certain forms of social change but resist others, sometimes knowingly, sometimes not. One reason that a desire for social change can coincide with a resistance to social change is that some educational practices, perspectives, social relations, and identities remain unquestioned....People...fail to recognize how the repetition of such practices and relations...help [to] maintain the oppressive status quo (p. 68).

In other words, even among those who visualize oppression broadly and who endeavor to interrogate the links between oppressions, there are failures in doing so, sometimes deliberate and sometimes not. While some boundaries and identities are interrogated, others are not. By not holding a broad analysis of oppression, and by not explicitly addressing issues of “race,” class, sexuality, gender, ability, and so on, I believe that some humane educators maintain forms of injustice and oppression despite what appears to be their belief and desire to do otherwise.

An additional shortcoming I would identify, in some ways related to the first, is the failure of humane pedagogues to seriously engage with the tensions and contradictions that are numerous and often irreconcilable when talking about animal, ecological and human justice in concert. For example, if animals are to not be subject to domination by humans, to have at the very least the basic right to not be viewed as property (a basic criterion of animal rights, as outlined by Francione, 1995) and to be seen as having intrinsic worth, what would that mean for subsistence cultures or societies whose diet and clothing depend on the flesh and skin of wild animals? Similarly, if First Nations peoples are given the right to self-governance (which is argued to be a step towards countering injustice in those communities), does that mean they should then have the right to kill species labeled endangered who are a part of their traditional hunt? Does this answer change if the animal will not be used for their needs but rather sold on the local, national or international market? And how are the animal’s desires and voices “heard” or factored in? How/can these tensions be reconciled? Is reconciliation important or essential? It seems that in certain regards, some humane theorists often put forth arguments or ideas that are too simplistic in that they shy away from a full examination of the messy terrain that accompanies such issues, and their complex and intersecting cultural, historical, and economic influences, when they are approached in concert. From my perspective, many humane educators attempt to present these issues as being simpler and “neater” than they actually are (even when they claim to be doing otherwise). While there are some underlying similarities between oppressions of humans and non-humans, there are unique silences surrounding the positions of each group (and indeed within these groups) that deserve critical attention. Humane theorists as such need to deepen their analysis, create a more nuanced view of injustice and oppression. In part, this is likely avoided because the tensions present in these issues can be overwhelming and immobilizing; however, the desire to avoid these tensions is something that needs to be worked against if educators are to be “successful” in working against injustice or oppression (Kumashiro, 2004).

The most profound limitation that currently blocks humane education from being more rigorously developed and widely adopted is simply its discursive and institutional marginality. Despite its very old roots, humane education has been described, quite accurately I think, as the “Ultima Thule” of education – a far-away, unknown region, barely if at all recognized by



progressive educators working in related fields such as anti-discrimination, peace, or environmental education (Selby, 2000). As a result of its largely unknown status, humane education has had little success infusing itself into education theory and practice, whether it be at the elementary, secondary or post-secondary levels. In my experience, I have found few people during my graduate studies who have much or any knowledge of humane education (professors or fellow students alike). What is more, very few assigned readings have even mentioned non-human justice, or the human/nonhuman binary, much less interrogated it. There has been little research done on humane education (Selby, 2000), and even less has made its way into academic publications. Searching academic databases resulted in approximately 20 relevant sources – half of which were 10 to 20 years old! This is not to absolve humane theorists and pedagogues from responsibility for any of their apparent silences and complicity but I do think it is important to take note of this lack of academic attention and interrogation when considering the field in general and its shortcomings in particular. However, a shift may be imminent as, at the post-secondary level, there is an emerging but still minute field labeled “Animal Studies” or “Human-Animal Studies” which will hopefully help reverse this lack of academic research and informed practice in the near future.

In addition, when school boards, humane societies, or other advocacy organizations mandate or develop humane education programs, they are often seen as an expendable “frill,” and are often the first courses or programs to be cut in times of decreasing budgets and limited funds (Selby, 2000). I see this as creating something of a negative feedback cycle: humane pedagogy is seen as expendable and is therefore not practiced; humane education is not practiced and so it is not seen as valuable or being beneficial. A further element of this conundrum is, because humane education is not being practiced in schools, little research is conducted on it. And because there is little academic research dedicated to humane pedagogy which results in its philosophies and practices not being investigated, theorized, written about, or challenged in the way many other fields of education are, humane education’s evolution, redefinition and improvement is hindered. I think an example of this type of evolution due to practice-informed research can be seen with civil rights education gradually becoming multicultural education, which then in part fueled the creation of anti-oppressive education (which will surely in time motivate another evolutionary step). Humane education is not likely going to enjoy such theoretical growth or evolution as long as it remains on the fringes in both research and practice but it is difficult to get academic attention without practice.

### **Moving Beyond Multiculturalism: A Brief History of Anti-oppressive Education**

Multicultural education appeared in the 1970s in both Canada and the United States. In the US, it grew out of the 1960s civil rights movement (Banks, 2001a) and, in Canada, it was introduced with a federal policy of multiculturalism (Ng, Scane and Staton, 1995). The introduction of national policies and definitions regarding multiculturalism or multicultural education generated great debate, controversy, and confusion in both countries, and has been contested in both national contexts since its inception (Rezia-Rashi, 1995).

Initially, multicultural education focused largely on “single group studies;” that is, in classrooms, one ethnic group was chosen as a focus and highlighted, often through a discussion of their holidays, languages, customs, traditional foods, and so on (Banks, 2001b; Grant and Sleeter, 2001). This arguably liberal approach to multicultural education was subjected to much criticism over the years (Banks, 2001a). The criticisms are exemplified by the following:

[D]ominant versions of multicultural education delimit a sanitized cultural sphere divorced from sociopolitical interests, in which culture is reified, fragmented, and homogenized, and they depict ethnic conflict as predominantly the consequence of negative attitudes and ignorance about manifestations of difference, which they seek to remedy by cultivating empathy, appreciation, and understanding (Michael Olneck, quoted in Ng, *et al.*, 1995, p. 5).

To be exact, cultures were presented as romanticized, unchanging and essentialized, presented as one unified mass, as there being only one way of eating, celebrating, thinking, and being for any one ethnic group. The problem of injustice as seen by many multicultural educators had little to do with deep structural issues or with systemic beliefs, but rather was due to general (and “innocent”) cultural ignorance and uninformed opinions. Thus installing knowledge about other cultures in the attempt to overcome ignorance was, along with the arousing of emotions like empathy, thought to be an effective strategy (Banks, 2001b). In other words, if students could be taught to appreciate other cultures, and to see similarities between cultures rather than the differences, prejudice and oppression would be lessened or come to an end.

This however was not a universally accepted or celebrated theoretical or pedagogical approach (Steinberg and Kincheloe, 2001). As disagreements about this praxis arose, multicultural education theory and practice underwent several evolutionary shifts or changes (Banks, 2001a). One such change in multicultural education was the shift from looking primarily, or only, at issues of “race” or ethnicity to commonly including educational practices directed towards other issues including social class, gender, sexuality, and disability (Grant and Sleeter, 2003). More recently, multicultural education shifted further when it moved towards understanding the interconnections between these issues (Banks 2001b).

It is from this broader and more comprehensive notion of multicultural education that anti-oppressive education arises. Drawing from many activist and academic traditions, anti-oppressive education work utilizes, forges and strengthens the links between feminist, critical, multicultural, queer, post-colonial, and other movements towards justice (Kumashiro, 2004). Seen as a departure from multicultural education’s liberal, largely single-issued grounding, anti-oppressive education endeavors to avoid viewing identity as fixed, singular, and unchanging but rather endeavor to recognize intersectionality and fluidity when analyzing and theorizing identity and oppression (Loutzenheiser, 2001; Kumashiro, 2001).

As a result, for anti-oppressive theorists like Kevin Kumashiro (whose work I will focus primarily on here as he is one of the most prolific theorists writing under the moniker of “anti-oppressive education”), as well as others (Loutzenheiser, 2001; McCready, 2004; Swanson, 2005), the word “oppression” is used to refer to a social dynamic in which certain ways of being or identifying (or being identified) are normalized or privileged in society while other ways are disadvantaged or marginalized (Center for Anti-Oppressive Education website, online at: <http://antioppressiveeducation.org/definition.html>). Anti-oppressive education aims to call to attention the ways various forms of oppression intersect, as well as how they are interconnected, situated, and often supplement each other (Kumashiro, 2000). Instead of seeing manifestations of these oppressions (such as racism, classism, hetero/sexism, homophobia, ageism, and so on) as singular, they are instead viewed as multiple, overlapping, and as playing out differently for different people in different contexts. “Race,” for example, intersects with gender, sexuality, class, age, ability, and so on, resulting in the oppression faced by black, working class,

heterosexual men being different from the oppression faced by black, upper class, queer women, for example. Therefore, anti-oppressive educators argue that one cannot only speak of “race” when analyzing oppression as other factors affect and are affected by it profoundly. Because of this, anti-oppressive educators believe it is essential to challenge or interrupt these multiple forms of oppression simultaneously (Kumashiro, 2002b). From this perspective, work that truly challenges oppression cannot revolve around or be based in only one identity category or positioning, or one form of oppression, because it would be a (more) incomplete analysis and because it is always shifting (Kumashiro, 2000). Further, some anti-oppressive educators maintain that a failure to work against or trouble the dominant views that contribute to these various multiple forms of oppression is to be complicit with them (Kumashiro, 2004).

Regarding the roots or causes of oppression, in citing a study by researcher Valarie Walkerdine, Kumashiro (2000) states:

Oppression and harm originate in (or are produced by) not merely actions and intentions of individuals, or in the imperatives of social structures and ideologies. Rather, oppression originates in discourse, and, in particular, in the citing of particular discourses, which frame how people think, feel, act, and interact. In other words, oppression is the citing of harmful discourses and the repetition of harmful histories (p. 40).

This understanding and analysis is markedly different than that of other types of education (including multicultural education and humane education), which seems to most often view oppression as being about the actions of individuals, and less about discourse and the reiterations of “common sense” ideas and norms. Departing from others, while anti-oppressive educators see understanding cultures or developing changes in personal actions (including developing empathy) as a vital piece to anti-oppressive work, they do not believe that this will *alone* result in less oppressive relations (Loutzenheiser, 2001).

Anti-oppressive educators, moving beyond more liberal understandings of injustice and oppression, lean heavily on what Kumashiro (2001) calls the “posts” perspectives – post-structural, post-modern, and post-colonial theories in particular – and maintain that these perspectives are essential in addressing the multiplicity, fluidity and situatedness of oppression as well as the complexities of teaching and learning (Kumashiro, 2000; 2001; Loutzenheiser, 2001; McCready, 2004). These perspectives are also important in that they work to broaden the analysis of how the dynamics of oppression are conceptualized, a necessity when working against various intersecting forms of oppression (Kumashiro, 2000). Educators need to always be looking beyond what they know, to other perspectives and realities, if they are to work against the erasure of some oppressions. Accordingly, the “posts” perspectives not only bring new knowledges into focus, but, more importantly, they disrupt existing knowledges (particularly repetitive, harmful knowledges). By disrupting grand or meta-narratives, what is considered knowledge, common sense, “normal” and “abnormal” are all brought into a contested terrain and examined, scrutinized and disrupted allowing for the “unknowable” to surface (Kumashiro, 2002b; 2004).

Through this approach, educators are exposed to the idea that what is being said and learned can never tell the entire story and that there is always more that is not being said, more voices that are not being heard, information and perspectives that need to be sought out, and so on. Lessons about oppression include learning to resist the desire to know all, to reject searching

for the “*Truth*” as the end point of knowing. The goal is not a state of final or complete knowledge, a final answer, or the satisfaction that comes with obtaining those, but rather is partial (or “situated”) knowledge, the disruption of existing knowledge and the discomfort in not knowing, and the desire for more change and for not closing off further learning opportunities (Kumashiro, 2000).

This type of unknowing can be understandably intimidating; teachers and students are used to either having or being told *the* correct answer. However, although the change that may be facilitated by this pedagogy cannot be known in advance – something that can be quite uncomfortable – it also has great potential to be liberating. If the goal is not to prescribe one way of thinking, through the replacement of older commonsense norms with newer, more “progressive” ones, but rather to think differently (specifically, in different ways that are informed by anti-oppressive theories), then this type of unknowing is essential so as not to foreclose future possibilities (Kumashiro, 2000). Indeed, remaining open is to not foreclose the possibility of anti-oppressive education.

### **Moving Beyond Human-focused Understandings: Shortcomings of Anti-Oppressive Education**

Upon my first reading, I felt immediately inspired by anti-oppressive theory. Here is a field of research and practice that analyzes the interconnected nature of oppression, disrupts “regimes of truth,” and allows for other forms of knowledge and truth to emerge. It speaks of multiplicity, of not neglecting certain identity categories in working against oppression, and of the need to always look bigger and wider, for more possibilities and for other answers. However, I am struck repeatedly by a highly perplexing shortcoming in this work: despite anti-oppressive education’s theories around broadly conceptualizing oppression, and of the need to always look for and challenge what is not being said in order to avoid reinforcing oppression, animals and an interrogation of the human/animal divide is glaringly absent. In no anti-oppressive education work have I seen any mention of nonhuman oppression, the need to interrogate the human/nonhuman binary, and so on. This seems particularly surprising from a theory which views challenging multiple forms of oppression as essential.

Kevin Kumashiro (2004) writes:

Not surprisingly, what teachers often desire of learning is a comforting knowledge that helps us stay blinded to those aspects of teaching that we cannot bear to see, especially aspects that comply with oppression. What is comforting, at least at a subconscious level, is a repetition of familiar, doable, commonsensical practices, not disruptions and change (p. 9).

There is an acknowledgment that educators need to always be looking for “blind spots,” for the areas unexamined, and always bringing new oppressions into the discussion and consideration. Is it that our relationships with animals and the non-human worlds are still one of the largely accepted commonsensical ideas or norms? Could it be that there is resistance, even among those educators committed to going to the uncomfortable and most unknown places: to interrogating and destabilizing one aspect of their identity – their human-ness?

These absences and silences around the human/nonhuman binary are disappointing and frustrating in part because the avoidance of this issue seems to be a deliberate oversight. Constance Russell (2005) notes:

[E]ven though Haraway's (1991) ideas about 'situated knowledges' and 'partial perspectives' have gained considerable currency in...approaches to education, there has been surprisingly little engagement with the desire expressed in that article and in her other writing for 'learning to converse' (p. 201) with the world beyond humans (p. 434).

In other words, it seems as though many educators informed by Donna Haraway's pivotal work (as I am sure Kumashiro and others mentioned here have been) are choosing to overlook an integral part of her theoretical framework – that which involves the non-human. It is to be expected that some may turn away or reject some aspects of any given perspective. But what does it mean that so many turn away from Haraway's repeated call to figure a livable politics and ontology – for humans and non-humans – in what she terms the world of "naturecultures"?

These absences are also perplexing because they seem in some ways to contradict Kumashiro's or other anti-oppressive educator's own theories of multiplicity. In particular, they seem to be at odds with the belief that failing to work against various forms of oppression is to be complicit with them. In not mentioning these absences, or attempting to explain or rationalize them, I am lead to conclude that the silences do imply complicity. There are many who theorize about how human and animal oppression are bound up with one another and how they are inextricably linked. Why does Kumashiro (and other anti-oppressive theorists and practitioners) not engage with or respond to this literature? Why are some oppressions within anti-oppressive education excluded?

One possible reason anti-oppressive educators do not take up animal issues in their analysis is that they are seen as of lesser or no importance. Frequent responses to those who attempt to include animals or the environment (or both) in anti-oppression or social justice struggles are, "Blacks/queers/disabled/etc. are still oppressed, so do not talk about the rights of animals," or, "We have our own issues to worry about," or, "Animals are not like humans, they don't suffer like us," or, "How can you/we worry about animal issues when so many humans are suffering?" From my perspective, sentiments like these exist and are problematic because they rely on the intertwined notions of, one, binaries and, two, hierarchies of oppression. The idea of a hierarchy of oppression holds that some oppressions are more urgent or pressing, or more brutally lived than others, and are therefore in need of attention first. It is binaries that fuel this type of ranking – "levels" of "otherness" are used to determine how oppressed one group is. The number of non-dominant characteristics ascribed to groups or individuals determines their place in the hierarchy (some of the dominant/non-dominant characteristics or identities are: man/woman, culture/nature, subject/object, white/non-white, heterosexual/queer, materially wealthy/non-materially wealthy, human/nonhuman, and so on). While the desire to push one oppression into view in order to draw attention to it as a step towards working against it is understandable, this ranking and attempt at silencing others remains problematic in that the situated and fluid nature of oppression and how it might shift over time is not recognized. Also, this type of ranking system gets more complicated or messier when different variables are introduced. For example, who is more oppressed – a black, wealthy, heterosexual woman, or a white, wealthy, queer woman? Who decides? Is this a useful debate? This type of ranking of

oppression from my perspective ignores the complex, differently lived, always changing, and impossible to categorize lived reality of such dynamics. It also, in ascribing less importance to certain identities, often works to silence some – in this instance, nonhumans.

In terms of animal justice, these binaries are particularly harmful in that animals are always positioned by many people at the very bottom of the hierarchy of concern – they are not white, male, (appear to be) rational, or of material wealth. Animals do not even have the basic privilege of being on the “human” side of the “human/non-human” binary. Relying on these notions of binaries and hierarchies of oppression will not prove to be fruitful in working for animal justice as animals will never be able to bring themselves into the dominant category. They will always be viewed as Other as the measures used to exert human superiority or dominance will inevitably always find another (arbitrary) standard to prove humans different from, and therefore the superior over, other animals (Noske, 1997; Spiegel, 1996). This category of human/non-human and the related subject/object seems to get little attention, and even in circles where binaries are challenged, there is usually silence surrounding these constructions. As a result, it seems because of their positioning, animals slide through the cracks of who gets counted as oppressed in most [pedagogical?] circles.

Instead of relying on or using a ranking system that is ultimately based on a mythical norm of the white, middle-class, heterosexual, able-bodied, rational male subject as a means of organizing to gain consideration in society, would it not be better and more effective to work at deconstructing *all* of these norms and binaries? To challenge all the common sense conceptions of “difference,” to disrupt and de-center all identities, including that of human/nonhuman and subject/object? Theorists like Cary Wolfe (2003, 2005) argue that many discourses around justice continue to rely on a model of subjectivity that is quite humanist in its grounding. Indeed, anti-oppressive educators as I have experienced them to date limit their views of who can be a subject (as opposed to who is an object) and who can have subjective experiences or relationships to human beings only. Theorists like Wolfe (and others including Haraway, 2003; Whatmore, 2001; Latour, 2004) argue that it is of the utmost importance to look beyond this type of humanist centering – to look beyond theories that rest on the idea of a “speaking subject” (Russell, p. 435) – if we are to truly move beyond liberal notions of individualism and justice and towards greater democracy and less oppressive relations with all communities.

In addition, some theorists argue that an examination and rupturing of the human/nonhuman binary is also essential in moving towards less oppressive relations, not only with animals but also with humans. That is, the category of human is viewed as having been used in certain historical contexts to oppress certain peoples, by constructing the human as that which is ethical and which requires ethical treatment and casting some as Other – as nonhuman – and therefore as not being ethical beings and consequently not requiring ethical treatment. Wolfe succinctly sums up this argument during an interview where he, drawing from Gayatri Spivak, posits:

[T]he discourse of animality has traditionally been used as a tool for subjugating and exploiting people of colour and, as long as that discourse remains intact – as long as we take for granted that if you designate something an animal, then you don’t have to worry about certain ethical consequences...then it remains available to use against others of whatever race, or whatever gender or class position. So the stake for others working in these areas [of social justice] is to realize that as long as this foundational discourse of animalization and animality remains in

place, it remains an unquestioned tool in the exploitation of the very populations they are interested in. (C. Wolfe, interview on Animal Voices Radio, May 22, 2005, online at: <http://www.animalvoices.ca/node/41>).

How would anti-oppressive educators respond to this argument: that without working to rupture the human/animal binary, we are ultimately reifying the oppression of humans? As theorists like Wolfe (who often work under the banner of post-humanism) grow in numbers and continue to publish their work, will anti-oppressive educators need to start grappling with these ideas and issues?

### **Closing Thoughts: Toward A More Inclusive Theory and Pedagogy for Educating Against Oppression**

Both humane and anti-oppressive educations seem to stop short, whether consciously or not, of crossing an invisible barrier that would allow for greater explorations of oppression and its roots and manifestations. For anti-oppressive educators, that barrier seems most related to dignifying nonhuman species and, for humane educators, the barrier seems to result in not looking broadly enough at human oppression issues. If both of these fields believe that working against oppression ultimately requires systematically struggling against *all* of its forms, then both must think beyond their current field's focus so as to work against those forms of oppressions their analysis misses. Although no education can ever be truly anti-oppressive, in that work to end oppression with one group can always intend oppression for another, by more seriously considering the Other, anti-oppressive and humane educators can take steps to ensure that one group is not always excluded or oppressed through their pedagogy.

In terms of ways forward, I think an excellent and ambitious (though perhaps understated) starting point would be for both of these fields to begin to seriously ponder one another, and to offer and accept an invitation to dialogue about their pedagogical "blind spots" and about ways to facilitate a more holistic and inclusive praxis. In suggesting this, I am not hoping for the emergence of one pedagogy, *one* answer, or only one way forward out of the two. Rather, it is my hope that through such discussion different bodies of previously neglected knowledge can be opened up and that this would allow for further exploration of human *and* nonhuman anti-oppressive pedagogies. This is indeed a discussion and a movement that is long overdue.

### **References**

- American Society for the Prevention of Cruelty to Animals. (n.d.). About Humane Education. Online at: [http://www.asPCA.org/site/PageServer?pagename=edu\\_history](http://www.asPCA.org/site/PageServer?pagename=edu_history).
- Banks, J. A. 2001a. Multicultural Education: Characteristics and Goals. In J. A. Banks and C. A. McGee Banks (eds.), *Multicultural Education: Issues and Perspectives*. (4<sup>th</sup> Edition). New York: John Wiley and Sons: 3-30.
- , 2001b. Multicultural Education: Historical Development, Dimensions, and Practice. In J. Banks and C. McGee Banks (eds.). *Handbook of Research on Multicultural Education*. San Francisco: Jossey-Bass: 3-29.
- Bell, D. 1992. *Faces at the Bottom of the Well: The Permanence of Racism*. New York: Basic Books.

- Bell, L. A. 1997. Theoretical Foundations for Social Justice Education. In M. Adams, L. A. Bell, and P. Griffin (eds.), *Teaching for Diversity and Social Justice: A Sourcebook*. New York : Routledge: 3-15.
- Brown, L. 1981. *Building a Sustainable Society*. New York: W. W. Norton and Company.
- , 2003. *Plan B: Rescuing a Planet Under Stress and a Civilization in Trouble*. New York: W. W. Norton and Company.
- Butler, J. 1990. *Gender Trouble: Feminism and the Subversion of Identity*. New York: Routledge.
- , 1992. Contingent Foundations: Feminism and the Question of “Postmodernism.” In J. Buter and J. Scott (eds.), *Feminists Theorize the Political*. New York: Routledge.
- Callicott, J. B. 1989. *In Defense of the Land Ethic: Essays in Environmental Philosophy*. Albany: State University of New York Press.
- , 1999. *Beyond the Land Ethic: More Essays in Environmental Philosophy*. Albany: State University of New York Press.
- Center for Anti-oppressive Education. (n.d.). Definitions of Anti-oppressive Education. Online at: <http://antioppressiveeducation.org/definition.html>.
- Francione, G. 1995. *Animals, Property and the Law*. Philadelphia: Temple University Press.
- Grant, C. A. and Sleeter, C. E. 2001. Race, Class, Gender, and Disability in the Classroom. In J. A. Banks and C. A. McGee Banks (eds.), *Multicultural Education: Issues and Perspectives* (4<sup>th</sup> Edition). New York: John Wiley and Sons, Inc: 59-81.
- , 2003. *Making Choices for Multicultural Education: Approaches to Race, Class, and Gender* (4<sup>th</sup> Edition). New York: John Wiley and Sons, Inc.
- Giroux, H. A. 1989. *Schooling for Democracy: Critical Pedagogy in the Modern Age*. London: Routledge.
- , 1997. *Pedagogy and the Politics of Hope: Theory, Culture, and Schooling: A Critical Reader (The Edge, Critical Studies in Educational Theory)*. Boulder, Colo.: Westview Press.
- Haraway, D. 2003. *Companion Species Manifesto: Dogs, People, and Significant Otherness*. Chicago: Prickly Paradigm Press.
- Humane. (n.d.). *The American Heritage Dictionary of the English Language* (4<sup>th</sup> Edition). Online at: <http://dictionary.reference.com/browse/humane>.
- , 2001. In J. Pearsall (ed.), *The New Oxford Dictionary of English*. New York: Oxford Press.
- Institute for Humae Education. (n.d.). *Humane Education for a Humane World*. [Brochure]. Surrey, Maine: Author.
- Just Choices. (n.d.). “Exploring Social Justice Today” Video. Online at: <http://justchoices.com/video.html>.
- Kumashiro, K. 2000. Toward a Theory of Anti-oppressive Education. *Review of Educational Research* 70(1): 25-53.
- , 2001. “Posts” Perspectives on Anti-Oppressive Education in Social Studies, English, Mathematics, and Science Classrooms. *Educational Researcher* 30(3): 3-12.
- , 2002a. Against Repetition: Addressing Resistance to Anti-oppressive Change in the Practices of Learning, Teaching, Supervising, and Researching. *Harvard Educational Review* 72(1): 67-92.
- , 2002b. *Troubling Education: Queer Activism and Antioppressive Pedagogy*. New York: RoutledgeFalmer.



- , 2004. *Against Common Sense: Teaching and Learning Toward Social Justice*. New York: RoutledgeFalmer.
- Latour, B. 2004. *Politics of Nature: How to Bring the Sciences into Democracy*. Cambridge, MA: Harvard University Press.
- Loutzenheiser, L. W. 1996. How schools play "Smear the Queer." *Feminist Teacher* 10(2), (Winter): 59-64.
- , 2001. If I Talk About That, They Will Burn my House Down. In K. Kumashiro (ed.), *Troubling Intersections of Race and Sexuality: Queer Youth of Color and Anti-racist, Anti-heterosexist Education*. New York: Rowman & Littlefield: 195-215.
- Mason, J. 2001. *An Unnatural Order: Uncovering the Roots of Our Domination of Nature and Each Other*. New York: Continuum.
- McLaren, P. 2002. *Life in Schools: An Introduction to Critical Pedagogy in the Foundations of Education*. (4th edition). New York: Longman.
- McCready, L. T. 2004. Understanding the Marginalization of Gay and Gender Non-conforming Black Male Students. *Theory Into Practice* 43(2) (Spring): 136-143.
- Ng, R., J. Scane, J. and P. Staton. 1995. Introduction. In R. Ng, P. Staton, and J. Scane (eds.), *Anti-Racism, Feminism, and Critical Approaches to Education*. Toronto: OISE Press: xiii-xvii.
- Nibert, D. 2002. *Animal Rights, Human Rights: Entanglements of Oppression and Liberation*. Lanham, MD: Rowman and Littlefield Publishers.
- Noske, B. 1997. *Beyond Boundaries: Humans and Animals*. Toronto: Black Rose Books.
- Orr, D. 1992. *Ecological Literacy: Education and the Transition to a Postmodern World*. New York: SUNY Press.
- Orr, D. and A. Edwards. 2005. *The Sustainability Revolution: Portrait of a Paradigm Shift*. British Columbia: New Society Publishers.
- Pattnaik, J. 2004/2005. On Behalf of Their Animal Friends: Involving Children in Animal Advocacy. *Childhood Education* 81(2) (Winter): 95-100.
- People for the Ethical Treatment of Animals. (n.d.). Fur Bites. Online at: <http://www.peta.org/pdfs/ADmola.pdf>.
- , (n.d.). Kindness is a Class Act. Online at: <http://www.peta.org/pdfs/ADswain.pdf>.
- Regan, T. 1985. *The Case for Animal Rights*. Berkeley: University of California Press.
- , 2004. *Empty Cages: Facing the Challenge of Animal Rights*. Lanham, MD.: Rowman and Littlefield.
- Russell, C. L. 2005. "Whoever does not Write is Written": The Role of "Nature" in Post-Post Approaches to Environmental Education Research. *Environmental Education Research* 11(4): 433-443.
- Selby, D. 1994. Humane Education: The Ultima Thule of Global Education. *Green Teacher* 39: 9-17.
- , 1995. *Earthkind: A Teachers' Handbook on Humane Education*. Toronto: Green Brick Road.
- , 1996. Humane Education: Challenging Anthropocentrism in the Curriculum. *Orbit*, 27(2): 38-41.
- , 2000. Humane Education: Widening the Circle of Compassion and Justice. In D. Selby and T. Goldstein (eds.), *Weaving Connections: Educating for Peace, Social and Environmental Justice*. Toronto: Sumach Press: 268-296.

- Speigel, M. 1996. *The Dreaded Comparison: Human and Animal Slavery*. New York: Mirror Books.
- Steinberg, S. R., and J. L. Kincheloe, 2001. Setting the Context for Critical Multi/Interculturalism: The Power Blocs of Class Elitism, White Supremacy, and Patriarchy. In S. R. Steinberg (ed.), *Multi/Intercultural Conversations: A Reader*. New York: Peter Lang Publishing.
- Stull, D. D., M. J. Broadway and D. Griffith (eds.). 1995. *Any Way You Cut It: Meat Processing and Small-Town America*. Kansas: University Press of Kansas.
- Swanson, D. M. 2005. Anti-oppressive Education and Imagination: Living in the "Place of the Impossible." Paper presented at Imaginative Education Conference, Simon Fraser University, British Columbia.
- Thomas, S. C. and P. Beirne. 2002. Humane Education and Humanistic Philosophy: Toward a New Curriculum. *Journal of Humanistic Counseling, Education, and Development* 41 (Fall): 190-198.
- Thompson, K. L. and E. Gullone. 2003. Promotion of Empathy and Prosocial Behaviour in Children through Humane Education. *Australian Psychologist* 38(3): 175-182.
- Weil, Z. 1991. *Animals in Society: Facts and Perspectives on our Treatment of Animals*. Pennsylvania: AnimalLearn.
- , 1998. Humane Education: Charting a New Course. *The Animals Agenda*, September/October: 19-21.
- , 2002. Begin with Children. Online at: <http://satyamag.com/nov02/weil.html>.
- , 2004. *The Power and Promise of Humane Education*. British Columbia: New Society Publishers.
- Whatmore, S. 2001. *Hybrid Geographies: Natures Cultures Spaces*. Sage Publications.
- Willis, P. 1977. *Learning to Labor: How Working Class Kids get Working Class Jobs*. England: Saxon House Publishing.
- Wise, S. M. 2001. *Rattling the Cage: Toward Legal Rights for Animals*. Cambridge, MA: Perseus Books.
- , 2003. *Drawing the Line: Science and the Case for Animal Rights*. Cambridge, MA: Perseus Books.
- Wolfe, C. 2003. *Animal Rites: American Culture, the Discourse of Species, and Posthumanist Theory*. Chicago: The University of Chicago Press.
- , 2005. *Animal Rites* – May 22, Interview of Cary Wolfe with L. Corman, host of *Animal Voices Radio*. Online at: <http://www.animalvoices.ca/node/41>.
- Young, I. M. 1990. *Justice and the Politics of Difference*. Princeton, NJ: Princeton University Press.

## Notes

---

<sup>1</sup> This article is an edited excerpt from her Master's graduating paper, submitted January 2007.

<sup>2</sup> Borrowing from The Center for Anti-Oppressive Education, I use the term "oppression" to refer to a social dynamic in which certain ways of being or identifying (or being identified) are normalized or privileged in society while other ways are disadvantaged or marginalized (Center for Anti-Oppressive Education, n.d. Online at: <http://antioppressiveeducation.org/definition.html>).

---

<sup>3</sup> I use the terms “animal” and “non-human animal” interchangeably throughout this paper. Neither is adequate in my opinion, and both serve, in some way, to reify the place of animals in Western society, and to maintain the boundary between humans and other animals.

<sup>4</sup> I acknowledge that there are a number of theorists who attempt to bridge two of these fields. For example, and in particular, there are feminists who also write about or advocate for animals or the environment. There are, for example, also animal advocates who draw links with feminism, nationalism, and class issues as well as environmentalists who take up “race” issues. It is not that I am overlooking them; rather I am attempting to point out how little work is being done on all three together, and particularly, in education.

<sup>5</sup> It is my understanding that the word “humane” is used by practitioners to connote kindness, justice, or compassion, or of the will to inflict the least amount of harm, and therefore humane education would promote those things (Selby, 1994; Thompson and Gullone, 2003; Weil, 2004). Indeed, many dictionaries define the word in similar terms. However, this could be argued to be a very misleading title, as ‘humane’ also carries the definition, “marked by an emphasis on humanistic values and concerns,” (American Heritage Dictionary, n.d.) and, “of a branch of learning intended to have a *civilizing* or *refining* effect on people” (Pearsall, 2001, p. 893, my emphasis). From my perspective, this seems like a highly contradictory label or title to take up considering it seems as though these theorists are attempting in ways to move beyond humanism and the norms it prescribes. Also, what are the implications broadly speaking of an education that seeks to refine or civilize? While this may have been an accurate way to define the theoretical or philosophical grounding of humane education when it emerged over a century ago, this no longer accurately reflects many of the current shifts and trends in this field of education. This issue, the use a potentially misleading title or descriptor, I find quite perplexing and think is worth exploring in and of itself. Do most humane theorists and pedagogues see themselves as firmly embedded in the humanist tradition, and as humanist educators (as seems to be indicated by Pattnaik, 2004/2005; Thomas and Beirne, 2002)? Or do they see themselves attempting to look or move beyond humanism? If the latter, why do they continue to use the name they do? And if the former, I would argue that this is problematic and even contradictory, and in need of serious reconsideration. I have not found any in depth research that explicitly examines the past, present and future philosophical roots (or root systems, as there are likely divergent histories) of humane education. Exploration of these issues – humanism and the humanist tradition, and its relation with some, many, or all humane educators and humane education theory - while pressing and demanding attention especially in relation to the topic of this paper, is not explored in this paper due to space constraints.

<sup>6</sup> While there still seems to be a fair-sized population of humane educators who continue to focus near-exclusively on issues related to companion animal, urban wildlife, animals used in entertainment, and to some extent, farmed animals (such as Societies for the Protection of Cruelty to Animals and humane societies) without necessarily attempting to link these to broader issues relating to humans, there also appears to be a growing number who are gravitating towards or have already adopted this newer approach. While there are no research surveys I can reference to support this speculation, a review of the organizations, and the growth of those enrolled in the various training programs offered by the Institute for Humane Education do seem to tentatively corroborate this view.

<sup>7</sup> The word “oppression” is not a common descriptor used with humane education practitioners with whom I am familiar. Instead, it is a word and concept that remains largely in the theoretical

---

writings on humane education and even there it is little used. The descriptors that I have observed as more common in this field are “prejudice,” “violence” or “discrimination.”

<sup>8</sup> Please see <http://www.peta.org/pdfs/ADmola.pdf> and <http://www.peta.org/pdfs/ADswain.pdf>.

<sup>9</sup> It is not my intention to belabor the work of David Selby, Zoe Weil, or the Institute for Humane Education in fleshing out these critiques. I use their work and Institute often because they have the most marked presence in the stream of humane education I am most interested in. Further, I offer up my analysis and critiques in the spirit of trying to point to possible ways I see forward, ways which I think would allow for more movement in the direction of their intentions, and towards being more holistic in their theory and practice.

<sup>10</sup> See the work of Selby and Weil as illustrations of how these topics are not thoroughly investigated nor included in their proposed curriculums; also see organizations such as Circle of Compassion <http://www.circleofcompassion.net/>, The Empathy Project <http://www.empathyproject.org/>, and Bridges of Respect <http://www.bridgesofrespect.org/> for illustrations of how groups, while indeed mentioning human injustice issues in their mandates, largely or entirely exclude it from their actual work and programming.

<sup>11</sup> I collected copies of the syllabi and reading lists for the four modules required for the Master’s of Education degree program offered through IHE and Cambridge College in June, 2006. In the human rights module of the program, there are seven required books but only two of them deal with issues of privilege or difference (there is a third but it is literally an “A to Z” book for high school students and is compromised of mostly pictures and not an appropriate text for a Master’s program in my view). The other five required books focus on child and ‘new’ slavery, terrorism and genocide (in Rwanda, Yugoslavia, and the Holocaust), and a how women are suffering backlash because they are career driven (a frankly bizarre inclusion in my opinion). Further, one of the two books that do analyze human justice issues was written for a popular audience, making me question whether it is rigorous enough for a Masters program.

## Developing a Bioregional Pedagogy for Transregional Students: Practices and Experiences from the Composition Classroom

Kyhl Lyndgaard

### Bioregionalism, Transregionalism, and Undergraduates

It is interesting that the most robust articulation of the bioregional concept is taking place in academia and is presented to college students, arguably one of the *most* transient of populations.

– Meredith, 2005, p. 84

The landscape that you live, work, and study within matters. From 2003-2005, I had the privilege of teaching eight sections of an introductory writing, research, and public speaking course called First Year Symposium (FYS) at the partner colleges of Saint John's University and the College of Saint Benedict in central Minnesota. The colleges require that all first and second-year students live on campus, and a majority of students remain on campus for all four years; total enrollment between the two schools is more than 3900 students. Saint John's is an all-male school on a rural campus, while Saint Benedict's is an all-female school located in the nearby small town of St. Joseph. The campuses are about five miles apart, but all classes are integrated and free shuttle buses run between the two campuses. My classroom was on the rural campus of Saint John's University; or more precisely, the campus of Saint John's was my classroom.

Saint John's University is located on over 2,700 acres of land owned by Saint John's Abbey and first surveyed by Benedictine monks in 1856. Most of this vast campus is managed as a natural arboretum. Only eighty miles northwest of Minneapolis, the campus is tucked into the hills of the St. Croix terminal moraine, where Minnesota's major biomes come together. As I described the area in a locally published newsletter, the campus is "a place where the oak savanna separates the tall grass prairies from the thick hardwood forests that stretch to the south and east, a place of glacially created hills and lakes" (Lyndgaard, 2007, p. 6). My description is strongly bioregional in its terms, as will become clear.

A bioregion, as evidenced by a simple etymology, refers to a geographic region defined by biological or ecological parameters. Biological regions can be defined in many ways. Jim Dodge (1981) lists several criteria, including "biotic shift, watershed, land form, cultural/phenomenological, spirit presence, and elevation" (p. 8). For this essay and in my classes, I focus primarily on watersheds, which have been the most commonly used criteria since Dodge's foundational essay first appeared. While watersheds and landform boundaries are widely used by private and governmental land management agencies, bioregions have not historically been bland governmental

---

**Kyhl Lyndgaard** is a Ph.D. candidate in Literature and Environment at the University of Nevada, Reno, where his research focuses on early American nature writing. He earned an M.A. in English at the University of California at Davis and a B.A. from Saint John's University in Collegeville, Minnesota. Recent work has appeared in *ISLE* (Interdisciplinary Studies of Literature and Environment), *ecopoetics*, and *Watershed*.

labels for geographic space. Instead, cultural values constitute an important part of any attempt to claim a bioregion, as can be inferred from some of Dodge's criteria. The term "bioregionalism" may be traced to West Coast back-to-the-land thinkers who emerged from the 1960s counterculture. Two people most responsible for popularizing the bioregional movement are Peter Berg, founder of the Planet Drum Foundation, and Gary Snyder, the Pulitzer Prize-winning poet (Aberley, 1999, pp. 14-20).<sup>1</sup> Both are centered in California, though neither would define their home primarily by the US state designation. Snyder (1976) notes that "knowing who we are and knowing where we are are intimately linked" (p. 189). Similarly, Berg expands the idea of a bioregion from a way to define boundaries to a human and individual scale: "[A bioregion] refers both to geographical terrain and a terrain of consciousness – to a place and the ideas that have developed about how to live in that place" (Berg and Dasmann, 1978, p. 36). Clearly, these ideas tie the development of personal awareness to cultural awareness of the natural world.

While these bioregional arguments have long been provocative and energizing, bioregionalism has had a somewhat limited audience over the last forty years. Meredith's observation that "the most robust articulation of the bioregional concept . . . is presented to college students, arguably one of the *most* transient of populations" is worth a careful look (Meredith, 2005, p. 84). While she sees this as an irony, I take her statement as a valuable challenge. If college students can find value in bioregionalism, then the appeal of bioregionalism should be more apparent to other populations. College students have an advantage of coming together with a common identity, if only for a limited number of years. The challenge for a bioregional educator is to show students how to enter a larger, more diverse community that is centered around the common landscape, and to encourage them to question a less rooted identity that may be linked to the bioregionally indistinct landscape of the football field, fraternity house, or shopping mall.

The idea of praxis is also crucial for bioregionalist educators and community members. By doing a bit of work and giving back to the land some small portion of what they have taken from it, residents develop a communal and cultural stake in the well-being of their bioregion. They reclaim local knowledge and the ability to create change with their own hands, minds, and hearts. As Carr (2004) notes, "In bioregional education, learning about both our human community and our ecological community is a process of learning by doing" (p. 154). Robert Thayer (2003) more narrowly defines bioregional work as the "*widespread occurrence of grassroots, on-the-ground action towards resolution of environmental and social issues by voluntary, nonprofit groups that strongly identify with naturally bounded regions and local communities*" (p. 5, emphasis in original). While Thayer's statement is an accurate depiction of bioregionalism as it has been envisioned, the words I would first emphasize to students from his definition are "towards resolution," which suggest an open-ended process. In the classroom, Carr's idea of learning by doing is less prescriptive than Thayer's, and can more readily spark the imagination of students who are new and perhaps resistant to the concept of bioregionalism. As the semester progresses, Thayer's work becomes more and more useful when designing assignments and activities.

After all, a strict bioregional lifestyle may be nearly impossible to achieve. To use two closely bioregionalist terms, not everyone has the option of choosing a "lifeplace" to "reinhabit" on a long-term basis. College students and young people in general are especially likely to make frequent moves over large geographical areas.<sup>2</sup> Mitchell Thomashow, in an essay called "Toward a Cosmopolitan Bioregionalism," acknowledges that "In the twenty-first century, having a homeland will represent a profound privilege" (Thomashow, 1999, p. 123). Elsewhere, Thomashow (1995) advocates going beyond a local vs. global debate to form "networks and allegiances based on *pluralistic regional identities*" (p. 196, emphasis in original). Rather than insisting that we all live for

the next thirty years in one place, Thomashow allows for the inevitability of relocation, yet notes that allegiances need not end once you drive the moving van to a new home. This idea is called “transregionalism” (p. 197).

Transregionalism notes that the boundaries of bioregions not only change based on the various sets of biotic criteria used, but that the boundaries are porous in varying degrees to different constituents. “*Pluralistic regional identities*” are not unique to modern humans, and allow us to develop relationships with more than one landscape. We define these communal places on an individual basis as we gain more experience and as our own understanding of the bioregion deepens. Furthermore, the interconnectedness of the globe – economically, but also ecologically – makes the task of defining a single region very difficult. As Snyder (1999) writes, “the whole earth is one watershed” (p. xxi). Some bioregionalists may argue with the concept of transregionalism, choosing instead to focus on bioregionalism as explicitly in opposition to the homogenizing effects of globalism, but I believe Thomashow’s argument is sufficiently differentiated from a naïve embrace of globalism, and of capitalism, by virtue of his pragmatic acceptance of multiple bioregional identities.<sup>3</sup>

With Thomashow’s concept of transregionalism in mind, I chose to focus my argument on not one watershed, but two. One is Lake Sagatagan, a 176-acre lake with no outlets, and no motorboats allowed. On the edge of the central campus and adjacent to the monastery, the lake has special appeal for visitors and residents alike. The other major watershed is that of the North Fork of the Watab River, which joins the Mississippi River and the larger world fifteen miles away.

Lake Sagatagan is an idyllic place to fish, swim, or picnic. A primitive chapel on the southeast shore serves as a hiking or canoeing destination. The word “Sagatagan” is of Ojibwe origin, and refers to dry kindling that is used to start fires (Robbins, 2006, p. 2). In many ways, the lake represents the desire to withdraw from an increasingly crowded and hectic world. During the first month of class, many of my students from larger cities even refer to this lake and the forests at Saint John’s as a “wilderness.” Yet the lake is threatened by acid rain from coal-fired power plants; indeed, a small plant operates just a quarter-mile away. Storm sewers empty from the central campus into the lake, causing phosphorus loading on the north side. With no outlets, pollutants stay in the lake indefinitely.

Meanwhile, the Watab River is humble. Where it is not edged by indistinct wetlands, the creek could be jumped across by the average college student with a running start. Yet by the time it leaves Saint John’s, the creek has drained thousands of acres of land, plus the outflow from the campus wastewater treatment plant. The Watab soon joins the Mississippi River, only fifteen miles away as the crow flies, and thus directly connects Saint John’s to the largest watershed in North America – a watershed exceeded in area only by the watersheds of the Amazon and Congo Rivers. Part of the restoration plan administered by the Arboretum includes planting tamarack trees along the wetlands through which the creek flows. “Watab” is the Ojibwe word for the roots of tamaracks that were split and used as thread in applications such as birchbark canoes (Upham, 2001, p. 54).

At Saint John’s, not only is the natural landscape of the area in good condition, the Benedictine values of the monasteries match bioregional values to a surprising degree. Community living, dignity of work, social and environmental justice, stability, stewardship – these values are common to both, and can be explored by students in a variety of assignments. Nor is bioregionalism poorly suited to address questions of spirituality or ethics. Indeed, skeptics of bioregionalism have singled out an emphasis on spirituality as contrary to rationality and secularism. Other bioregionalists may indeed find Catholicism or Christianity antithetical to their beliefs, and have misunderstood Lynn White, Jr.’s influential essay “The Historical Roots of Ecologic Crisis” as

arguing that Christianity is largely to blame for the environmental crisis. However, White's conclusion is that "the remedy must also be essentially religious, whether we call it that or not. We must rethink and refeel our nature and destiny. The . . . sense of the primitive Franciscans for the spiritual autonomy of all parts of nature may point a direction. I propose Francis as a patron saint for ecologists" (1967, p. 14). Teaching at a Catholic institution – or any religiously affiliated institution – can help make space in the curriculum for issues of spirituality.

Saint John's Arboretum operates between the university and the abbey, and manages the land while also conducting environmental education for students and neighbors of all ages. The Arboretum's vision is a clear call to engage the land through bioregional pedagogy as well as traditional Christian beliefs: "Saint John's Arboretum celebrates and preserves the unique beauty and richness of God's creation in Central Minnesota and fosters the Benedictine Tradition of land stewardship, education, and environmental respect." Abbot John Klassen O.S.B. (2004), asked in a speech, "How will the graduates of our Benedictine institutions relate to the environment? Will they still do old-fashioned economics that cannot assign any value to natural resources?" Leading by example, the Benedictines follow a handbook called *The Rule of Benedict*. Written by Saint Benedict in the sixth century, this book offers blueprints for a rural and communal monastic lifestyle. Similarly, other medieval monastic orders, such as the Franciscans, follow their own handbooks and rules.

As a movement, bioregionalism cannot be studied apart from social and spiritual questions. Bioregionalism is not essentially Christian. Indeed, bioregionalism notably draws on many other spiritual traditions, including Paganism and Buddhism. But in my classes, I would have felt it a missed opportunity to avoid discussions of Christianity while working on land owned by the largest Benedictine monastery in the world. Furthermore, avoiding issues of spirituality would controvert the major goals of bioregionalism.

Jim Dodge writes, "A central element of bioregionalism – and one that distinguishes it from similar politics of place – is the importance given to natural systems, both as the source of physical nutrition and as the body of metaphors from which our spirits draw sustenance" (p. 5). By looking at the Lake Sagatagan and Watab River watersheds as bio- and transregional metaphors, the study of natural systems was reinforced as a key part of the curriculum. As will be detailed in the rest of this article, treating the campus as classroom was not only a way for my students to become rooted and part of the local community, but also helped them develop the ability to interpret and participate more fully in the next place they lived. Bioregionalism in today's colleges demands this kind of flexibility and farsightedness if it is to have a lasting impact. The goal, then, is to teach a bioregional perspective that students can take with them after graduation, and an infusion of transregionalism is an excellent way for college students to gain a meaningful, long-term understanding of how to engage in environmentally and culturally responsible practices. For all the bioregionally-motivated hope that our lives would be reflected solely in Lake Sagatagan, the reality was that the majority of people on campus would, in effect, float down the Watab River to join a new community within a few short years. Indeed, with a "flushing time" of 2,607 days, the water in Sagatagan stays around three years longer than the typical college student (Saint John's University, 2004, p. 13).

### **From Global to Local: Texts and Contexts for a Community**

Starting in Fall 2003, students of the College of Saint Benedict and Saint John's University could select a major in Environmental Studies. This new major suggested to me that bioregionalism could have an important place in the curriculum. The institution's program is unusually well-balanced



between the humanities and the natural and social sciences. The largest problem with the rapidly expanding Environmental Studies field is that “environmental education often fails to achieve its goals of reeducating students with regard to their relationship to the natural environment because its scientific focus neglects important issues of environmental values, beliefs, attitudes, perceptions, aesthetics, and ethics” (Lewis, 2005, p. 37). One reason many Environmental Studies programs do not privilege the humanities may be that the connections between skills such as writing and speaking and the protection of the natural world are often difficult to articulate. Happily, my colleagues in both the humanities and the sciences were understanding and interested in the development of my pedagogy, despite the fact that I was teaching in Core Curriculum rather than Environmental Studies.

I struggled at times because my desire to be fully bioregional in orientation in the classroom was simply not possible. Like most composition instructors, I wanted to use a reader to expose my students to various models of good writing. Ideally, I could create an anthology of Minnesota writers, but no book existed that completely fit the bill. One major text I used and found helpful was an anthology by Lorraine Anderson, John P. O’Grady, and Scott Slovic called *Literature and the Environment* (1999).<sup>4</sup>

Despite the supportive atmosphere, I still worried about being overly provincial. Motivated to show students examples of how bioregional concerns play out on a larger scale and in a different culture, I assigned Deidre Chetham’s *Before the Deluge: The Vanishing World of the Yangtze’s Three Gorges* (2002), which examines the Three Gorges Dam in China. A colleague in the biology department graciously agreed to present his experiences traveling on the Yangtze with a group of college students shortly before the reservoir began filling. The presentation was excellent, and I learned an enormous amount about how local concerns can be trumped by national policy, yet I was unsatisfied with the level of engagement of my students during our studies of environmental issues related to the Three Gorges Dam. The content, I realized, deviated too widely, and too suddenly, from my exhortations to study the local landscape.

In order to show how issues in China can be similar to issues in Minnesota, I devised an in-class debate to simulate a public hearing on a fictional proposed dam and reservoir on the Mississippi River. First, I presented a detailed handout that showed exactly what the impact might be regarding human populations affected, acres covered by the reservoir, and energy production. I then divided the class into three equally-sized groups. One group functioned as a state commission that was to ask questions and vote whether to approve the dam at the end of class; a second group posed as the power company; a third was designated as the displaced farmers and residents. The results were amazing, as students in the third group argued passionately for their way of life. And the results were unsettling, as the second group replied with a mixture of superiority and deceit that could have come straight out of innumerable hearings from the historical record. Interestingly, in the two sections of my course, students in the first section reluctantly approved the dam, while those in the second voted against it.

By some quirk of my alphabetical assignment of groups in the first section of my class, several students in the third group were from rural areas while all the students in the second group were from the Twin Cities metropolitan area. This coincidence stimulated debate, but also led to such high levels of personal investment that I felt the need to hold a reconciliation meeting between several students to avoid long-lasting animosity. While my goal to dramatically increase student engagement was a success, this unintended conflict served as a sobering reminder that the classroom needs to be a safe place for debate. Despite the risks, or perhaps because of them, I strongly believe that studying issues of local concern is superior to engaging concerns that students cannot identify with. In a writing course where the goals are skill-based, the amount students learn is directly related

to their level of engagement with the subject matter. By studying issues that impact their daily lives, students become energized in their discussions and essays to think more critically than they otherwise would. Even more importantly, students create links between their academic work of learning to communicate effectively and respectfully to the larger goal of participating in sustainable relationships within their community and bioregion.

Bioregionalism should thus be seen as a valuable method to ensure that students have a stake in what they are studying. An institution-wide project at Northern Arizona University called the Ponderosa Project found similar reasons for a localized curriculum: “focusing on these issues [of sustainability] is a way of making material immediate and relevant to student experience . . . and to understand that their learning is connected to the larger problems they face as students and that they will face as citizens throughout their lives” (Chase and Rowland, 2004, pp. 99-100). Rather than expecting global problems to be universal, we need to tailor our curriculum to match the local. Only once we have an understanding of our own place in the global context can we hope to study problems on a larger scale. I certainly would teach students about environmental and social issues in China again, but only after reversing the schedule so as to begin with the local. Once students understood the stakes on a local, highly immediate level, I would then transition to studying globally significant projects such as the Three Gorges Dam.

The debate over the imagined dam was not the only time I asked my students to present a topic and then vote on the quality of the presentation and on the topic itself. I also asked them, as a final project for the first semester, to write a grant proposal to fund a bioregional project. I asked that the project fall into one of three categories: education, restoration, or preservation. Many students by this point were becoming attached to the local bioregion, and chose to write a grant proposal centered on the campuses. Others asked to write about a different place that they called home more permanently, which I was happy to allow. I also welcomed proposals that dealt with an urban area they were familiar with or hoped to become familiar with. Indeed, if a student is forced to write about a place that they have not connected with, the effect can be counterproductive. Ball and Lai (2006) note two related obstacles: “some students are not sufficiently interested in their locale to find local content learning provocative” and, furthermore, “many students resist critical pedagogy’s emphasis on the politics of socioecological transformation” (p. 271). With the natural reticence of some students towards a full embrace of bioregionalism addressed, student proposals ranged from restoring native prairies on campus to funding a position in Minneapolis to teach inner-city youth reading classes. As long as a localized (not even necessarily bioregional) focus could be articulated, I approved the proposals.

After I read and commented on their grant proposals, I asked students to fashion a ten-minute presentation to explain their project to the class. Those who were not presenting that day would then have a confidential discussion of how much of the requested money to award. This approach forced students to ask hard questions about how bioregional or locally-oriented projects might appear to a larger, less invested audience. Interestingly, educational or restoration projects were much more effective and successful than projects aimed at static preservation. Bioregionalism, as a movement, is more about reinhabitation and restoration than it is about locking up vestigial wild lands, and watching the students debating and coming down firmly on the side of action and praxis helped me see that the bioregional movement has real pedagogical traction. Additionally, as bioregionalist

projects outside the academy often require writing grants and forging diverse partnerships, students who have already demystified the grant-writing process may be able to immediately begin proposing similar projects outside of the classroom.

Looking specifically at the goals of any composition class, my students gained valuable communication skills in this project. They practiced crafting a rhetorical appeal to an audience of their peers, and then discussed which aspects of their writing were most effective upon hearing how much money was awarded. In this final project for the first semester course, students also learned how to present evidence in support of their larger argument. As they would all continue with me in a second semester course oriented specifically around research skills, the grant assignment served as a useful springboard.

### **Community Life and Work**

One goal of the course I taught at Saint John's and Saint Benedict's was to help students create a sense of community while being in a course together for both semesters of their first year of college. A similar concept can be seen in other colleges as well, sometimes identified as "Learning and Living Communities." With a community-building objective in mind, instructors are encouraged to lead their classes in social events. Some instructors ask their classes to complete a leadership skills course that builds teamwork to overcome various obstacles, such as getting over a wall, or completing a trust fall. Others do purely social events, such as a barbeque. While these events may be valuable, I chose to fully incorporate community events into my bioregional focus.

David Orr discusses ecological literacy as a crucial part of a well-rounded education, a way to develop "perceptual and analytical abilities, ecological wisdom and practical wherewithal" (Orr, 2004, p. 148). I argued the same to my students, who were at first resistant to seeing their social networking time "subverted" to manual labor outdoors, often in cold weather. Orr's pedagogy stems from a belief that "[b]iophilia is inscribed in the brain itself, expressing tens of thousands of years of evolutionary experience" (p. 138). Biophilia can readily be connected to bioregionalism, as work intended to build community and to restore the natural world is the best way to develop a sense of place (p. 148). Rather than a simple social event, restoration work is a way to build connections beyond the interpersonal to the place itself, ties that hold even when individuals, by force of career or other choices, separate.

Some of the events we did, always coordinated with Saint John's Arboretum, included acorn collection and buckthorn pulls. The acorns my students harvested were then sent to a nursery that returns the seedlings to Saint John's Arboretum for planting. Red oaks (*Quercas Rubra*) are the dominant tree managed in the forest at Saint John's, with much of the furniture and trim in campus buildings being made onsite at the woodworking shop. By planting seedlings from the local forest, the unique genetics of the oaks is preserved, as they have adapted over centuries in this specific location. A high density of deer in the absence of natural predators requires this human intervention, as the oak's natural reproduction is threatened by deer browsing.

Common buckthorn (*Rhamnus Cathartica*) is an invasive, exotic tree that now threatens forests across the continent, after having once been planted extensively as an ornamental hedge. The smaller woodlot at Saint Benedict's is infested with buckthorn, and buckthorn also is present in

pockets of Saint John's Arboretum. The easiest way to identify it is to go out in the fall, after native trees and shrubs have already dropped their leaves, and look for the only remaining green trees. Students had much fun pulling up the young buckthorn, and formed teams to uproot examples that were as tall or taller than they were.

The class prior to these activities always included a discussion about the ecological goals and vision that the work was aimed towards. The discussion on buckthorn was especially interesting in the context of transregionalism. Students easily drew connections between the effects of the colonial settlement of North America by white Europeans to this European plant that crowds out a diverse forest population and replaces it with a near monoculture that supports little wildlife. Perhaps most fruitful was how we concluded the discussion of invasive plants to talk about examples of exotic but non-invasive species that are present in the inner campus.

### **The Lifestyle Project**

[T]he bioregional educational paradigm assumes that humans can address the problems of the world only in spatial units that are humanly scaled and in proportion to the way humans evolved and the way we experience the world.

– Thayer, 2003, p. 236

One pedagogical exercise that can be done profitably no matter the location is called “The Lifestyle Project,” and was created by Karin B. Kirk and John J. Thomas at Skidmore College (2003). This project addresses questions of sustainability and conservation on an individual basis. First, students develop a baseline of what resources they use every day in several categories. Then, over the course of three weeks, they gradually reduce their consumption. Kirk and Thomas describe their experience with the writing journal component of their project this way: “When we read the students’ journals that recorded their actions, thoughts and feelings throughout the Lifestyle Project, we were incredibly moved” (p. 496). As the project was originally designed for a physical geology class, I added an essay component at the conclusion of the three weeks during which I asked students to participate in the Lifestyle Project. The journals are indeed quite exciting to read, and do fulfill many goals in a writing classroom. But by adding the essay – which I made clear was not graded based on how well they were able to reduce their resource consumption – I was able to further extend the conversation from numbers towards values. The students also had a wealth of first-hand experience and prewriting to draw on as they worked to create a coherent essay from their weeks of journals.

Bioregional goals are well met by conducting the Lifestyle Project. By seeing our own encouraging results compiled as a class, we were able to look carefully at what would happen if everyone in the campus community was to participate in such a project. Just as removing invasive buckthorn helped build community and gave students a stake in the well-being of the forest, the Lifestyle Project similarly builds community in a shared goal for the well-being of the physical resources on campus. Students, through these projects, are equipped to rapidly adjust to a responsible lifestyle in whatever place they move to next.

In many ways, asking students to participate in something like the Lifestyle Project is even more valuable than lobbying for the next campus building to be LEED-certified. Empowering

students through discussions about how to live and how to communicate their values when they move on is a way to show that effecting change is democratic and transregional. Rather than believing environmental and bioregional policy requires a sort of all or nothing approach, students can see that incremental change over a large segment of the population is just as effective. Bioregional pedagogy helps students see that their individual choices matter a great deal when these choices are made as part of a community-wide dialogue. Furthermore, complacency can rapidly set in for any individual who does not have the support and motivation that comes from a community. I participated in the Lifestyle Project along with the students, and realized many of my own shortcomings that my personal choices had resulted in. For example, I lived twenty miles away and commuted daily, thus requiring what I came to feel was an excessive amount of resources for transportation and housing, while all of my students were required to live in on-campus dormitories for their first year and most rode the shuttle buses on a daily basis. We all learned together that planning ahead and making realistic, yet significant, changes moved us closer to the goal of sustainability, and the exercise was worthwhile on both individual and community-wide levels.

### **Synthesis and Creative Action**

Get a sense of workable terrain, learn about it, and start acting point by point.  
– Gary Snyder, 1969, p. 101

My course was intended to give students a strong connection to their temporary home at the College of Saint Benedict and Saint John's University, but also to develop their writing, speaking, and critical thinking skills. I believe that a bioregional focus is flexible enough for all students to discover personal interests and to engage with their local surroundings. Bioregional projects give students a life-long connection to their college campus through restoration and community work, and also gives them the skills necessary to work in and reinhabit whatever region they move to after college.

The final project I asked my students to complete at the end of their year together was based on an interdisciplinary experience that I underwent during this same time. As a part-time employee of Saint John's Arboretum, a job I applied for after securing teaching, I had become involved as a leader on the biannual prescribed burns – another bioregional project that students were included in. In order to improve my abilities and credentials in this leadership position, I became certified as a wildland firefighter through a week-long course at the Minnesota Interagency Fire Center. This course happened to fall on the week of spring break. As I was studying one night, I realized that the applied psychology behind wildland firefighting was similar to that of my bioregional pedagogy.

I quickly outlined the methods by which firefighters are taught to develop "situation awareness" in order to use "recognition-primed decision making." I drew up lists of the human, non-human, and individual factors that my students used to understand the bioregion. Or, in the vocabulary of firefighter training, "Matching human perceptions to exterior reality" (Leschak, 2005). Over the course of the year, my students and I had been engaged in a running conversation about what the bioregion consisted of, and why each of us had our own vision of it within the larger community. After months of dialogue and study, we had moved past early perceptions and could

now make our own informed, individual choices about how we wanted to engage with and improve conditions in the bioregion. So when I returned to school the next week, I asked my students to draw up a list of the factors that had shaped their conception of their home and their bioregion. After they did this, I asked them to enter a “recognition-primed decision making mode” – and once they did, they had to take action. While firefighters make these decisions based on what they know of a fire’s fuel, topography, weather, and human factors, my students had the benefit of being able to take action in more leisurely ways.

I argue that four types of action are possible after thoroughly studying a bioregion:

A) *conservative* (preserving the bioregion, or state of place, that currently exists);

B) *restorative* (returning a place to a real or perceived-as-real past state);

C) *transformative* (changing a place into a new or different state); and

D) *creative* (celebrating, documenting, and testifying to the presence of a place’s state).

In this case, I asked my students to take creative action by generating place-based poetry, non-fiction, visual art, or a combination of these, as students had previously participated in the other types of action through the grant proposal, the Lifestyle Project, and buckthorn removal. My only regret was that I didn’t think of the project earlier, so I could have set up a kind of bioregional fair or conference at which students could publicly present their work.<sup>5</sup> Even those students who had shown reluctance to engage with the local environment early in the course had found something they valued deeply. Those final projects taught me that students can overcome resistance to place-based education more rapidly if local cultural production is valued and studied (Ball and Lai, 2006, pp. 271-75).

While bioregional pedagogy is in many ways aimed at increasing awareness, I had come to the realization over the course of a year of teaching that *awareness* was not enough. Corey Lee Lewis writes: “If we are serious about attempting cultural transformation through educationally induced individual change, then we must incorporate pedagogical practices that are capable of encouraging personal transformation . . . . Students must be guided through a three-step process that leads them from ‘I know’ to ‘I care’ and finally to ‘I act’” (Lewis, 2005, p. 209). “[E]ncouraging personal transformation” is the greatest way to reach undergraduates. If as educators we wish to have a lasting positive impact on our students and our bioregions, we must not stop with the first step of gaining knowledge. Unfortunately, too many college instructors continue to see knowledge as the sole purview of the classroom.

### **Rootlessness**

Environmental education generally, and the bioregional pedagogy specifically detailed in this article, are far from fully realized in the American university system. By arguing for a transregional focus as a way to build from a solely bioregional focus, my pedagogy is intended to function effectively within an academic system that rarely rewards bioregional approaches. While some institutions such as Saint John’s/Saint Benedict’s are now highlighting Environmental Studies as a signature program, the opposite remains the norm. Consider these lines from a 2008 essay called “Moving On,” published in *The Wilson Quarterly*: “To keep searching for the place where we will at last feel truly at home, truly ourselves, is to throw the dice with a recklessness sometimes reminiscent of Pickett’s

Charge. Conversely, to stay put for decades at a time is to be unimaginative, a bit stodgy, almost European in one's avoidance of risk" (Clausen, p. 22). The "recklessness" of moving is here seen as a uniquely American impulse to be celebrated and cultivated.<sup>6</sup> Bioregionalists work on a cultural level against this view of life that places national identity before local identity, while Clausen celebrates what he calls "a shared ideology of constant and universal mobility" (p. 22). A bioregional life, and pedagogy, remains far from mainstream. As an influential essay by Eric Zencey (1985) notes, "professors are expected to owe no allegiance to geographical territory; we're supposed to belong to the boundless world of books and ideas and eternal truths, not the infinitely particular world of watersheds, growing seasons, and ecological niches" (p. 15). Zencey laments that a "Rootless Professor" is bound to model rootlessness to students, and he worries that students educated by rootless teachers may go on to be alarmingly nationalistic in their orientation (pp. 15-17).

Alternatively, through a bioregional pedagogy we can model connection, community, investment, and action. My own path has taken me far from Saint John's and Saint Benedict's, a region in which I spent five-sixths of my life, yet I draw comfort and satisfaction from a transregional life that has taken me to the Far West for graduate studies not once, but twice. Defending my MA thesis at UC-Davis six years ago, I expressed doubts to my faculty committee about what to do and where to go next, feeling that I had to get back to Minnesota. One of the members of my committee was the bioregional icon Gary Snyder, who just laughed at me, saying "You can travel!"

And travel we all must. Joni Adamson's reflections on local pedagogy ring true: "We might think of our classrooms as something of a middle place or door between landscapes, where students move back and forth, honing the tools and critical theories they will need to work for a more socially and environmentally livable world" (Adamson, 2001, p. 113). While some degree of mobility is inherent in contemporary American culture and education, transregionalism allows our lives and our work to become a more environmentally conscious and responsible practice. With increasing numbers of the most transient people, college students, finding transregionalism to be not only possible but persuasive, alternatives to mainstream life and education in America no doubt have a brighter and broader future than has yet been realized in the history of bioregionalism. As teachers, we would do well to remember the poem "Digging" by Seamus Heaney, a poem I often teach on the first day of class: "... living roots awaken in my head. / But I've no spade to follow men like them. [his father and grandfather] / Between my finger and my thumb / The squat pen rests. / I'll dig with it" (1966, pp. 3-4). The primary question to be answered by educators who believe in a bioregional pedagogy is not "Where will we dig in?" but rather, "What shovels will our students pack with them when they graduate?"

## References

- Aberley, D. 1999. Interpreting Bioregionalism: A Story from Many Voices. In M. V. McGinnis (ed.), *Bioregionalism*. London: Routledge: 13-42.
- Adamson, J. 2001. *American Indian Literature, Environmental Justice, and Ecocriticism: The Middle Place*. Tucson: University of Arizona Press.

- Ball, E. L. and A. Lai. 2006. Place-Based Pedagogy for the Arts and Humanities. *Pedagogy* 6(2) (Spring): 261-87.
- Berg, P. and R. F. Dasmann. Reinhabiting California. 1978[1990]. In V. Andruss, C. Plant, J. Plant and E. Wright (eds.), *Home! A Bioregional Reader*. Philadelphia: New Society Publishers: 35-38.
- Carr, M. 2004. *Bioregionalism and Civil Society: Democratic Challenges to Corporate Globalism*. Vancouver: UBC Press.
- Chase, G. W. and P. Rowland. 2004. The Ponderosa Project: Infusing Sustainability in the Curriculum. In P. F. Barlett and G. W. Chase, *Sustainability on Campus: Stories and Strategies for Change*. Cambridge: MIT Press: 91-106.
- Chetham, D. 2002. *Before the Deluge: The Vanishing World of the Yangtze's Three Gorges*. New York: Palgrave Macmillan.
- Clausen, C. 2008. Moving On. *The Wilson Quarterly* 32(1) (Winter): 22-26.
- Dodge, J. 1981[1990]. Living By Life: Some Bioregional Theory and Practice. In V. Andruss, C. Plant, J. Plant and E. Wright (eds.), *Home! A Bioregional Reader*. Philadelphia: New Society Publishers: 5-12.
- Heaney, S. 1966[1998]. "Digging." In *Opened Ground: Selected Poems 1966-1996*. New York: Farrar, Straus and Giroux: 3-4.
- Kirk, K. B. and J. J. Thomas. 2003. The Lifestyle Project. *Journal of Geoscience Education* 51(5) (November): 496-99.
- Klassen O.S.B., J. 2004. On Environmental Stewardship. Speech at Saint John's University. November 16.
- Leschak, P. M. 2005. Potential Hazards and Human Factors on the Fireline. Lecture given as part of L-180 Wildland Firefighter Training, Minnesota Interagency Fire Center. March 22.
- Lewis, C. L. 2005. *Reading the Trail: Exploring the Literature and Natural History of the California Crest*. Reno: University of Nevada Press.
- Lyndgaard, K. 2007. Understanding Home, Getting Dirty. *Sagatagan Seasons*. 10(1) (Winter): 1, 6.
- Meredith, D. 2005. The Bioregion as a Communitarian Micro-Region (and its Limitations). *Ethics, Place and Environment* 8(1) (March): 83-94.
- Orr, D. W. 1994[2004]. *Earth in Mind: On Education, Environment, and the Human Prospect*. 10<sup>th</sup> anniversary ed. Washington D.C.: Island Press.
- Robbins, W. 2006. Footprints from the Past. *Sagatagan Seasons* 9(1) (Winter): 2, 6.
- Saint John's Arboretum. Vision of Saint John's Arboretum. Online at: <http://www.csbsju.edu/arboretum>.
- Saint John's University. 2004. Watershed Characterization. Online at: [http://www.csbsju.edu/arboretum/land\\_steward/habitat\\_restoration/Final%20Report.pdf](http://www.csbsju.edu/arboretum/land_steward/habitat_restoration/Final%20Report.pdf).
- Snyder, G. 1969. Four Changes. In 1974. *Turtle Island*. New York: New Directions. 91-102.
- , 1976. Reinhabitation. In 1995. *A Place in Space: Ethics, Aesthetics, and Watersheds*. Washington D.C.: Counterpoint. 183-91.
- , 1999. Author's Note. *The Gary Snyder Reader: Prose, Poetry, and Translations, 1952-1998*. Washington D.C.: Counterpoint. xxi-xxii.



- Thayer Jr., R. L. 2003. *LifePlace: Bioregional Thought and Practice*. Berkeley: University of California Press.
- Thomashow, M. 1995. *Ecological Identity: Becoming a Reflective Environmentalist*. Cambridge: MIT Press.
- , 1999. Toward a Cosmopolitan Bioregionalism. In Michael Vincent McGinnis (ed.), *Bioregionalism*. London: Routledge: 121-32.
- Upham, W. 2001. *Minnesota Place Names: A Geographical Encyclopedia*. 1920. 3rd ed. St. Paul: Minnesota Historical Society Press.
- White, Jr., L. 1967[1996]. The Historical Roots of Our Ecologic Crisis. In C. Glotfelty and H. Fromm (eds.), *The Ecocriticism Reader: Landmarks in Literary Ecology*. Athens: University of Georgia Press: 3-14.
- Zencey, E. 1985[1996]. The Rootless Professors. In W. Vitek and W. Jackson (eds.), *Rooted in the Land: Essays on Community and Place*. New Haven: Yale University Press: 15-19.

## Notes

<sup>1</sup> Aberley's essay is the strongest and most scholarly brief introduction to bioregionalism available. For a foundational, book-length discussion of bioregionalism's philosophical underpinnings and its origins, see: Sale, Kirkpatrick. 1991. *Dwellers in the Land: The Bioregional Vision*. Philadelphia: New Society Publishers.

<sup>2</sup> According to the US Census's Current Population Survey for 2005-06, 29% of Americans aged 20-24 moved in that year alone. A similar percentage aged 25-29 also changed addresses. This compares to less than 14% for Americans of all ages. For full details, see the US Census, "Geographical Mobility: 2005-2006, Detailed Tables." Online at: <http://www.census.gov/population/www/socdemo/migrate/cps2006.html>.

<sup>3</sup> For readers interested in studying the thorny issue of globalism, capitalism, and transformative education in the context of place deeper than the scope of this article allows, see the recent book: Gruenewald, David. and Gregory Smith, eds., 2008. *Place-Based Education in the Global Age: Local Diversity*. New York: Lawrence Erlbaum Associates.

<sup>4</sup> Anderson, Lorraine, Scott Slovic and Sean O'Grady. 1999. *Literature and the Environment*. New York: Longman. Despite being several years old, this anthology remains popular among instructors. It also contains enough material and enough variety in genre to be useful for a year-long class. Along with James E. Bishop and Scott Slovic at the University of Nevada, Reno, I am currently editing an anthology entitled "*Currents of the Universal Being*": *Explorations in the Literature of Energy*. This anthology, which will be available within two years, will be well-suited to writing courses (including bioregionally-focused ones) as well as Environmental Studies courses.

<sup>5</sup> While an MA student at the University of California-Davis, I witnessed a similar celebration of place. Professor David Robertson taught a capstone undergraduate class for Nature and Culture majors which included a public presentation of creative projects at the end of the semester. Robertson, Thayer and others have published a series of folios called *Putah and Cache* by local writers and artists; these are appropriately named after the local watersheds (for more on the folios, see Thayer, 2003, pp. 252-53).

---

<sup>6</sup> An excellent environmentally-oriented rebuttal to the ideal of rootedness is: Daniel, John. 1995. A Word in Favor of Rootlessness. 1995. *The Norton Book of Nature Writing*. 2002. Eds. Robert Finch and John Elder. New York: W.W. Norton. 983-90. Daniel (and Clausen) explores many cultural and historical precedents to which American rootlessness may be traced.

## Science, Eloquence, and the Asymmetry of Trust: What's at Stake in Climate Change Fiction<sup>1</sup>

Scott Slovic

My country is extremely tolerant of the slightest increase in a risk from terror, and that's appropriate.... But why should we be so tolerant of risk where the future habitability of our planet is concerned?

– Al Gore, quoted in Karen (2005)

The United States is the most disproportionate producer of global warming, governed by the most disregardful administration. This country often seems like a train heading for a crash, with a gullible, apolitical, easily distracted population bloating itself on television's political distortions and repellent vision of human life, runaway rates of consumption, violent interventions around the world, burgeoning prison and impoverished and crazy populations, the malignancy of domestic fundamentalism, the decay of democracy, and on and on. It's hard to see radical change in the United States, and easy to see how necessary it is. I spend a lot of time looking at my country in horror.

– Rebecca Solnit (2004, pp. 133-34)

### Prediction and Precaution in Environmental Science

In his 1997 essay "Why Do Scientists Argue?" American biologist John Janovy explains that "argument," in the context of scientific discovery, is how knowledge progresses – through observation, interpretation, counter-interpretation, replicated observation with refined tools, further interpretation and counter-interpretation, and so forth. The subtext of Janovy's discussion – in his book explicitly written for "busy people" like lawyers and business people – is that that public needs to understand not only the *ideas* of science but something about how science *operates* in order to appreciate the recommendations of science in the context of public policy. Realizing that many of his hoped-for readers may disagree with his own perspectives on issues such as human population growth and the implications of global climate change, Janovy tends to downplay the specific cases of scientific argument that were making headlines in the mid-1990s when he was drafting his book, although the one specific example he does use is that of climate science. One of the major stories of that time (a story that continues to be powerfully relevant today) is that of 1995 report of the United Nations' and World Meteorological Organization's Intergovernmental Panel on Climate Change (known as the "IPCC"). Of particular interest is the much-discussed (and somewhat disputed) "Chapter 8" of the report, which tried to reach some

---

**Scott Slovic** is Professor of Literature and Environment at the University of Nevada, Reno. The founding president of the Association for the Study of Literature and Environment from 1992 to 1995 and the editor of the journal *ISLE: Interdisciplinary Studies in Literature and Environment* since 1995, he is the author, editor, or co-editor of sixteen books concerning environmental literature and ecocriticism, including *Going Away to Think: Engagement, Retreat, and Ecocritical Responsibility* (University of Nevada Press, 2008).

conclusions, based on the state of scientific knowledge thirteen years ago, about the impact of human behavior on climate. In examining this controversy, Janovy's gentle conclusion is that argument is a normal part of science and scientists "don't usually make controversial predictions without some reason" – he makes this point to counteract the layperson's assumption that scientists might weigh in on controversial topics pertaining to their research without careful consideration. In light of scientists' typical reluctance to make casual claims regarding the predictive validity of their experimental results, "it's not always a good idea to completely ignore scientists' predictions just because these hypotheses 'have not been proved'" (Janovy, 1997, p. 103).

What Janovy is hinting at in his discussion of why scientists occasionally hazard predictions and how decision makers and the general public should respond to such predictions is that it might be a good idea for Americans to consider embracing the "precautionary principle" that was endorsed in 1987 by European environmental ministers, who were at that time reacting to concerns about the deterioration of the North Sea. In her well-known book about industrial waste and cancer clusters, *Living Downstream: A Scientist's Personal Investigation of Cancer and the Environment* (which appeared, like Janovy's book, in 1997), Sandra Steingraber defines the precautionary principle as "the idea that public and private interests should act to prevent harm before it occurs." She continues: "it dictates that indication of harm, rather than proof of harm, should be the trigger for action – especially if delay may cause irreparable damage" (p. 270). Although Steingraber discusses this widely known (and applied) concept in the specific context of water pollution and human health, the principle applies equally well to many other social and environmental situations, including the issue of climate change. Whether we (humans around the world) respond to current assessments of climate change and predictions that Earth is in the process of becoming a "different planet" with precautionary behavior or continue with business as usual depends how we understand the work of environmental science and on our adherence to principles of precaution or heedlessness.

In this article, I consider why it's been so easy for a small number of "contrarian" scientists and writers to stir up enough skepticism to stall progress (at least within the United States) on the development of a climate change policy that might bring our country in line with the preponderance of scientific evidence and the preponderance of international public opinion on this matter. My goal is to offer a kind of answer to Al Gore's question, "Why should we be so tolerant of risk where the future habitability of our planet is concerned?" I'd like to approach this question, in part, by considering the psychology of *trust* (that is, how trust operates in a democratic society and plays a role in policy formation in issues pertaining to technology). I'm particularly interested in how writers – journalists and even novelists, such as Michael Crichton and Susan Gaines – have contributed to or undermined public trust in the mainstream science of climate change.

### **Trust, Scientific Uncertainty, and Words of Warning**

The science and politics of contemporary climate science and policy have been discussed at length by journalists in recent years – excellent examples of this include Ross Gelbspan's 1997 *The Heat Is On* and his follow-up *Boiling Point* in 2004, Chris Mooney's 2005 *The Republican War on Science*, and Elizabeth Kolbert's 2006 *Field Notes from a Catastrophe: Man, Nature, and Climate Change*. Mooney's chapter "The Greatest Hoax" focuses on Oklahoma Senator James Inhofe's notorious efforts, as chairman of the Senate Committee on Environment and

Public Works, to obfuscate and stagnate any efforts by United States legislators to pass a national policy to mitigate anthropogenic climate change. About Inhofe's 12,000-word speech on the Senate floor on July 28, 2003, which attacked the IPCC findings that "the balance of evidence suggests that there is a discernible human influence on global climate" (Stevens, 1999, p. 229), Mooney (2005) remarks, "And so the cacophony began. If Inhofe's goal was to create confusion and hence the appearance of scientific uncertainty, he succeeded brilliantly" (p. 87). Mooney explains that Senator Inhofe and his aids, when responding to journalists' written questions, misrepresented the National Academy of Science's report prepared in response to the IPCC's most recent publications. "Much of the misrepresentation," says Mooney, "exploits a classic strategy for abusing science: magnifying uncertainty" (p. 91). He concludes his discussion of the political abuse of climate change science by stating:

To be sure, it remains up to policymakers to decide whether the economic costs of such preventive measures outweigh the benefits. But that key question isn't even being properly debated. Instead, climate change has become an issue on which conservatives have elected to fight over science at least as much as over economics, relying on stunning distortions and a shocking disregard for both expertise and the most reputable sources of scientific assessment and analysis.

If this situation is maddening, it is also tragic. There may be no other issue today where a corruption of the necessary relationship between science and political decision-making has more potentially disastrous consequences.... Not only do [Senator Inhofe and his conservative colleagues] prevent the public from understanding the gravity of the climate situation, but in sowing confusion and uncertainty, they help prevent us from doing anything about it (p. 101).

In other words, the consequences of sowing confusion about science and technology – including about such issues as climate change – are enormous, potentially catastrophic. Ironically, many of the world's leading climate scientists, including Benjamin Santer (one of the principal authors of the 1995 IPCC report), hail from the United States, the principal contributor to global warming (along with China) and the most visible non-signatory to the Kyoto Protocol and other international treaties on this issue.

What Inhofe and other conservative politicians and contrarian scientists (many of them funded by ExxonMobil, the world's largest non-governmental petroleum company<sup>3</sup>) realize – and what the mainstream scientific community has yet to appreciate effectively – is that all you have to do in order to obstruct science-based policy is to plant the seeds of doubt in the public imagination, particularly in societies that have not embraced the precautionary principle, as discussed above. This sowing of doubt is really quite easy to do. Many psychologists have in recent years conducted empirical studies of "trust," powerfully revealing the *asymmetry* of this psychological phenomenon, the difficulty of building trust and the ease with which trust can be fractured. In an article titled "Perceived Risk, Trust and Democracy" from his 2000 book *The Perception of Risk*, psychologist Paul Slovic surveys the current state of research on the importance of trust in technological risk perception and points out the striking polarization between fears of certain risks among members of the public and the fears and concerns of scientists and industrialists. The four central findings of the psychological community are: "1. Negative (trust-destroying) events are more visible than positive (trust-building) events.... 2. When events do come to our attention, negative (trust-destroying) events carry much greater

weight than positive events.... 3. Adding fuel to the fire of asymmetry is yet another idiosyncrasy of human psychology – sources of bad (trust-destroying) news tend to be seen as more credible than sources of good news.... 4. Another important psychological tendency is that distrust, once initiated, tends to reinforce and perpetuate distrust” (pp. 320-23). These findings imply that, in the arenas of environmental science and policy, the corporate official or politician – or the corporate-funded scientist – who wishes to stop environmental legislation in its tracks need only cast a broad shadow of “uncertainty” over the claims of cautious scientists and tree-hugging environmentalists. One might ask whether the environmentalist who deploys catastrophist rhetoric could similarly undermine the certainty of industrial progress and economic growth (driving forces behind anthropogenic climate change); however, because capitalism is the foundation of comfortable living standards in many of the countries with deep carbon footprints (and this includes “communist” China), catastrophic pronouncements must work against (or *seem* to work against) the grain of audiences’ lifestyles and world views. In other words, it is generally more difficult for environmentalist to undermine trust in business as usual than it is for the anti-environmentalist to undermine trust in environmental science. The critic of science need not have any scientific credentials or understanding. The mere statement that “scientists don’t agree with each other” about the finding in question is usually enough to sow dismay and disinterest in the passive public – people think to themselves, “Well, we should at least wait until the experts can get their story straight.” But, of course, the experts will *never* achieve unanimity – for science is built on the scaffolding of disagreement, contention, and the earnest search for better data and better explanations. A public that cannot appreciate the difference between mainstream science and outlier science and between fundamental non-acceptance of a scientific claim among fellow scientists and uncertainties regarding specific nuances of that claim is ill-equipped to communicate with public officials about the formation of policy.

This has particular implications for the issue of climate change, where assessment and prediction are extraordinarily complex and uncertain. How is the public supposed to parse a statement like Benjamin Santer’s 1997 response to IPCC critics? “Uncertainties,” he wrote,

are a fundamental part of any branch of science, not just climate science, not just climate change science. Although we will never have complete certainty about the exact size of the past, present and future human effect on climate, we do know – beyond any reasonable doubt – that the burning of fossil fuels has modified the chemical composition of the atmosphere.

The question is not whether, but to what extent such changes in atmospheric composition have already influenced the climate of the past century and will continue to influence the climate of the twenty-first century (Qtd in Stevens, 1999, p. 235).

We can always know more about how the world works and the implications of our own behavior, but in the instance of climate change science, the so-called “greenhouse fingerprint” has been thoroughly studied and is unmistakably human. For a risk-averse society, as Al Gore points out in my first epigraph, to ignore the risk of planetary uninhabitability (or at least the potentially grave effects of shifting climate on the ability to provide enough food and water for our rapidly growing population) seems fundamentally illogical. And yet the general public is likely to hear a statement like this and think, “When you can tell me the extent and severity of

these changes – what they really mean for my life and that of my children – then come back to me and tell me what to do.” This is especially true when apparently authoritative treatments of climate issues for the general public, such as the World Meteorological Organization’s *Climate Into the 21<sup>st</sup> Century* (2003), state: “The fact that we may face greater climate variability in the future is only another form of the challenges that have been faced throughout human history. We have adapted to a wide range of climates around the world, so accommodating climate change could be a viable option” (p. 214). Of course, by the time predictive science can become descriptive science, assessing what’s already happened or is incontrovertibly in the midst of happening, it may well be too late for meaningful behavioral and policy changes – sometimes it’s “too late” even when initial *predictions* are being developed. I should mention, too, that the essential goal of predictive environmental science is, in many cases, to be proven wrong. Alan AtKisson, in a 1999 book, refers to the “issuing [of] unpopular warnings of avoidable dangers” as “Cassandra’s Dilemma,” calling this a “no-win situation. Failure to convey the message effectively results in catastrophe. Success in being understood means ultimately being proven wrong” (pp. 22-23).

So, is it better, in a democratic society where we want to prove our Cassandras wrong, to have a trusting public or a skeptical, question-asking public? Both, I would say. What’s needed is a public that realizes when to trust and when to question – that realizes the need to ask questions in pursuit of public policies that might help us to achieve a society that seems to match our view of the world. How can this happen, though, in a diverse and democratic society, where you have a wide range of interests, beliefs, and concerns? This is, of course, one of the basic sticking points of democracy – the achievement of workable consensus among diverse groups and individuals. It would be impossible and presumptuous to attempt to state, in brief, an overarching world view to which the majority of Americans – let alone a majority of people throughout the world – might subscribe, so as to develop a climate change policy in keeping with that world view. I certainly realize that there tends to be a significant difference between most Americans and Europeans when it comes to technological developments such as biotechnology, the Europeans being much more likely to adhere to the precautionary principle in forming laws and policies to guide the application of such technologies. And still, as Al Gore (who surely has access to the most detailed information about the views of the American public) suggests, it’s quite a challenge to figure out where most Americans are willing to draw the line when it comes to accepting risk. We’ll go to dramatic (and expensive) lengths to mitigate the risks of terrorism, but we’re dragging our feet when it comes to forestalling the effects of climate change.<sup>4</sup>

It would be an intriguing exercise to ask average Americans – and citizens from throughout the world – to provide statements about the risks and benefits they see in taking action to manage climate change. For instance, two American writers who’ve had a lot to say over the years with regard to the environment, the ecologists Paul and Anne Ehrlich, made the following statement about their own personal world view in 1996:

The possibility exists, of course (however unlikely), that all the feedbacks will be strongly favorable to humanity and our descendants will not suffer, or might even gain, from global climate change. There is, however, roughly an equal chance the feedbacks will all go in the “wrong” direction and humanity will face a climatic catastrophe – wide-spread crop failures, seaside cities flooded, island nations disappearing, tropical diseases invading previously temperate areas, colossal damage and loss of life from megastorms, and the like. We believe society would

be wise to take out insurance against such contingencies. The recommendations of Richard Lindzen and other greenhouse contrarians ... to follow a “what, me-worry?” strategy are grounded in disagreement with what the bulk of the scientific community believes. Such a posture strikes us as a very dangerous gamble and thus a poor basis for public policy (Ehrlich and Ehrlich, 1996, pp. 140-41).

In response to Gore’s question about Americans’ apparent tolerance of the risk of global warming, the Ehrlichs – and many others – would respond, “We are not tolerant of this risk!” The problem, in a democratic and pluralistic society, and a society in which scientific literacy is mediocre at best, is how to inform the public about current issues in accessible and appropriate ways, neither overplaying nor understating the risks and uncertainties of the issues. For better or worse, the role of communicating important social and environmental issues to general audiences, ranging from extinction to gun-running, has been tacitly delegated to entertainment media, such as movies and popular literature.

### **Environmental Fiction and the Science of Climate Change**

I would like to conclude by focusing on two specific climate change novels – Susan Gaines’s 2001 *Carbon Dreams* and Michael Crichton’s 2004 *State of Fear* – that demonstrate the pros and cons of having literary artists weigh in on important environmental issues. In his 1985 book *Filters Against Folly: How to Survive Despite Ecologists, Economists, and the Merely Eloquent*, Garrett Hardin castigated environmental writers who masked scientific ignorance beneath what he called a “patina of poetic language” – in particular, Hardin was critiquing John Muir’s famous (and oft-quoted line) about everything in the universe being “hitched to everything else.” What I’d like to suggest about the literature of climate change is that sometimes this literature can *help* readers formulate their own understanding of the science and politics of this issue, and other times a vivid fictional narrative (coupled with pseudo-scientific apparatus) can *diminish* the public’s capacity to process information about this subtle and complex phenomenon.

Michael Crichton’s best-selling<sup>5</sup> novel *State of Fear* presents a startling caricature of environmentalists as fear-mongers who will go to almost any lengths in order to frighten the public and secure funding to support their activist agendas. Crichton’s activists use paramilitary tactics in their attempts to fracture the continental ice in Antarctica, seed vicious storms in the American Southwest, and instigate tsunami-causing undersea rockslides in southeast Asia – all in the name of public relations and in defiance of scientific findings that discount the theory of global warming. One of the central characters in the novel, Nicholas Drake, the villainous leader of NERF (the National Environmental Resource Fund), declares out of frustration,

I *hate* global warming.... It’s a goddamn disaster.... [I]t *doesn’t work*.... That’s my point. You can’t raise a dime with it, especially in winter. Every time it snows people forget all about global warming. Or else they decide some warming might be a good thing after all. They’re trudging through the snow, *hoping* for a little global warming (Crichton, 2004, p. 295).

To which Drake’s PR advisor, John Henley, responds,



So what you need ... is to structure the information so that whatever kind of weather occurs, it always confirms your message. That's the virtue of shifting the focus to abrupt climate change. It enables you to use everything that happens. There will always be floods, and freezing storms, and cyclones, and hurricanes. These events will always get headlines and airtime. And in every instance, you can claim it is an example of abrupt climate change caused by global warming. So the message gets reinforced. The urgency is increased (p. 314).

The environmentalists in *State of Fear* come across as self-interested, scientifically ignorant, arrogant, and deceitful, as perpetrators of a vast pseudo-scientific hoax (exactly what Senator Inhofe told his fellow United States senators). In his Author's Message at the end of the book, Crichton states: "I conclude that most environmental 'principles' (such as sustainable development or the precautionary principle) have the effect of preserving the economic advantages of the West and thus constitute modern imperialism toward the developing world. It is a nice way of saying, 'We got ours and we don't want you to get yours, because you'll cause too much pollution'" (p. 571). Here Crichton seems to echo the line of argumentation in Richard Grove's *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600-1860* (1996), which suggests that Western environmentalism is deeply (and problematically) associated with colonial devastation of local cultures and physical environments around the world. This is, in other words, a *leftist* critique of environmentalism. It is ironic (in various ways) that Crichton received the 2006 *journalism* award from the American Association of Petroleum Geologists for *State of Fear* – a work of fiction (not journalism), and a work that castigates environmentalists for various sins, including "imperialism toward the developing world" (one might ask what the relationship between the petroleum industry and developing nations has been).

The MIT professor John Kenner, who leads Crichton's band of lawyers and philanthropists in a fight to thwart purported environmental extremism in the novel, calmly cites scientific articles and machine guns ELF (Environmental Liberation Front) terrorists, while working on behalf of a clandestine U.S. government agency to preserve the American way of life. The association of environmental activists with terrorism is a particularly drastic move on the novelist's part in the wake of September 11<sup>th</sup>, 2001, playing upon public fears and the apparently bolstering efforts of the Bush administration to portray itself as a strong and decent defender of "homeland security." In light of the novel's violent melodrama, it is jarringly peculiar that Crichton actually provides footnotes throughout the narrative, citing articles from such periodicals as the *Journal of Glaciology* and the *Bulletin of the American Meteorological Society*, suggesting that when his characters – usually Kenner – contradict the theories of global warming and climate change, this information is derived from actual science. Unable to rebut the professor's scientific claims, several of the moderate environmentalists in the novel actually convert to Kenner's side and help him to stop the ELF extremists. And even some of the author's comments in his Author's Message seem so neutral and, in a way, *liberal* as to lure progressive readers to appreciate his narrative debunking of global warming. This is, in many ways, a rhetorically impressive work.

The actual model for Crichton's fiction hero, John Kenner, seems to be, in part, MIT professor Richard Lindzen, whose work is cited several times (more than any other individual author) in the novel's extensive bibliography (yes, the *novel's* bibliography).<sup>6</sup> Journalist Ross Gelbspan provides a rather detailed portrayal of Lindzen in the 1997 treatment of climate issues,

*The Heat Is On*, in which he recounts visiting the professor at his home in 1995: “Both he and his wife are exceedingly gracious and hospitable people. In contrast to his often tortured scientific pronouncements, I found his social and political expressions to be lucid, succinct, and unambiguous. Indeed, I found him to be one of the most ideologically extreme individuals I have ever interviewed” (p. 52). Just as journalist Gelbspan sees through Richard Lindzen’s gracious hospitality and ascertains the role of his ideological extremism in his contributions to national climate policy,<sup>7</sup> I believe it’s important for readers of Crichton’s novel – and any other fictional or nonfictional writings about climate issues – to realize that an engaging and lucid story does not represent the final word on this complex, elusive, and still-unfolding phenomenon. In fact, this seemingly authoritative narrative flies in the face of the views and writings of the vast majority of climate change scientists. Yet in America today, one need not have knowledge to express a point of view – indeed, on September 28, 2005, Senator Inhofe actually paraded novelist Michael Crichton onto the floor of the United States Senate to testify against climate change legislation. Where were our “filters against folly” on that occasion? In his 2005 testimony before the United States Senate Committee on Environment and Public Works, Crichton said that “a focused effort on climate science, aimed at securing sound, independently verified answers to policy questions, is so important now.” But even in calling for good climate science, he implicitly belittles and negates the existing science. In a 2005 article called “Michael Crichton and Global Warming,” David Sandalow of The Brookings Institution, who says *State of Fear* is “notable mainly for its nuttiness,” concludes that “Crichton should hold himself to a higher standard with regard to all the arguments in the book” and “if he has something serious to say on the science of climate change, he should say so in a work of nonfiction and submit his work for peer review.”

Clearly, I take a rather dim view of Crichton’s flagrant distortions of environmental scientists and activists in the novel *State of Fear* and of his congressional testimony on the climate change issue, as if his views of climate change science were equal in weight to those of the scientists who actually *study* this phenomenon. In light of the psychology of trust, it’s frightfully clear that all it takes is one articulate (non-specialist) nay-sayer to sink law-makers’ (and the public’s) trust in real environmental science, while a chorus of actual experts can scarcely outweigh the “negative event,” as psychologists would describe it.<sup>8</sup> But it is not my intension to disparage environmental fiction altogether, including works of fiction that seek to explore matters pertinent to climate change. What is particularly egregious about Crichton’s novel is how it trespasses on the territory of scientific discourse (even referring to technical scientific articles in footnotes to the story and providing a concluding Author’s Note that takes actual climate science to task) – and yet this work has not itself been subject to peer review prior to publication. While the book demonstrates Crichton’s skill as a storyteller, from a scientific perspective it is “demonstrably garbage,” as Stanford climatologist Stephen H. Schneider put when interviewed by Cordelia Dean for the *New York Times* after the book received its “journalism award” from the national organization for petroleum geologists.

A somewhat different approach to the issue of trustworthiness in telling the story of climate change – and a more legitimate one, I believe – is offered in Susan Gaines’s 2001 novel, *Carbon Dreams*. What I particularly appreciate about this book is how it prompts readers to ponder the proper role of science in society rather than simply advocating a particular viewpoint on the climate change controversy – this seems like a much more suitable role (getting readers to think) for environmental literature. The novel tells the story of a young, female, Latin American scientist, whose research in the field of paleoclimatology (the study of ancient climates through

the gathering of core samples from the ocean floor) leads her unintentionally into the current controversy regarding global warming and climate change. The novel is not simply an indirect way of espousing the politically loaded idea of global warming. It also explores the predicament of a scientist who merely wishes to understand the planet's natural history and tries to avoid extrapolating from her findings in statements about today's environmental issues. But *other* scientists get wind of her findings and, she believes, misinterpret the data in support of their own political goals, so she is forced to become involved in the public discussion, despite her wishes. Gaines's novel explores the role of science in contemporary society and, in a sense, tells the story of climate change by showing how none of us, scientists and nonscientists alike, can simply sit back passively and ignore the political implications of our actions or inaction. Fictional paleoclimatologist Dr. Cristina Teresa Arenas is all the more credible for her *reluctance* to join the fray of scientists scrambling for power, publicity, and money ("funding") by insisting upon the relevance of arcane research to headline topics of the day. Arenas, while she seems initially to overstate the neutrality of science, is an admirable character because of her cautious attitude and her commitment to being careful with ideas:

The science doesn't take sides. The science just is whatever it is, and if I'm going to communicate with the press then *that* is what I have to communicate. I can't say I know, when I don't. I can't make knowledge absolute, when it isn't. It doesn't matter what I might imagine or dream or even feel is true. I can only repeat what the data says, what the science is...(Gaines, 2001, pp. 334-35).

Many would argue that even scientists choose research topics (and interpret data) according to conscious or unconscious ideologies. But when *aware* of the power of ideology, scientists may be better able to withstand politics and personal leanings in explaining how the world works. Susan Gaines's protagonist, despite her reluctance, gradually comes to realize that the public and the press hunger to understand what's going on with the earth's atmosphere, and that her research on ancient core samples from the ocean floor might hold certain subtle clues to the relationship between carbon dioxide and climate. But her authority and persuasiveness are earned through faithful empiricism and cautious conclusions, not through rhetorical games, flamboyant leaps of logic, or the dramatic polarizing of villains and heroes. Gaines tells a scientific story that shows how careful empirical research combined with critical thinking can support a humanistic science informed by the political but not merely a tool of politics.

In conclusion, let me ask again, "why should we be so tolerant of risk where the future habitability of our planet is concerned?" And what's more, why should it be necessary for so many of us in the United States – like activist and writer Rebecca Solnit – to spend so much time "looking at [our] country in horror"? I believe we are overly tolerant of the risk of climate change because we – the general public in this country and elsewhere in the world – seem not to appreciate the nature of scientific argument and scientific uncertainty. Vested interests (namely, politicians and scientists beholden to particular industries and literary artists with deeply held ideological stances) are able to exaggerate and distort *reasonable* forms of uncertainty as a means of casting doubt on an overwhelming body of scientific evidence, undermining appropriate public trust in this evidence. While vested interests may be found across the political spectrum, scientists dedicated to determining the processes and implications of climate change are less likely to be compromised than those who draw their research funding from industries that stand to gain from downplaying the dangers of climate change and from libertarian think

tanks. Al Gore asks why we're so tolerant of the risks posed by global warming, and Solnit asserts that she views American complacency with "horror" – by contrast, Michael Crichton (2004) looks in horror at how "Western societies have become panic-stricken and hysterically risk averse" (p. 589) and claims that "we spend far too much time soothing false or minor fears" (p. 601).

Failing to appreciate how trust works (or perhaps intuiting the psychology of trust and actively seeking to undermine public trust in climate science), Crichton has been able, through his popular novel *State of Fear*, to accentuate public distrust toward cautionary science on the issue of global warming – and he has brought his distrust explicitly into the law-making arena by testifying before the Senate. In doing so, Crichton became the darling of this decade's anti-environmental brownlashers, such as Joseph Bast (the author of a book called *Eco-Sanity: A Common-sense Guide to Environmentalism*) who crowed in the 2005 article "State of Fear: Michael Crichton and the End of Radical Environmentalism" (published in the online *Capitalism Magazine*!), "Public support for [radical environmentalism] was already shrinking as its Chicken Little predictions failed to come true and its obsolete big-government ideology put it far outside the political mainstream. But Crichton's remarkable book may mark the end of end of the beginning, and the start of a 'new environmental movement' that puts science ahead of ideology and the legitimate interests of the everyone ahead of the careers of the few." Despite efforts by writers like Susan Gaines to offer a more realistic picture of how scientists conduct and think about their work, I'm afraid that American fiction writers have a rather dim track record on the topic of climate change. The issue becomes more complicated, and the literary achievement much more impressive, when we consider *nonfictional* writing about climate change – the work of Bill McKibben, Gale Christianson, Mark Lynas, Ross Gelbspan, William Stevens, Al Gore, Elizabeth Kolbert, and others – but that's another essay.<sup>9</sup>

## References

- AtKisson, A. 1999. *Believing Cassandra: An Optimist Looks at a Pessimist's World*. White River Junction, VT: Chelsea Green.
- Bailey, R. 1993. *Eco-Scam: The False Prophets of Ecological Apocalypse*. New York: St. Martin's.
- Bast, J. L. 2005. State of Fear: Michael Crichton and the End of Radical Environmentalism. *Capitalism Magazine* (January 9). Online at: <http://www.capmag.com/article.asp?ID=4084>.
- Burroughs, W. 2003. *Climate Into the 21<sup>st</sup> Century*. Cambridge, UK: Cambridge UP.
- Crichton, M. 2004. *State of Fear*. New York: HarperCollins.
- , 2005. Testimony Before the U.S. Senate Committee on Environment and Public Works (September 28). 9 Online at: <http://www.crichton-official.com/speech-senatetestimony.html>.
- Christianson, G. 2000. *Greenhouse: The 200-Year Story of Global Warming*. 1999. New York: Penguin, 2000.
- Dean, C. 2006. Truth? Fiction? Journalism? Award Goes to.... *The New York Times* (February 9) Online at: <http://www.nytimes.com/2006/02/09/national/09pri>.
- Easterbrook, G. 1995. *A Moment on the Earth: The Coming Age of Environmental Optimism*. New York: Viking.
- Ehrlich, P. R. and A. H. Ehrlich. 1996. *Betrayal of Science and Reason*. Washington, DC:

- Island.
- Gaines, S. M. 2001. *Carbon Dreams*. Berkeley, CA: Creative Arts.
- Gelbspan, R. 1997. *The Heat Is On: The Climate Crisis, The Cover-up, the Prescription*. Reading, MA: Perseus.
- , 2004. *Boiling Point: How Politicians, Big Oil and Coal, Journalists, and Activists Have Fueled the Climate Crisis – and What We Can Do to Avert Disaster*. New York: Basic Books.
- Grove, R. H. 1996. *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600-1860*. New York: Cambridge UP.
- Hardin, G. 1985. *Filters Against Folly: How to Survive Despite Economists, Ecologists, and the Merely Eloquent*. New York: Penguin.
- Janovy, J., Jr. 1997. *Ten Minute Ecologist: 20 Answered Questions for Busy People Facing Environmental Issues*. New York: St. Martin's.
- Karen, M. 2005. Gore: I Don't Plan to Run for President. *Truthout* (Oct. 12). Online at: <http://www.truthout.org/cgu-bin/artman/exec/view.cgi/37/14750>.
- Kolbert, E. 2006. *Field Notes from a Catastrophe: Man, Nature, and Climate Change*. New York: Bloomsbury.
- Leiserowitz, A. A. 2004. Before and After *The Day After Tomorrow*: A U.S. Study of Climate Change Risk Perception. *Environment* 46(9): 22-37.
- Lomborg, B. *The Skeptical Environmentalist: Measuring the Real State of the World*. New York: Cambridge UP, 2001.
- , *Cool It: The Skeptical Environmentalist's Guide to Global Warming*. New York: Knopf, 2007.
- Maduro, R. A. and R. Schauerhammer. 1992. *The Holes in the Ozone Scare: The Scientific Evidence That the Sky Isn't Falling*. Washington, DC: 21<sup>st</sup> Century Science Associates.
- Meadows, D. 2008. How the Ozone Story Became a Volcano Story (May 4). Online at: [http://www.sustainer.org/dhm\\_archive/index.php?display\\_a](http://www.sustainer.org/dhm_archive/index.php?display_a).
- Mooney, C. 2005. *The Republican War on Science*. New York: Basic Books.
- Ray, D. L. and L. Guzzo. 1990. *Trashing the Planet*. Washington, DC: Regnery.
- , 1994. *Environmental Overkill: Whatever Happened to Common Sense?* New York: Perennial.
- Sandalow, D. B. 2005. Michael Crichton and Global Warming. The Brookings Institution (January 28). Online at: <http://www.brookings.edu/views/op-ed/fellows/sandalow20050128.pdf>.
- Slovic, P. 2000. *The Perception of Risk*. London: Earthscan.
- Solnit, R. 2004. *Hope in the Dark: Untold Histories, Wild Possibilities*. New York: Nation Books.
- Steingraber, S. 1997. *Living Downstream: A Scientist's Personal Investigation of Cancer and the Environment*. New York: Vintage.
- Stevens, W. K. 1999. *The Change in the Weather: People, Weather, and the Science of Climate*. New York: Delacorte.
- Wyatt, E. Analyzing Sales of Wolfe's New Book. *The New York Times* (February 9). Online at: <http://www.nytimes.com/2005/02/09/books/09wolf.html?fta=y>.

## Notes

---

<sup>1</sup> This essay is a portion of a book project titled *Thinking Like Yucca Mountain: Taking to Heart*

*the Literature of Sustainability* that I am currently writing—a spin off from the manuscript I recently completed on Yucca Mountain, the United States’ proposed nuclear waste repository in the southern Nevada desert. When I presented this essay as a paper at the November 2005 conference on The Endangered Planet in Literature at Dogus University in Istanbul, Turkey, I realized I would run out of time before reading the whole manuscript, so I offered my conclusion right at the beginning: a little bit of environmental knowledge and a lot of literary eloquence can be dangerous. This is not such a new concept, as we learn from the mere title of Garrett Hardin’s 1985 book *Filters Against Folly: How to Survive Despite Economists, Ecologists, and the Merely Eloquent*. But in the context of contemporary literature on the subject of climate change, the eloquent—or at least *vivid*—mis-use of science has ominous implications, especially because of the ease with which public trust in the scientific community can be eroded. I have spent nearly twenty-five years celebrating and defending environmental literature and ecocriticism—at this time, I feel compelled to point out not only the power of this work, but its potential danger.

<sup>2</sup> The term “brownlash” comes from *Betrayal of Science and Reason: How Anti-Environmental Rhetoric Threatens Our Future*, by Paul and Anne Ehrlich (1996). The Ehrlichs define the term as follows: “The brownlash has been generated by a diverse group of individuals and organizations, doubtless often with differing motives and backgrounds. We classify them as brownlashers by what they say, not by who they are. With strong and appealing messages, they have successfully sowed seeds of doubt among journalists, policy makers, and the public at large about the reality and importance of such phenomena as overpopulation, global climate change, ozone depletion, and losses of biodiversity” (p. 1). In addition to the works of Dixy Lee Ray and Lou Guzzo (mentioned below) and Michael Crichton’s *State of Fear*, other well-known works of brownlashing include Ronald Bailey’s *Eco-Scam* (1993), Gregg Easterbrook’s *A Moment on the Earth: The Coming Age of Environmental Optimism* (1995), and Bjorn Lomborg’s *The Skeptical Environmentalist: Measuring the Real State of the World* (2001) and *Cool It: The Skeptical Environmentalist’s Guide to Global Warming* (2007).

<sup>3</sup> The Ehrlichs directly address the issue of corporate-funded science in *Betrayal of Science and Reason* (1996) when they ask, “Why would a qualified scientist help disseminate brownlash ideas? We can think of only two reasons. He or she believes that the scientific consensus is in error (a perfectly valid position, provided it is well reasoned and supported by evidence) and/or enjoys financial support from anti-environmental elements (not so valid)” (p. 36).

<sup>4</sup> Some might ask how public attitudes toward climate change would be affected if the mainstream media devoted as much attention to climate issues as has been paid to the “war against terror” during the past seven years. An interesting study related to this issue is Anthony Leiserowitz’s 2004 article “Before and After *The Day After Tomorrow*,” which surveyed viewers of the Hollywood film to determine whether or not the fictional movie (with a clear catastrophist message) impacted their concerns about global warming. Forty-nine percent of respondents stated that watching the movie made them somewhat more worried or much more worried about global warming, while forty-two percent said their views of global warming were unchanged by the film, and only one percent said they felt less worried as a result of watching the film. As the media – ranging from daily newspapers to feature films – begin devoting more attention to the subject of climate change, even if not in the flamboyant (some would say *distortive*) mode of *The Day After Tomorrow*, it does seem likely that the general public will become more attentive to this issue and more concerned.

---

<sup>5</sup> According to a February 2005 *New York Times* article by Edward Wyatt, Crichton's book sold 516,000 hardcover copies for HarperCollins during its first year in print. That same month, Joseph L. Bast reported that Crichton's book had an initial print run of 1.7 million copies. By contrast, Susan Gaines's publisher, Creative Arts Book Company, went out of business in 2003, and sales figures for *Carbon Dreams* are not available.

<sup>6</sup> One could write an entire article about rhetorical function of Crichton's eclectic, annotated bibliography in *State of Fear*. The mere inclusion of such a document in a work of fiction – on top of the footnotes sprinkled throughout the narrative – suggests the author's goal of convincing readers that his imagined narrative is actually founded on accurate and fair assessment of climate science and other relevant studies. Closer inspection of the bibliography shows Crichton to be profoundly anti-precautionary, as he harshly criticizes scientists and journalists ranging from Rachel Carson to the authors of *The Limits to Growth*, to Ross Gelbspan for "urgent overstatement bordering on hysteria" (Crichton, 2004, p. 597), while applauding Richard Lindzen's climate research (considered highly suspect by the scientific community) and clearly allying himself with the "crisp, calm, clean" tone and clear-headed deconstruction of environmentalist and scientific dogma (p. 595) that he finds in the writings of Alston Chase and Bjorn Lomborg, two high-profile brownlashers.

<sup>7</sup> William K. Stevens notes, in *The Change in the Weather: People, Weather, and the Science of Climate* (1999), that Lindzen "has gone so far as to liken the [climate change] models to Ouija boards" (p. 215).

<sup>8</sup> By disseminating "junk science" and distorting the politics of climate activism in *State of Fear* and in congressional testimony, Michael Crichton has not simply raised questions about particular claims made by environmental scientists or about the rhetorical stridency of specific scientists and journalists—his comments have had the effect of impugning the entire discipline of environmental science in the public imagination. This is reminiscent of Dixy Lee Ray's and Lou Guzzo's reliance upon the scientific distortions in Rogelio Maduro's and Ralf Schauerhammer's 1992 book *The Holes in the Ozone Scare: The Scientific Evidence That the Sky Isn't Falling* in writing such books as *Trashing the Planet: How Science Can help Us Deal with Acid Rain, Depletion of the Ozone, and Nuclear Waste (Among Other Things)* (1990) and *Environmental Overkill: Whatever Happened to Common Sense?* (1992), infamous works of brownlashing that have been principal sources of misinformation for the likes of Rush Limbaugh and Fox News in their attacks on climate and ozone science. Regarding the damage to scientific credibility caused by the garbling of ozone science in Ray's and Guzzo's *Trashing the Planet*, Nobel laureate and atmospheric chemist Sherwood Rowland has stated that "it will be difficult for my message to catch up with their misstatements" (quoted by Donella Meadows, 2008).

<sup>9</sup> I have written in much more detail about this subject, including the rhetorical strategies of *An Inconvenient Truth*, in "The Story of Climate Change: Science, Narrative, and Social Action," forthcoming in my essay collection *Going Away to Think: Engagement, Retreat, and Ecocritical Responsibility* (University of Nevada Press, 2008).

## Book Review

### ***Igniting a Revolution: Voices in Defense of the Earth***

**Edited by Steven Best and Anthony J. Nocella II, 2006, AK Press, ISBN 1904859569, 450 pages**

Deric Shannon

Sometimes a book falls into the reader's lap at just the right time. Such was the case with Best and Nocella's excellent volume, *Igniting a Revolution*, an impressive anthology of writers/activists within the contemporary revolutionary environmental movement. I began reading this anthology shortly before my radical reading group met and discussed selected writings on animal liberation (kindly supplemented with some suggestions from Best himself). This volume provided a backdrop for some enlightening (and, in some cases, personally disturbing) changes in my political ideas.

I began my political activism from a classical anarchist perspective – that is, fighting against "hierarchy" meant combating the State and capitalism. A libertarian socialism would set the material bases for addressing "peripheral" issues like women's subordination, "white" supremacy, and queer oppression. Along with my embarrassing privileging of the class struggle over other forms of oppression, like many of my comrades, animal and Earth liberation were rarely even considered or discussed.

Luckily, before reading this volume, the stage was already set for my internalization of many of the criticisms contained in *Igniting a Revolution* of anthropocentrism and human supremacy. Readings in critical race theory, feminist theory, queer theory, and post-colonial theories had already convinced me of the need for an intersectional analysis of oppression. I recognized my errors in previous radical praxis and adjusted my politics to fit this new understanding. But, like many radicals, issues regarding non-human animals and the Earth remained somewhere beneath the surface in my thought and activist practice. Nevertheless, as a movement against all forms of structured inequalities, I recognized anarchism as a theoretical space that was capable of explaining multiple forms of oppression without the need to see any one form as "primary" and others as "peripheral." Through a slew of readings done with my reading group and things I dug up on my own (including *Igniting a Revolution*), I began the slow process of recognizing that all of these struggles are interconnected – and not limited to the human world. The radical slogan that "None of us are free while others are oppressed" began to take on new meaning for me as I began to recognize the social construction of "personhood" and the unethical and arrogant ways that we humans deal with non-human animals and the Earth that we share with many other inhabitants.

---

**Deric Shannon** received his B.A. and M.A. in Sociology from Ball State University. He is currently finishing his Ph.D. at the University of Connecticut. He is the author of the entry for "Anarchism, Communism, and Socialism" in the *Encyclopedia of Modern Revolutions* (James DeFronzo, ed.) and is co-editor of the forthcoming book by Routledge, *Contemporary Anarchist Studies: An Introductory Reader of Anarchy in the Academy*.



As one of the books that I poured over in this time period, *Igniting a Revolution* set itself apart in three main ways that immediately impressed me (and went a long way to convincing me of the applicability of animal and Earth liberation to my own political praxis). First and foremost, this book pays close attention to *the intersections of oppressions* and draws connections between humanity's domination of nature with our domination of each other. Secondly, this book engages in a topic near and dear to my heart without the all-too-common sensationalist discourses typically associated with it – namely, *anarchism*. Finally, *Igniting a Revolution* is not a book written by and for academics. Rather, it contains *a diverse range of activists, scholars, and prisoners* (former and present) who contributed to this ecumenical volume of radical political thought.

### **Intersectionality**

Best and Nocella prepare the reader for their intersectional approach from the outset, as they write in their introduction to the volume that “an important task of this book – and of revolutionary environmentalism as well – is to decouple environmentalism from white, male, privileged positions; diversify it along class, gender, racial, ethnic, and other lines; and remove it from its single-issue pedestal” (p. 23). Indeed, radical environmentalism has been criticized for its largely white, male, and middle-class (public) face, and in many cases, rightfully so. Best and Nocella set about (quite successfully) in rectifying this situation by organizing the volume “according to the principles of radical feminist and anarchist philosophy, in order to give voice to oppressed peoples rather than present yet another selection from the privileged few” (p. 23). This is readily apparent by a brief perusal of the authors contained in this volume and becomes a staple of the various authorial approaches in their contributions.

For example, homefries (pp. 387-393) uses poststructuralist feminist theory to root women's solidarity with the Earth and non-human animals in shared experiences of domination. Doing so, she avoids the creation of a monolithic “womanhood” that suggests that women are somehow essentially closer to “nature” (also avoiding the binary conception of nature/humanity that sees humans as separate from the natural world). Likewise, patrice jones (pp. 319-333) draws connections between how we break wild animals and domesticate them and the methods abusive husbands use to control their wives. To jones, the problems come from the same place – the way that men are taught that they “have the right and the duty to subdue the earth, the animals, their own families, and the men of other faiths” (pp. 321-322). Watakpe and Ostrovsky (pp. 170-177) connect indigenous struggles with Earth liberation by noting that indigenous “lives and struggles are always connected to the land. Our creation stories take place in our land, we are from it, we ARE it” (p. 170). And Ashanti Alston (pp. 224-231) makes links between Black liberation, animal liberation, the struggles of the indigenous, and those suffering from state repression in his chapter, ending with an admonition that “WE NEED TO FREE ALL OUR POLITICAL PRISONERS!” (p. 231).

This is just a small sampling of the ecumenical and intersectional approach of this impressive collection. After finishing the book, the reader is implicitly asked to link her own struggles against oppression with those of the Earth and non-human animals, as well as the myriad ways that humans systematically dominate one another. This opens up the idea of intersectionality beyond its roots in humanist radicalism, making the reader aware that revolutionary change cannot be reduced to single issues, identities, or the “class struggle” (though they all would be a part of a consistent radical praxis). Further, this approach serves as a

warning against reductionism – a reminder that “freedom” means nothing as long as any institutionalized system of domination, coercion, and control exists, whether this domination is directed at humans, non-human animals, or the Earth that we all share with each other. Further, it demonstrates that nearly all of us have simultaneously occupied positions as the oppressed *and* the oppressor and that any one of us who has been robbed of our dignity living under insane systems like capitalism, patriarchy, “white” supremacy, and the State have cause to fight back for a more sane and compassionate future.

## **Anarchism**

All too often, collections of radical political thought just ignore anarchism altogether – like a naughty stepchild put in a “time-out” for repeated recalcitrance. When it *is* mentioned (in texts typically assembled without any input from anarchists), it is often vilified – using images of bearded bomb-throwers, chaotic riots, or anti-organizational zealots to mystify an already massively misunderstood political philosophy (or rather, a methodology, if you prefer). Not so in Best and Nocella’s volume, and not surprisingly, being that both editors identify with the anarchist tradition. Not only was the book *assembled using anarchist principles*; it also includes a number of anarchist authors, including a look into a variety of “isms” within the contemporary anarchist milieu (most notably, anarcha-feminism, ontological anarchism, and anarcho-primitivism).

My own favorite example is Hansen’s (pp. 340-347) piece on direct action tactics in the context of her experiences in an urban guerilla group in Canada. Hansen outlines her group’s thought-processes as it decided on how the social movement context of the time guided their tactical decisions – perhaps the most exciting of which was their action as the “Wimmin’s Fire Brigade,” firebombing pornography distributors in Canada. Becker (pp. 71-91) revives the ghost of Heidegger in his piece on ontological anarchism, arguing that “Heidegger’s philosophy allows for multiple modes of engagement with others and nature as equals, all of them rooted in a relationship of solidarity, respect, and concern” (p. 84). He continues in his piece, relating Heidegger’s philosophy to Native American spirituality, the praxis of the Earth Liberation Front, and anarchism as a theory of Being. And no collection on radical environmentalism would be complete without a piece on anarcho-primitivism. Best and Nocella’s book contains an entire section, critiquing and questioning the nature of civilization itself and how it is often complicit in the creation and maintenance of hierarchical constraints and the modes of domination and control that we currently (allow ourselves to) live under.

My only criticism of the book’s anarchism is that, despite its ecumenical approach, *socialist anarchism is notably absent*. While a number of socialist anarchists are rooted in a humanist tradition that fails to account for the domination of the Earth and non-human animals, such is not the case across the board. If we are to relate the concerns of working people to radical environmental practice, that means a commitment to socialism (broadly defined), freeing working people from wage-slavery and refashioning our competitive economic system into a cooperative one (or a plurality of cooperative systems!). To the authors’ credit, however, little is written from the socialist anarchist perspective that gives inherent value to the Earth or non-human animals. This omission might speak more about the poverty of socialist anarchist analyses of humanity’s systematic domination of the Earth and its sundry inhabitants than any lack of ecumenicism in the book.

### Activists, Scholars, and Prisoners

Most of the collections of radical political writing I've encountered have either been curious displays of intellectual posturing, written in a privileged language to a privileged audience of scholars (of course, all the while decrying how privilege manifests itself in our lives) or they have focused on radicalism outside of the Academy. This creates a false binary between activists and scholars, some of whom are both (myself included). This book avoids that binary thinking by including a variety of contributors from inside and outside of the insulated walls of academia as well as voices who are currently, or have been, incarcerated in our prison-industrial complex.

Steven Best, for example, is the author of an impressive number of books and publications on postmodern theory and animal rights, and is a founder of the Institute for Critical Animal Studies (an Institute that I am a supporter and member of as well). Nocella is a scholar/activist based at Syracuse University, which is also home to Lauren Eastwood, another of the book's contributor, an assistant professor in the department of Sociology. Many radicals and animal/Earth liberationists will recognize the included contribution of Richard Kahn, one of the folks who help to run the *Green Theory & Praxis* journal. Another very notable scholar in the book is Robert Jensen, an activist professor at the University of Texas who generated great controversy after 9/11 for his articles citing America's guilt and complicity in the attacks, and who has published widely criticizing the pornography industry and its routine degradation of women.

The book also includes pieces by former and current political prisoners such as Ashanti Alston, Marilyn Buck, Fred Hampton, Jr., Ann Hansen, Jeffrey "Free" Luers, Craig "Critter" Marshall, Noel Molland, Jalil A. Muntaqim, Rob Los Ricos, and Kazi Toure. This inclusion provides an important connection between State domination and other forms of control. While criticisms of patriarchy, "white" supremacy, and capitalism seem fairly common in radical discourse, many radicals see the State as some neutral institution that we can use to see to our own political needs. This book effectively dispels that notion, reminding us all what the state does to people who act militantly in the name of justice – it puts them in cages – making yet another connection between how we humans treat each other and how we treat non-human animals.

### A Call for Action!

*Igniting a Revolution* is not just a collection of writing on revolutionary environmentalism – it is also a call to action. This book provides radicals with important tools for drawing connections between various systems of domination and control as well as some suggestions for bringing about a future world without these kinds of hierarchical constraints. Considering the variety of voices and positions in the book, there is much I came across that I either disagreed with or made me uncomfortable. In my opinion, this is *one of the book's greatest strengths*. All too often, radicals of all stripes spend pages of writing criticizing each other in sectarian infights or arguing over theoretical nuances. If we are going to make the world a decent place to live in for humans and non-humans, we require a variety of voices working together in spite of our disagreements – recognizing strength in our plurality and exchanging our utopian impulses for a political polytopia. If we cannot create that kind of movement, we might not have much worth liberating, as we live in a world of nuclear armaments, large-scale environmental destruction, and in a culture that teaches us that competition, consumerist individualism, and domination are all social goods.

*Igniting a Revolution* is a call to end this state of affairs and it could not have come to us at a timelier juncture in human social organization.

## Book Review

### ***Trying Leviathan: The Nineteenth-Century New York Case That Put the Whale on Trial and Challenged the Order of Nature* by D. Graham Burnett, 2007, Princeton University Press, ISBN 978-0-691-12950-1, 304 Pages (with illustrations)**

Elizabeth Dickinson

Taxonomy was a fraught and fallible enterprise: the very possibility of a single, presiding, fixed scheme for arranging the productions of nature remained in question, and competing accounts could be seen to cancel each other out; novelty, monstrosity, and humanity all proved weak points in the schemes of those who would collect and sort all the creates of the globe.  
– Burnett, 2007, p. 90.

In *Trying Leviathan* Graham Burnett uses a fascinating case study to historically and critically examine the order of nature. In 1818 a New York merchant, Samuel Judd, refused to pay a “fish oils” fee that was issued by an inspector, James Maurice, on several casks of whale oil. Judd argued that because whales are not fish their oil should not be subjected to the fee and the highly publicized trial of *Maurice v. Judd* ensued. Although the case initially questioned if a whale was a fish, more pressing issues of natural science and politics surfaced. Are whales fish (as popular consensus held) or something else entirely? What, then, is the “proper” ordering of nature? What is the place of humans in this order? Further, what are the cultural, political, and economic implications of such taxonomies? As Burnett (2007) writes, “*Maurice v. Judd* represents a telling episode in the history of science in the early Republic” (p. 5) and shows how natural history “served as a tool (and proxy) for an emerging ‘American identity’ rooted in a kind of nature-nationalism” (p. 5).

To investigative the process and implications of this case and of taxonomies, Burnett pours over an impressive amount of information: court transcripts, personal narratives, journals, diaries, media articles, scientific categorizations (via Linnaeus, Shudder, Cuvier, Lacepede, Lamarack, Shaw, etc.), folklore, museum records, Biblical scripture, whale boat logs, and vivid and helpful illustrations and drawings. Even old lecture notes and primers from the defense’s leading star witness, Samuel Mitchill, are included. By way of a successful and meandering litany of histories, systems, and institutions these documents situate and contextualize an obscure case that informs modern notions of nature and the environment. Burnett uses these texts (and

---

**Elizabeth Dickinson** is a PhD Student in the Communication and Journalism Department at the University of New Mexico. My primary research interest is in the subfield of Environmental Communication. I study commercial and governmental discourses of cultures, nature, power, and social change. I am specifically interested in human conceptualizations, perceptions, and discourses of nature and the environment, including problematic discourse and conflict.

useful footnotes) to trace the trial's debates over who knew about whales, what authority these claims had, who had the right to speak for nature, and who got to decide who got to decide.

Burnett's overarching argument is that taxonomies of the natural and social worlds were used to serve political functions. A plethora of examples show how nature and humans are hierarchically conceived and arranged and the implications of this ordering. Burnett shows how stakeholders conceptualized groupings of nature (genus, family, order, etc.), and of beings within those groups. The whale is categorized, deemed separate from humans, and further individualized as separate from its group. The whale's body is ordered and divided, as seen in "cutting-in" whaling diagrams. Portions of the whale's body are then separated and estranged into the external skin (and further divided into variety, thickness, and quality), internal anatomy, the reproductive system, the bones, the breasts, etc. Taxonomies of geography and place (land, sea, Europe, the United States, New York, New England) lie alongside orderings of perspectives (scientists, whalers, merchants, consumers), of experiences, of trade, of craft, of histories, and of stakeholders in the whale-specific market system (oil merchants vs. tanner financiers; philosophers, men of affairs, and everyone else). The crew on a whaling ship proves to be as diverse as scientific and religious taxonomies. Although this book is a walking taxonomy of taxonomies Burnett does not fall short in discussing what these orderings mean and how they serve larger political functions.

Contradictions in whale taxonomies surfaced in the trial, as they "figured significantly as creatures that defied easy identification and they eluded the clear and distinct grasp of the inquiring eye and mind" (Burnett, 2007, p. 40). Whales suckle their young yet live in the ocean; they are warm blooded yet biblical scripture declares them to be fish. Burnett shows how a grand narrative of scientific taxonomy has played a powerful force in how nature is perceived, yet so has popular consensus. Burnett embeds the trial in eighteenth century classification (via Linnaeus), a system that forever altered Western perceptions and relationships with the earth. Both popular and scientific taxonomies are unstable and contested; science presents taxonomies as "fact" that most would not think to question, yet in the trial popular consensus held the most powerful influence.

Burnett also effectively illustrates how various people came to know and claim the place of whales in nature. The "learned" or "philosophized" men (scholars, students, researchers) mostly experienced whales in museums and by dissected specimens and parts ("cabinet students of nature, who received their sea specimens in jars or crates," p. 125), and in field trips to museums, docks, and fish markets. In contrast, whalers came to intimately know whales in (and on) the sea and with details many naturalists missed, such as sounds, spouting patterns, and diving and emerging habits. Virtually everyone else knew whales through stories, partial whale skeletons in museums, or the rare occasion a whale was dragged ashore and its decaying carcasses was put on tour, often for months after the whale was killed. Yet for all stakeholders in the court case, nature is perceived as separate from humans and "Before the trial ended, a polemical taxonomy of the citizenry had significantly undermined the authority of a polemical taxonomy of the cetes" (p. 167).

Most interesting, though, is what Burnett does with this information. When humans classify whales as separate life forms and further sort them by type (sperm whale, bowhead whale, etc.), taxonomies in nature are used to define and organize the human. Burnett allows the reader to see how this gives humans the ability to "naturally" and politically classify themselves (class, gender, race, etc.) and to deem it simply the order of things. Natural and social worlds (and the identity of a young Republic) are constructed through hierarchical and normalized

groupings and rankings; Burnett weaves into this debate class, race, economics, government, and commerce, where whales were used as leverage to serve political and economic functions that have benefited humans. Burnett does an effective job showing how, as a contested category of nature, the whale reiterates the struggle over nature and knowledge.

Burnett both informs and intervenes in current understandings and debates about the natural world. *Trying Leviathan* can enable the intervention of numerous issues, making it highly relevant to present popular and academic discourses. The specific question of who gets to “speak for” nature is ongoing and political. For example, ideologies and physical conflict in the Antarctic between Japanese whaling fleets and anti-whaling organizations such as the Sea Shepherd Conservation Society are ongoing. As in *Maurice v. Judd*, we might recognize that an important aspect of the issue is not specifically about the whales per se, but rather about the politics of who gets to decide what a whale is in relation to humans, what is defined as ethical social behavior, and how global histories of power, race, nationalism, colonialism and speciesism inform this international and interspecies struggle. Who *does* get to speak for whales? Is it Sea Shepherd, Greenpeace or other anti-whaling activists who categorize whales as sentient, communicative and cognitively sophisticated mammals deserving of rights? Is it the International Whaling Commission that seeks to subject whales to orders of global bureaucratic regulation? Is it the pro-whaling bloc, comprised of Japanese, Icelandic or Norwegian whaling boats, which argues that whale hunting hinges upon the individual decision-making rights of nation-states, each of whom can effectively feel empowered to speak so as to deny the rights of whales’ own plight to be heard? Or is it indigenous communities off the coasts of Alaska and Canada who claim kinship with the whales that they ritually hunt as they attempt to maintain cultural sovereignty and autonomy in an era of globalization and imperialism?

As readers, we can use Burnett’s evidence for specific activist purposes. We can use the book to decry the extinction and endangerment of whale species and see how western science and economies are implicated in zoöcide (Kahn, 2005) under the guise of a commitment to reason and reasonable profit-taking. We can use it to discuss how these issues appear in popular culture, such as in the now somewhat dated (though relevant) *Star Trek IV* film where the fate of the earth hangs on the communicative ability of humpback whales, or in Paul Winter’s music that attempts to provide an acoustic ecology in which the voices of whales and humans can speak together beautifully. We can publicly assert that whales should legally qualify for rights based on their displayed cognitive abilities, as Steven Wise’s (2002) taxonomy of intelligence would reveal. Or, more radically still, we can interrogate the tradition of rights as itself dependent upon the ultimately arbitrary process by which socially-constructed and political taxonomies of life are produced. Such interrogation would necessarily reveal that the life stuff out of which such taxonomies are constructed is ultimately indivisible and that therefore our science and politics should perhaps be revisioned to more seriously advocate for that indivisible order of nature.

*Trying Leviathan* gives ammunition for a political intervention on behalf of these issues. In the closing chapter Burnett helps to reframe the histories of biological and political sciences, which have contributed to the erasing of whales’ voices. In a manner that accords with Latour (2004), Burnett allows us to rethink new paradigms in which subjectivity is restored to whales and politically it becomes not necessarily a question of *speaking for whales* but rather *speaking with them*. To its credit, then, Burnett’s book enables a vision of a new paradigm of science in which whales can not only speak for themselves but can advocate for a reconsideration of nature’s order.

**References**

- Kahn, R. 2005. From Herbert Marcuse to the Earth Liberation Front: Considerations for Revolutionary Ecopedagogy. *Green Theory and Praxis: The Journal of Ecological Politics* 1(1).
- Latour, B. 2004. *Politics of Nature: How to Bring the Sciences into Democracy*. Cambridge, MA: Harvard University Press.
- Wise, S. 2002. *Drawing the Line: Science and the Case for Animal Rights*. Cambridge, MA: Perseus Books.



## Film Review

### ***King Corn*, A Film by Aaron Wolf, Ian Cheney and Curt Ellis, Dir. Aaron Wolff, 2007, ITVS/Mosaic Films, ISBN (DVD): 1-59458-701-9, 88 min. (Distributed by Bullfrog Films)**

Rebecca Onion

This documentary follows two post-collegians who move to Iowa to try to grow an acre of corn. They become interested in the subject after finding out that corn has made its way so deeply into our diets that scientists can find molecules of it in our hair. The film follows the two – Ian Cheney (who, in the interests of full disclosure, was a high school classmate of this author) and Curt Ellis – through the ups and downs of seed-sowing, pesticide-spraying, and receiving checks from the federal government. Along the way, Cheney and Ellis make friends with many local farmers, and take side trips to interview professors and other experts on issues that arise around farming. At the end of their journey, when they finally get to eat their corn, they are disappointed – they have grown industrial corn, and it's inedible. The film covers much of the same terrain as Michael Pollan's *The Omnivore's Dilemma* (2006) and, indeed, Pollan appears as one of the documentary's talking heads. But the accessible presentation and likeable protagonists may render the documentary more pedagogically useful than the book.

Like *The Omnivore's Dilemma* and like Eric Schlosser's book *Fast Food Nation* (2001), *King Corn* is interested in looking at the problems surrounding the industrial food system as a holistically understood entity. Questions of environment, politics, labor, health, community and policy are addressed. Additionally, the film has a fine sense of history. The two protagonists' great-grandparents both came from the same town in Iowa, although they met each other at college in Connecticut. The documentarians use this device to talk about the history of agriculture in Iowa from the beginning of the twentieth century, through the age of Earl Butz's<sup>1</sup> expansionist policies, up to the present day.

Possible topics for discussion after a viewing of the film are various. A discussion could be structured around the history of farm technology – one of the great-grandfathers was involved with the local tractor manufactory, and there are lots of neat pictures of old tractors, which are directly compared with the contemporary monster tractors that townspeople drive in the town parade. The film also examines tractors' relationships to the daily schedules of the farmers, who now spend so little time on farming that they can farm thousands and thousands of acres as a single operation, and still remain idle for large periods of time. A class could discuss the technological imperative that leads to continuous growth in the size and capacity of machines, as well as in the complexity of the food system as a whole.

---

**Rebecca Onion** is a graduate student in the department of American Studies at the University of Texas at Austin. She is planning a dissertation exploring children's experiences of science, technology and nature education at the turn of the twentieth century.

The film deftly addresses the question of how the change in farming technology and farming in general has made some farmers feel alienated from their labor. It includes, for example, an interview with a farmer who says that what he is growing is “crap.” The viewer gets the sense, from other comments made by townspeople, that the town has lost respect for agriculture, as it is now practiced, and that they hang on because they love the place where they live. I wonder if this is an incorrect interpretation of the town’s actual mood. Students from rural areas may have had different experiences, and find this depiction to be erroneous.

The film covers issues of obesity with a sensitive touch. The documentary links obesity to the rampant use of high fructose corn syrup, especially in soda (that beloved drink of the collegiate set). There is a scene where the young men interview a taxi driver in Brooklyn whose entire family has been affected by diabetes. This man used to drink two liters of grape soda a day, until he was told he had to stop. There isn’t much of a chance to look at this man’s obese body (the film shows only one snapshot), and so the attention remains on the human dimension of the story.

For a college audience, this film addresses key issues of generational identity. One of the first lines has Ian Cheney describing how the two conceived of an interest in the subject of food because “we are the first generation ever whose life expectancy is lower than our parents’.” This fact, of which many in a college classroom may not be aware, sets the tone for a constant interrogation of generational differences in approaches to the environment. The interview with Earl Butz, which the film places near its end, is played as sort of a cathartic moment. The scene presents one of the first opportunities for the movie to slide downward into hostile Michael Moore territory. The viewer believes wholly that the boys, who up until now have maintained affable fronts, may move to savagely interrogate Butz about his role in the present state of agriculture. However, Ellis and Cheney maintain their politeness in favor of allowing the interviewee to discredit himself, and the result is that Butz comes off as a naively well-meaning, but terribly wrong, grandfather figure who clings to the outdated belief that his reforms have made everything better. An interesting discussion could be had of the environmental debts that older generations may have placed on the young in light of this footage.

The protagonists are light-hearted, and they evince a certain friendly and interested attitude that seems to win over the people that they encounter. In one scene, they discover that hemp, which had been planted in their field during the short period of time when it was grown for the war effort in the forties, has popped up as a “weed” between their corn rows. “The first weed we found was...weed!” they joke. They josh around with an old farmer about the possibility that the hemp may actually be its more potent cousin. “Oh, I’m not going to tell you that!” he laughs. “You boys will be out in the ditches looking for it.” This exchange, along with an understatedly funny scene in which the two try to make high fructose corn syrup in their home kitchen, humanizes the two protagonists. College viewers may identify with their sense of humor, and those who, for whatever reason, are defensive about the potential for an overblown critique of the food industry will view this film as the resultant work of interested and responsible citizens, not bombastic or simplistic denounciators.

Overall, this documentary has high potential for classroom use in instigating discussions about a range of issues surrounding contemporary industrial agriculture.

**Notes**

---

<sup>1</sup> Earl Butz was a scandalous Secretary of Agriculture under Nixon and Ford known for industrializing agriculture and making corn a staple commodity of commercial farms (see Wikipedia, [http://en.wikipedia.org/wiki/Earl\\_Butz](http://en.wikipedia.org/wiki/Earl_Butz)).