Towards Ecopedagogy: Radicalizing Environmental Education for the Task Ahead

Richard Kahn (Richard@getvegan.com) -- UCLA Graduate School of Education

The Edge of the Abyss: The Dance of Global Capital, Human Oppression, and Ecological Catastrophe

As we begin the 21st century on Earth, the inhabitants of the planet stand positioned at the foot a great wave of social crisis and global ecological catastrophe. They are already nearly drown in an ocean of Post-WWII structural transformations in economies of capital and in the cultural revolution that has resulted from advances in military science and technology -- that which is now frequently referred to under the moniker of "globalization."[1] An elite cartel of nations, under the leadership and impetus of a U.S. push for world hegemony, have used the last few decades to penetrate and establish the neoliberal marketplace of socio-political controls throughout the former Soviet-bloc of nations, Latin America, and the ever-colonized Africa. In so doing, unprecedented disparities in wealth and power have been created throughout the world.[2] While the neoliberal capitalists have benefited greatly from the boom-time policies of such organizations as the World Trade Organization, the World Bank, and the International Monetary Fund, their many claims that the culture of freedom, democracy (and loans) have also enriched the lives of people in the less developed nations amounts to little more than propaganda for a global version of class warfare. In fact, the strategic use of financial programs to create worldwide political and social instability has harmed many more people than economic groupings like the G8 have ever helped. What makes this capital disparity a truly criminal act, beyond its moral failings, is that it has been the direct or indirect catalyst for an untold number of regional wars, a litany of global health and environmental catastrophes, as well as a causal agent for mass-induced starvation and its correlate of incomprehensible poverty.[3]

In his book, The Enemy of Nature, the ecosocialist and activist Joel Kovel begins by documenting the terrible legacy of natural resource degradation (and its consequence for humanity) that spans the thirty-odd years that have now elapsed since the first Earth Day and the release of the Club of Rome's benchmark economic treatise The Limits to Growth (1969). Echoing the findings of eminent environmental and ecological groups and personages such as The Union of Concerned Scientists, Edward O. Wilson, and Peter Raven, the picture that emerges from Kovel's work is that of an institutionalized, transnational, phase-changing neoliberalism that is loosed as a cancer upon the Earth, a form of "endless growth" political economy that is literally over-producing and consuming the planet to death.[4] Wholly without precedent, the human population has nearly doubled during this time period, increasing by 2.5 billion people. Similarly, markets have continued to worship the gods of speed and quantity and refused to conserve themselves. The use and extraction of "fossil fuel" resources like oil, coal, and natural gas -- the non-renewable energy stockpiles --

followed and exceeded the trends set by the population curve despite many years of warnings about the consequences inherent in their over-use and extraction, and this has led to a corresponding increase in the carbon emissions known to be responsible for global warming.

Likewise, living beings and organic habitats are being culled and destroyed in the name of human 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, while throughout the oceans, global fishing also has doubled. Further, since the end of the 1960's, 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.[5] 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, vast, unimaginable slaughterhouses -- brutal production-lines in which thousands of animals are murdered for meat harvesting every hour -- have also become the business standard. In his recent book, Dominion, Matthew Scully estimates nothing less than 103 million pigs, 38 million cows and calves, 250 million turkeys, and 8 billion chickens slaughtered annually in America alone.[6] When we add to these the numbers of animals that are hunted each year for sport or pelt, and those that are cruelly killed in scientific experimentation practices, the numbers magnify by many tens of millions more. All told, then, running alongside the contemporary growth of the global environmental movement these last few decades is the red stain of trillions of dead animals -- a symbol of the radical amplification of the global human population, on the one hand, and of the extreme increase in certain sectors of that population's use and consumption of the planetary life that it deems a "human resource," on the other.

Almost all of these trends are escalating and most are accelerating.[7] Even during what amounts to a current economic downturn, transnational markets and development continue to flow and evolve, and the globalization of technocapital is fueling yet another vast reconstruction of the myriad planetary political, economic, and socio-cultural forces into a futuristic "network society."[8] Over the last three decades, then, humanity has unfolded like a shock wave across the face of the Earth, one which has led to an exponential increase of transnational marketplaces and startling achievements in science and technology, but one which has also had devastating effects upon 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 species deemed non-human, including vast numbers of mammals, birds, reptiles, and amphibians. Comparing the numbers involved in this catastrophe with the handful of other great extinctions existing within the prehistoric record has led the esteemed Paleoanthropologist Richard Leakey to coin this age as the time of "the Sixth Extinction," a great vanishing of creatures over the last thirty-odd years such as the planet had not seen during its previous sixty-five million.[9]

But, lest we make the mistake of thinking that our present globalization crisis proceeds along the simple lines of human flourishing and resource wasting, it should be noted that even as world gross economic product has nearly tripled since 1970, these gains have been pocketed by a relatively few advanced capitalist nations at the expense of the poor.[10] Recently, the

United Nations Development Programme issued its *Human Development Report 1999* which found that the top twenty percent of the people living in advanced capitalist nations have eighty-six percent of the world gross domestic product, control eighty-two percent of the world export markets, initiate sixty-eight percent of all foreign direct investment, and possess seventy-four percent of the communication wires. Meanwhile, the bottom twenty percent of the people hailing from the poorest nations represent only about one percent of each category respectively.[11] The divide between rich and poor has been gravely exacerbated, with the gap between the two nearly doubling itself from an outrageous factor of 44:1 in 1973 to about 72:1 as of the year 2000. Much of this is directly related to a series of loans begun by the World Bank and the World Trade Organization in the 1990's, which ultimately increased Third World debt by a factor of eight compared with pre-globalization figures.[12]

So, as approximately 1.2 billion people live on less than $1 per day and nearly 3 billion live on less than $2 per day, the roaring heights of global technocapitalism have been unfortunate indeed for nearly half of the human population.[13] Globalization has been especially torturous upon poor women and children, who are denied basic human rights *en masse* and who, in the attempt to combat their situations of mass starvation and homelessness, enter by the millions each year into the relations of slave-labor and the horrors of the global sex trade. Even more tragically, millions of additional poor (many of whom are women and children) have been violently pressed into the circumstance of outright slavery! Thus, when this is properly related to the conditions fostered upon the Third World by the explosion of transnational capitalist development over the last few decades, we can rightly assert that these very same cultural, economic and politically hegemonic practices constitute a form of global "family terrorism" meant to oppress those who already suffer the most.[14] As these Third World families almost invariably disclose themselves along racial and ethnic lines when compared with their over-developed Caucasian counterparts, it should be noted that such family terrorism constitutes the oppression of planetary difference generally.

New advances in capitalist lifestyle and practice are then directly responsible for grave exacerbations of widespread poverty and suffering, species genocide, and environmental destruction. It is axiomatic for this paper, then, that the exploitation of species, of the environment, and of the poor by the rich, have a single underlying cause -- the recent globalization of technocapitalsm.[15] Those interested in animal liberation and its correlates must find and develop solidarity with those working towards the conservation and preservation of nature; and each of these groups must also expand their reach -- both theoretically and practically -- to include the fight for social justice. Clearly, the project before us is immense, we face nothing less than the unprecedented transformation and domination of the planet.

Thus, to speak of education -- as has the U.N.[16] -- as a key process by which we might fend off the worst aspects of today's globalization, and realize more of the utopia in which animals, oppressed peoples, and the planet are not wholly exterminated but rather ecumenically brought into a new relation with society generally, may be misreading what educational practices can in fact accomplish. Examining the burgeoning movement of

Environmental Education over the last thirty years, we can trace both its positive and negative pedagogical effects -- the ways in which it furthered progressive causes and the manner in which it became co-opted by establishment powers, was technocratic, and altogether too marginal. Tomorrow's sustainable society -- one that sustains all life, and not just its most powerful elements -- if reliant upon education, will require a pedagogical revolution equal to its present socio-economic counterpart. What will this educational movement be if not Environmental Education? In what follows I will attempt to take up this question by first examining the history of Environmental Education and then moving to a discussion of some of its recent critiques and reformulations. I will conclude this essay with an examination on the U.N.'s own Sustainable Education proposal, wondering if it is progressive enough to integrate themes of animal and earth rights, environmental justice, and anti-imperialism into its educational strategy.

Charting Environmental Pedagogy's Big Bang and Fizzled Finale

While education has always involved forming knowledge and attitudes about the environment, it is only within the last three decades that Environmental Education as a formal discipline has become solidified. Drawing upon the wide publicity and academic debate furnished by the first Earth Day -- occurring on April 22, 1970, to enhance and preserve feelings for the global environment -- the United States passed the National Environmental Policy Act, the North American Association for Environmental Education (NAAEE) was founded (1971), and the United Nations held the United Nations Conference on the Human Environment in Stockholm, Sweden during 1972. However, the initial U.S. policy (while forming the Environmental Protection Agency and sanctioning educational strategies) involved little more than vanguard rhetoric. It was not until the U.N. Stockholm conference, then, that the issue of the environment was recognized as being of truly crucial import for the global community and that a new mode of education needed to be constructed both for and around it, with Recommendation 92 of the Stockholm report stating:

Organizations of the United Nations, especially UNESCO, should establish an international program in environmental education, interdisciplinary in approach, in-school and out-of-school, encompassing all levels of education and directed toward the general public, in particular, the ordinary citizen living in rural and urban area, youth and adult alike, with a view to educating people as to simple steps one might take to manage and control one's environment.[17]

Over the next two decades, further debate and information exchange were held by the world community, with the notion of "environmental education" increasingly contextualized to include notions of participatory approach, the necessity of adequate teacher education and training, a general systems orientation, ideas of holism, conservational strategies and values, and a furthered commitment to "sustainability."[18] In 1990, the U.S. importantly passed the

National Environmental Education Act and pledged governmental "support, development, dissemination of model curricula, educational materials and training programs for students of all ages."[19] During 1992, at the first Earth Summit in Rio de Janeiro, Brazil, an attempt at a systematic statement about the interrelationship between humanity and the Earth was conceived of and demanded, a document that would formulate environmental 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, and instead Chapter 36 of the 1992 Earth Summit Report addressed 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.[20]

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 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."[21] The Earth Charter's announced mission was nothing short of revolutionary, attempting a bold educational reformulation of how humans perceive their cultural relationship to nature, casting environmental and socio-economic/political problems together in one light, and demanding long-term, integrated responses to the growing planetary crisis.

It was hoped that at the second Earth Summit in Johannesburg, South Africa, held late last year -- the World Summit for Sustainable Development -- that the U.N. would adopt and endorse the Earth Charter, providing a truly comprehensive framework for the Environmental Education agenda the world over. However, in marking the approximate anniversary of three decades worth of global Environmental Education programs, the Johannesburg Summit proved disappointing in many respects and most activists and critics could not see past the neoliberal measures invoked there by the Bush administration (and kind) to find room for the sort of optimistic summary promoted by Kofi Annan at the Summit's end.[22] Certainly, the "W$$D" (as its critics called it) articulated a central divide that had been growing within the Environmental Education movement all along -- a split between large-scale corporate and governmental technocrats and the more grassroots-based theorists, activists, and environmental educators proper. With pressure exerted by the interests of the United States (and the additional political and economic interest of the other large states and NGOs), Earth Summit II successfully tethered education about "the environment" to a wholly co-opted neoliberal vision of "sustainable development" -- one that meant little more than sustaining increased development on a global scale. Gone, suddenly, was the U.N.'s own holistic, pointedly socialist in spirit, and non-anthropocentric language of the Earth Charter.[23]

Instead, the United States has pushed for a commitment to educating for development (and not sustainability), pressing internationally the Bush administration's own domestic criticism that Environmental Education is not "environmental advocacy."[24] If it's not that, however, we might ask, what is it?

From Environmental Education to Ecological Literacy: Recasting the Vision for a Better World

Part of the problem in effectively implementing Environmental Education as a solution to stem the tides of the current global crisis may be that the field itself has never been adequately defined as a discourse. The standard definition has been provided by William Stapp (1969), who is considered the "founder" of the movement. His definition stressed knowledge of the natural environment, interdisciplinarity, and a framework that valued using Deweyan inquiry and problem-solving as a method for overcoming intractable conflict and ideology. More currently, educators such as David Orr, Chair of Environmental Studies at Oberlin College, have attempted to update Sapp's model by stressing "ecological literacy." This approach de-emphasizes Stapp's delineation of environmental issues as social problems demanding the consideration of national citizens in favor of an Earth-centered approach that perceives the growing wealth of human societies as an environmental problem with which the complex web of natural, social, and planetary relationships (e.g. Lovelock's "Gaia") must deal.[25]

Complicating the matter in Environmental Education, it was noted only last year at the International Standing Conference for the History of Education at the University of Birmingham, UK, that aside from one purely Australian effort (Gough, 1993), as of yet there has been no rigorous attempt to reconstruct the History of Environmental Education proper -- it is literally a discourse without a chronicle.[26] So while the last thirty years have seen the emergence of Environmental Education as a fledgling utopian hope blossom into a core-curricular requirement operating in over 55 countries worldwide, the truth is that academia itself has been slow to incorporate, ground the discipline, and offer it as a meaningful part of academic debates about global policy and social direction. Most glaring is Environmental Education's inability to gain a consistent foothold within Graduate Schools of Education proper, with even top-rated Education departments like that at UCLA (a department otherwise admirable and exceptional in its outspoken commitment to issues of social justice) seemingly uninterested when it comes to studying and lobbying for social justice's environmental components.

Without the large-scale support of the academy, and with little grounding in university teacher-training programs, "environmentally-oriented" curricula have had trouble finding their way into schools -- even at a time such as this when the need for their establishment is critical. In lieu of a sure academic base, Environmental Education has had to rely upon a complicated and diverse network of governmental policy makers, private think tanks, NGOs, activist-oriented organizations and individual scholars for its framework. Thus is the case, for instance, with the contemporary movement for Humane Education -- which stresses humane

character formation via non-violent and respectful learning experiences with animals, the environment, and living things generally. While platforms for Humane Education exist at the national and state levels, and while it is supported by The Humane Society of the United States and the National Association for Humane and Environmental Education (NAHEE), Humane Education has only slowly earned support in North American universities.[27] This lack of university support has made funding Humane Education programs difficult and the lack of these programs has prevented its further integration into schools and other local educational institutions. All told, then, while Humane Education is an increasing force in Education today, its lack of presence in universities may be responsible for both its lack of a clear theoretical definition and also its haphazard and pragmatic adoption on the ground.[28]

The lack of a clear theoretical focus, which typifies Humane Education now, is also typical of Environmental Education overall. A major detriment to the successful evolution of Environmental Education, then, is that a wide-range of disparate information and activities are often allowed to present themselves authoritatively as Environmental Education -- national programs of action have even been funded as such -- that are directly contradictory to the messages of the original Earth Day and the environmental movement it spawned. Nowhere is this more apparent than in recent attempts at corporate educational "greenwashing" -- in which corporations promote themselves as defending environmental curricula, even as they work behind-the-scenes to defeat such curricula at the state and national level and act internationally in an unsustainable manner.[29] I myself was victim to such greenwashing on a handful of occasions, in 1998, through my teacher-training Master's program at Pepperdine University. On one occasion, the California Dairy Council was graciously on hand to guide our mandatory health seminar, in which they passed out a variety of classroom materials that promoted dairy as a *necessary* source of nutrition and the Dairy industry as an honored and humane member of society.

Ironically, then, in the midst of a varied and tepid university response and the competing claims of transnational corporations and grassroots activists, Environmental Education today may be chiefly defined and legislated by the same U.S. government (and government lobbyists) that have recently worked to undermine it at the global level. With this in mind, it is unsurprising that, on its WWW homepage, the U.S. Office of Environmental Education (OEE) connects environmental education up with environmental consciousness and public responsibility, even as it is also explicitly clear that the federal government's notion of environmental education "does not advocate a particular viewpoint or course of action."[30] That the OEE no longer condones "advocacy" effectively de-politicizes Environmental Education and undermines any attempt to interpret it pedagogically along more radical lines. Further, the Office tethers Environmental Education directly to a neoliberal form of standards-based excellence and presents a version of Environmental Education fit more for a techno-scientific corporate society than it is for either grassroots environmentalism or planetary ecumenical harmony. Finally, among the other stated U.S. goals for Environmental Education is that it should create jobs, promote environmental protection alongside economic development, and encourage the stewardship of natural resources -- all goals that specifically tie Environmental Education to a social vision in which the capitalist economy dominates and remains insignificantly transformed from its current highly exploitative form.

The North American Association for Environmental Education (NAAEE), for its part, takes a more pragmatic approach to the issue, its sole ideology being the necessity to link up environmental organizations with educational institutions around the world and to implement environmentally-based curricula as often as possible and for the widest possible audience. Unlike the United States government, NAAEE has direct connections to many of the local organizations with which it works, and as a private association, it is free to take strong stands on issues like biodiversity and the Earth Charter that public institutions often approach cautiously (if at all). On the other hand, NAAEE does depend upon the Office of Environmental Education for monies and directed leadership. Thus, it is not surprising to find NAAEE promoting a version of "environmental literacy" that is both a "non-confrontational" and "scientifically-balanced approach to promoting education about environmental issues."[31] This hardly seems promising for affecting the sort of shift necessary in the American mind that would either seriously entertain the rights of animals or radically transform cultural lifestyle practices towards global sustainability. In the end, then, the Association tends towards modes of mainstream progressivism -- favoring an educational approach that teaches citizenship and develops students' capacity for understanding scientific complexity. In so doing, it mostly follows federal and state guidelines that are apt to see environmental education as being more about implementing environmental content into the traditional curricula and less about transforming those curricula themselves -- in both form and content -- towards producing a new kind of student and knowledge for a planetary society that exists beyond capitalist domination.

Both the U.S. government's and NAAEE's approach to Environmental Education align themselves with the standard definition of the field first provided by Stapp. In this version, Environmental Education is consonant with training for environmental science, basic citizenship information about products, government campaigns like recycling, team-work, and innovative thinking.[32] Countering this notion directly, the Deep Ecologist and educational theorist Chet Bowers has produced a number of books about modern education's many environmental and ecological failings.[33] He finds mainstream Environmental Education programs, such as Stapp's, to be typical of (and complicit with) highly problematical forms of modern Western thought practices. For Bowers, the contemporary U.S. psyche is constituted by a programmatic worldview that values a heightened sense of autonomous individuality, cultural impermanence, and human dominance -- all factors that lead to wider ecological devastation and capital proliferation and which Western education thus serves to help reproduce in its students. Therefore, Bowers questions techno-scientific fixes regardless of their label and is dubious about the current role computer-assisted and self-actualizing, constructivist pedagogies are playing in and around schools. Instead, he proposes a vision of education for "eco-justice" that promotes community learning and place-based pedagogy, the formative role of traditions that value connectivity and commonality such as in many non-Western cultures, and a respect for value-systems that are non-anthropocentric.

Also contesting the standard account of Environmental Education is Murray Bookchin, the founder of the Institute for Social Ecology and author of such seminal works as The Ecology

of Freedom. Akin to Bowers, Bookchin is deeply critical of environmental policies, which he criticizes as tending to serve and institutionalize hierarchy, oppress local communities, and reproduce social inequities. In Bookchin's critique, Environmental Education is inherently technocratic, as the very term "environment" serves to delimit a space to be mapped and controlled by government and bureaucracy. Unlike Bowers, however, Bookchin locates his critique of the environmental system within a modern Western theoretical framework that is aligned with critical social theory and radical political utopianism.[34] Further, while Bowers does not himself promote a version of Deep Ecology that is either mystical or transcendental, Murray Bookchin's vision of Social Ecology is decidedly more materialist and eco-humanist in spirit. Whereas Bookchin maintains the divisions between human culture and nature as a holistic relation between the two, Bowers tends to envision the separation from nature itself as pathological. Both of these thinkers, however, share a sort of cultural ethos and sense of political engagement that distinguishes them from other critical educators like David Jardine, whose "Under the Tough Old Stars": Ecopedagogical Essays, draws upon Husserlian hermeneutical phenomenology and transcendental imagination to arrive at a critique of the environmental present.[35]

Frijtof Capra, author of The Web of Life (1996) and Chair of the Center for Ecoliteracy, draws upon the systems-oriented nature of ecological thinking in calling for a postmodern education model that favors the ability to synthesize instead of analyze and which defines systems of relationship in an ever-evolving, holistic perspective. Noting that non-holistic paradigms of Environmental Education are built upon the Cartesian model of science, Capra disavows the language of "building" and instead focuses attention upon the nexus of existence. In Capra's model, direct experience of natural systems should be balanced with an ever-emerging "network" of relations that learners make as part of their conscious inquiry.[36] Some educators, like Brian Swimme, are experimenting with Capra's notion of Ecoliteracy by combining it with other pedagogical models, such as Alfred North Whitehead's rhythm of ideas and process-orientation, Loren Eiseley's literary naturalism, and Teilhard De Chardin's notion of an evolving Noosphere of the spirit.[37] On the other hand, in Britain, Capra's work is being applied alongside the critique of capitalism by Stephen Sterling.[38]

There is also a critique of standard Environmental Education practices occurring beyond the United States. O.I.S.E.'s Transformative Learning Center at the University of Toronto, under the coordination of Edmund O' Sullivan, is imaginatively combining visions of "Transformative Education" with a biocentric approach that is also critical of contemporary geo-political practices and which attempts to foster positive pedagogical experiences of the art, beauty and spirit of the planet as we might know it. O' Sullivan himself promotes the Earth Charter as a meaningful example of how radical social positions can be articulated within global institutional frameworks and he is helping to develop a Master's level course in Education that will be built around the Charter's core principles.[39] Further, drawing upon Thomas Berry's notion of the important role of cosmology in education, as stated in The Dream of the Earth (1988), O' Sullivan has called for "a new story" that will value the Earth and planetary equity in place of our current stories built upon notions of human mastery and oppressive domination.[40]

Yet another international perspective that is critical of mainstream Environmental Education approaches comes from the South in the form of the leading Mexican environmental educator Edgar Gonzalez-Gaudiano. Gonzalez-Gaudiano exhibits a form of highly politicized, critical Environmental Education that he believes is generally to be found lacking in G8-type nations because the terrible issues of environmental justice and cultural racism are for them "not even on the map." The reason for this, he feels, is because the institutional leaders of highly industrialized and economically well-off nations generally export their environmental problems to less powerful regions (such as his own) that are more easily subjected to social-environmental injustices. Further, drawing upon the modern notion of "security," Gonzalez-Gaudiano calls for a new educational approach to "human security" that would displace common ideas about national security in favor of learning to construct an understanding of how the environmental factors that contribute to disease, famine, unemployment, crime, social conflict, political repression and other forms of sexual, ethnic or religious violence can be examined as complex social problems deserving of everyone's attention.[41]

In his own work, spanning the last decade from Ecological Literacy: Education and the Transition to a Postmodern World (1991) to The Nature of Design: Ecology, Culture, and Human Intervention (2002), David Orr wonders why there might be a general version of problem-solving Environmental Education that so many environmental theorists, activists, and educators have come to feel is inadequate to the present task at hand. His answer is that built into the emerging environmental discourse of the last three decades has been a sort of equivocation of terms -- as is the case, he argues, with the talk surrounding "sustainability." On the one hand, says Orr, many (chiefly politicians and CEOs) have called for a "sustainable society" that is really a code for a form of "technological sustainability." Technological sustainability views the human predicament as a rationally-solvable, anthropocentric, scientifically-directed state of affairs, one that will solve its problems through the proper top-down management of an endless-growth economy. On the other hand, many others (chiefly environmentalists) have talked about a "sustainable society" in terms of "ecological sustainability" -- a view that questions human rationality and motives, emphasizes the importance of natural systems and their equilibrium for life, and which sides with a critical view of the dominant social practices that appear to breed disequilibrium.[42]

Orr's notion of "ecological literacy" ultimately arbitrates the problems inherent in disputes over Environmental Education by resolving them within a postmodern "both/and" logical approach which integrates and incorporates insights from all of the various models previously enumerated. While critical of the potential complicity of Environmental Education curricula and policies with truly unsustainable lifestyle practices, Orr nonetheless feels that they too have something to contribute. While drawing upon Capra's notion of holistic systems, as well as from Critical Pedagogy's conceptions concerning power and dialogue, and from ideas about Earth-centered cosmology, Orr's ecological literacy believes in balancing real experiences of the natural world with scientific perspectives on balancing natural systems. However, where other Environmental Education perspectives may end their curricular objectives here, Orr's describes this as being but the beginning of a fuller emerging literacy into how to be in the world. As students move beyond the mere observation and

understanding of natural and social systems, always with an eye towards harmony and balance, Orr contends that students naturally come to recognize an ethical responsibility to model such balance within their own life practices and relationships with people, other species and the environment. Thus, while Orr recognizes a responsibility to act on behalf of the world (potentially radically when it is being fiercely degraded), he also realizes that part of becoming ecologically literate is the adoption of a standpoint for behavior that values complexity, process, and the sort of temperance that is bred only by being actively involved in a lifelong practice of critical understanding and spiritual wonder.[43] Therefore, akin to what the Freirean educator Moacir Gadotti has articulated as the new practice of "Ecopedagogy," ecological literacy asks of us that we each remain open to listening to a manifold of different knowledge systems, that we act collaboratively with a diversity of others (in a non-anthropocentric fashion), that we remain rigorous and critical in our ethical stance towards life, and that we constantly integrate our own life experiences towards the general end of helping our home planet Earth to sustain the rich and beautiful tapestry of life with which it provides us.[44]

In Conclusion: Environmental Education as Contested Terrain

The present moment for Environmental Education is best categorized as a "complex and contested terrain" and it would be inappropriate to describe it simply as embodying a general trajectory of either "rise and fall" or "continuous evolution." The last thirty-odd years have seen a tremendous rise in the transnational institutional adoption and maturity of Environmental Education as a field of study and practice. But, as was noted earlier, in some sense it is a mistake even to characterize Environmental Education as a new field, for all education has always involved sowing knowledge and values (whether implicitly or explicitly) around the relationship between humanity and the natural world in which it finds itself. Still, it must be affirmed that in the face of a growing ecological crisis -- one affecting both global culture and nature -- that environmentally-related themes have come to take on a more exact and pointedly disciplinary status as a result. There have been an increasing amount of international educational curricula (much of it formally directed by the UN itself) which focus explicitly on such important issues as the mass extinction of species, the role of biodiversity in the world, and the ecological relationship between cultural habits and natural environments. Additionally, nonformal education movements, such as Humane Education, are arising onto the world stage to provide a meaningful pedagogical platform for powerful contemporary ethical developments like animal rights.

Yet, the relatively recent frenzy around the corpus of Environmental Education -- especially at the global level -- can also be read as a danger sign. For over the same period of time that the field has emerged as a legitimate and important transdisciplinary discourse, the planetary environment itself has undergone radical discontinuities, there has begun an unprecedented move towards the whole scale slaughter of creatures large and small, and human culture (in both its rich and poor varieties) has left an increasingly heavy "ecological footprint" across the face of the Earth. Seemingly in response to such dangers, Japan suggested at the recent

Earth Summit II in Johannesburg that the years of 2005-2015 be hailed and promoted by the United Nations as "the decade of Environmental Education."

Under pressure from the global corporate leadership, however, the United Nations -- while adopting Japan's proposal -- distinguished between Environmental Education (EE) as a singular field of reduced importance in comparison with the new State-promoted agenda of Education for Sustainable Development (ESD). Contrary to both traditional Environmental Education practices and more recent challenges to those practices, then, ESD represents a reactionary new third development within the field -- one advertised as especially worthy of international monies, institutional investment and attention.[45] Though UN documents, like the Ubuntu Declaration, also recently called for educators to play an important part in sustainable development policy formation, and for the Earth Charter's central role as a guiding vision for the same, one cannot help but fear that powerful social forces have further co-opted whatever legacy and promise Environmental Education still offered. At such a time such as ours, when Environmental Education practices might (it is hoped) come to represent a radical pathway to a more decent, loving and beautiful world, we have much reason to doubt that they will be anything more than a strategy to inculcate the practices of capitalist resource management coupled with rational economic and social planning.[46]

In response to such changes, many within the field of Environmental Education have been left wondering if transnational organizations are capable of interpreting the idea of a "limit to growth" in any fashion beyond permissive neoliberalism. For the present standard of living enjoyed by those across the planet is estimated to utilize somewhere between two to four times the amount of sustainable resources provided by the Earth proper. Therefore, as the world population continues to rise toward nine billion people and living standards increase in commensurate measure, it is reasonably calculated that to have a sustainable planet by the year 2070 would entail techno-scientific advances capable of enabling sixty times as much production and consumption as is presently afforded, while only generating one-half to one-third the amount of present resource and environmental cost.[47] But, according to the U.N.'s own UNEP GEO-3 report, released just prior to the Johannesburg Summit, a vision of continued growth of this kind is consonant only with earthly extinction; either great changes are made in our global lifestyle now or an irrevocable crisis will descend upon the planet by 2032.[48]

In conclusion, then, while Environmental Education appears to be growing professionally as a field and should continue to become ever-more central to educational and political discourse over the next decade(s), the immediate institutional trend in Environmental Education is a depressing move away from establishing anything like a radical "ecological literacy." Schools will increasingly interpret environmental challenges and social structural problems as requiring little more than training in the "technological literacy" of increased science capability and more efficient informational exchange. This is an ominous indicator on the field's horizon line (and on society's as well) -- one that speaks to a deep fracture that exists between those people that favor a rational planning and "wise use" economic approach and those that intuit that only an ethical "revaluation of all values" will ultimately be enough

to meet the present challenge of the tremendous upheavals and wrongs at work within humanity. To this end, a rising wave of conservationists, animal rights activists, and Earth-centered educators are beginning to search for solidarity and find a common language. Their plan for action is a radical Ecopedagogy -- a term both educational and ethical -- which marks their unflinching opposition to the murderous, anthropocentric, and technocratic language now invoked by the global institutions of capital exchange as both the map and the territory.

---

[1] On "globalization," as the growth of Western technocapitalism since World War II, and its contemporary meanings, see Douglas Kellner, "Theorizing Globalization," *Sociological Theory* (forthcoming) at http://www.gseis.ucla.edu/faculty/kellner/papers/theoryglob.htm. My paper, "How the West Was One: The Role of the American Frontier in the Global Internet Imaginary" traces how the popular "frontier" metaphor of 20th century American imperialism girds this Post-WWII emphasis upon American science and technology, which has given rise to the beginnings of a planetary internet with its foundation embedded in the U.S. economy, at: http://getvegan.com/blog/howthewestwasone.htm.

[2] Joel Kovel, The Enemy of Nature: The End of Capitalism or the End of the World, (New York, Zed Books, 2002), p.4.

[3] For a short but detailed account of "globalization" as it is offered here, and its resulting consequences, see William I. Robinson, "Globalisation: nine theses on our epoch," *Race & Class*, 38, 2 (1996), pp. 13-31.

[4] Joel Kovel, *The Enemy of Nature,* (New York, Zed Books, 2002), pp. 38-39. For the Union of Concerned Scientists, see "World Scientists' Warning to Humanity" in Paul R. Ehrlich and Anne H. Ehrlich, *Betrayal of Science and Reason: How Anti-Environmental Rhetoric Threatens Our Future* (Washington, D.C., Island Press, 1996), pp. 242-50. For Wilson, see *The Future of Life*, (New York, Knopf, 2002), pp. 43-78. For Raven, see "What We Have Lost, What We Are Losing," in Michael J. Novacek (ed.), *The Biodiversity Crisis: Losing What Counts*, (New York, New Press, 2001), pp. 58-62.

[5] The statistics are listed in Joel Kovel, *The Enemy of Nature,* pp. 3-5.

[6] Matthew Scully, Dominion: The Power of Man, the Suffering of Animals, and the Call to Mercy, (New York, St. Martin's Press, 2002), pp. 284-85.

[7] Joel Kovel, The Enemy of Nature, p.4.

[8] Douglas Kellner, "Theorizing Globalization," *Sociological Theory* (forthcoming) at http://www.gseis.ucla.edu/faculty/kellner/papers/theoryglob.htm .

[9] For the connections between transnational capitalism and Leakey's Sixth Extinction see my forthcoming paper for *Social Thought & Research* at http://getvegan.com/holesnotwholes.htm .

[10] Joel Kovel, The Enemy of Nature, p.4.

[11] United Nations Development Programme, *Human Development Report 1999*, New York, 1999 at http://hdr.undp.org/reports/global/1999/en/ default.cfm .

[12] Joel Kovel, The Enemy of Nature, p.4.

[13] World Bank, *World Development Report 1998*, at http://www.worldbank.org/ .

[14] For a thorough discussion relating globalization to the oppression of poor women and children, see Rhonda Hammer, *Antifeminism and Family Terrorism: A Critical Feminist Perspective*, (Lanham, Rowman & Littlefield, 2002), pp. 187-194.

[15] In John Bellamy Foster, *Ecology Against Capitalism* (New York, Monthly Review Press, 2002), p. 60: This oft-quoted memo from when Lawrence Summers, President of Harvard and former Treasury Secretary for Bill Clinton, worked for the World Bank serves as the penultimate articulation of how oppression of the environment and poor are linked together by technocapitalist elites:

Just between you and me, shouldn't the World Bank be encouraging *more* migration of the dirty industries to the LDCs [less developed countries]?...I think the economic logic behind dumping a load of toxic waste in the lowest wage country is impeccable and we should face up to that...

I've always thought that under-populated countries in Africa are vastly *under*-polluted; their air quality is probably vastly inefficiently low [sic] compared to Los Angeles or Mexico City.

[16] "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, National Forum on Educational about the Environment (October 1994).

[17] Charles Hopkins, "Environmental education -- A new priority" in *Journal of Outdoor Education, 25,* (1991), pg. 3.

[18] Richard P. Klecan, Environmental Education Around the Pacific Rim: A Comparative Study of Secondary School Curricula, (Unpublished Dissertation, 1997), pp.53-57.

[19] E.S. Klein and E. Merrit, "Environmental education as a model for constructivist teaching," *Journal of Environmental Education*, *25*, (1994), pg. 15.

[20] United Nations Conference on Environment and Development, "Chapter 36: Promoting Education, Awareness and Training," *Agenda 21*, (1992), pg. 2.

[21] See online at: http://www.earthcharter.org/aboutus/faq.htm.

[22] For coverage critical of the Bush administration's hand at the W.S.S.D. see the stories dated August 26 to September 6, 2002 on my weblog at http://getvegan.com/blog/blogger.php. On Annan, see "Sustainable Development Summit

Concludes in Johannesburg: UN Secretary-General Kofi Annan Says It's Just the Beginning" at http://www.johannesburgsummit.org/html/whats_new/feature_story39.htm.

[23] Moacir Gadotti, "Paulo Freire and the Culture of Justice and Peace: The Perspective of Washington vs. the Perspective of Angicos," Keynote address for the 3rd International Paulo Freire Forum (UCLA, 2002).

[24] North American Association for Environmental Education, "EE Act Information Alert" at: http://naaee.org/news/eeact.php.

[25] Richard P. Klecan, *Environmental Education Around the Pacific Rim*, (Unpublished Dissertation, 1997), pg. 17.

[26] CC Wolhuter, "History of Environmental Education: Lacuna on the Research Agenda of History of Education," (Birmingham, 2001), at: http://216.239.39.100/search?q=cache:c-OhlGLTM0cC:www.cetadl.bham.ac.uk/ ische/abstract/WolhunterA.doc.

[27] See, for instance, the Master of Arts in Teaching in Multidisciplinary Studies, with a Humane Education Focus, offered by Webster University at http://www.humanesocietyu.org.

[28] For more on Humane education, see David Selby, *Earthkind: A teacher's handbook on humane education*, (Stoke-on-Trent: Trentham 1995) and his "Relational modes of knowing: Learning process implications of a humane and environmental ethic" in B. Jickling (ed.), *A colloquium on environment, ethics and education*, (Yukon: Yukon College 1996), pp. 49-60; and .Andrew J. Petto and Karla D. Russell, "Humane education: the role of animal-based learning" in Francine L. Dolins (ed.), *Attitudes to Animals: Views in Animal Welfare*, (Cambridge, Cambridge University Press, 1999), pp. 167-85 and online at: http://web.archive.org/web/20010813075458/http://www.e4ars.org/index.html. But Humane education is also problematically associated with progressive Humanistic education, such as Ron Miller (ed.), *New Directions in Education: Selections from Holistic Education Review*, (Brandon, Holistic Education Press, 1991), or conservative (Cicero the common root) Humanities, see Donald Phillip Verene, *The Art of Humane Education*, (Ithaca, Cornell University Press, 2002).

[29] For examples of corporate greenwashing in Education by companies like Dow, Shell, and Ford see: "Attacks Aiming to De-Fund Environmental Education" at http://www.sierraclub.org/education/ccpe.asp, "Views on Environmental Education: What Role for Business?" at: http://www.perc.org/education/opinion3.html, and "Ford's EarthDay Greenwash" at: http://www.commondreams.org/views/042100-101.htm.

[30] Office of Environmental Education at: http://www.epa.gov/enviroed/.

[31] North American Association for Environmental Education, "NAAEE Misson," at: http://www.naaee.org/aboutnaaee/index.php.

[32] Richard P. Klecan, *Environmental Education Around the Pacific Rim*, (Unpublished Dissertation, 1997), pg. 17.

[33] See C.A. Bowers, Educating for Eco-Justice and Community, (Athens, Univ. of Georgia Press, 2001), Education, Cultural Myths, and the Ecological Crisis: Toward Deep Changes,

(New York, SUNY Press, 1993), and Critical Essays on Education, Modernity, and the Recovery of the Ecological Imperative, (New York, Teacher's College Press, 1993).

[34] Murray Bookchin, *The Ecology of Freedom: The Emergence and Dissolution of Hierarchy*, (Palo Alto, Chesire Books, 1982). For more on Bookchin see: http://www.social-ecology.org/.

[35] David W. Jardine, *"Under the Tough Old Stars": Ecopedagogical Essays*, (Brandon, Solomon Press, 2000).

[36] Richard P. Klecan, *Environmental Education Around the Pacific Rim*, (Unpublished Dissertation, 1997), pp. 62-63. For the Center of Ecoliteracy, see: http://www.ecoliteracy.org/.

[37] See, for example, Brian Swimme and Thomas Berry, *The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era -- A Celebration of the Unfolding of the Cosmos*, (San Francisco, Harper, 1994).

[38] Stephen Sterling, Sustainable Education: Re-visioning Learning and Change, (Bristol, Green Books, 2001).

[39] Edmund O' Sullivan, "The Earth Charter as a Foundational Core for Transformative Learning Studies," draft article given me as correspondence, (2002).

[40] Edmund O' Sullivan, *Transformative Learning: Educational Vision for the 21st Century*, (London, Zed Books, 1999) and Edmund O' Sullivan, Amish Morrell, and Mary Ann O' Connor (ed.), *Expanding the Boundaries of Transformative Learning: Essays on Theory and Praxis*, (New York, Palgrave, 2002).

[41] Peter McLaren and Edgar Gonzalez-Gaudiano, "Education and Globalization, An Environmental Perspective -- An Interview with Edgar Gonzalez-Gaudiano," *International Journal of Educational Reform*, Vol. 4, No. 1 (Jan. 1995), pp. 72-78.

[42] David Orr, Ecological Literacy: Education and the Transition to a Postmodern World, (New York, SUNY Press, 1992), pp. 28-40.

[43] Richard P. Klecan, *Environmental Education Around the Pacific Rim*, (Unpublished Dissertation, 1997), pg. 61-62.

[44] On Ecopedagogy, see Moacir Gadotti, "Pedagogy of the Earth and Culture of Sustainability," Costa Rica 2000 Commission: A New Millenium of Peace (2000) at: http://www.earthcharter.org/resources/speeches/gado.htm.

[45] United Nations General Economic and Social Council: Economic Commission for Europe, Committee for Environmental Policy, "Report of the First Session -- 9/9/02" at: http://216.239.51.100/search?q=cache:PbCZOERyrPoC:www.unece.org/env/documents/2002/cep/ac.11/execom/esd/cep.ac.11.execom.esd.1.e.pdf.

[46] United Nations Educational, Scientific, and Cultural Organization, "Ubuntu Declaration on Education and Science Technology for Sustainable Development," (2002), at: http://www.unesco.org/iau/tfsd_unbutu.html.

[47] Ted Trainer, "What is Sustainable Development?" in *EDucate! Magazine 5* (Karachi, 2002), pp. 38-40.

[48] United Nations Environment Programme, *Global Environmental Outlook 3: Past, Present, and Future Perspectives*, 2002, pp. 13-15, at: http://www.earthscan.co.uk/asp/bookdetails.asp?key=3703.