COUNTERPOINTS 359

We live in a time of unprecedented planetary ecocrisis, one that poses the serious and ongoing threat of mass extinction. What role can critical pedagogy play in the face of such burgeoning catastrophe? Drawing upon a range of theoretical influences–including Paulo Freire, Ivan Illich, Herbert Marcuse, traditional ecological knowledge, and the cognitive praxis produced by today's grassroots activists in the alter-globalization, animal and earth liberation, and other radical social movements–this book offers the foundations of a philosophy of ecopedagogy for the global north. In so doing, it poses challenges to today's dominant ecoliteracy paradigms and programs, such as education for sustainable development, while theorizing the needed reconstruction of critical pedagogy itself in light of our presently disastrous ecological conditions. Students and teachers of critical pedagogy at all levels, as well as those involved in environmental studies and various forms of sustainability education, will find this book a powerful provocation to adjust their thinking and practice to better align with those who seek to abolish forms of culture predicated upon planetary extermination and the domination of nature.

"Richard Kahn is one of the most brilliant young scholars writing in the field of pedagogy today. He is breaking new ground in a powerful and engaged manner that speaks truth to power. Kahn's work will, in many ways, set the standard for pedagogical work in the years to come. We ignore Kahn's work at our peril. This is a timely and urgent work."–*Peter McLaren, Professor in Urban Education, Graduate School of Education and Information Studies, UCLA*

"Richard Kahn's ecopedagogy courageously challenges educators to place ecoliteracy as the central moral challenge of our times. Our shared hope lies in taking his invitation seriously in our studies. For healing our moral economy and our damaged ecology, Kahn leads the way in regenerating philosophies from which the system has tragically moved further and further away." –*Madhu Suri Prakash, Professor, The Pennsylvania State University*

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ISBN 978-1-4331-0545-6

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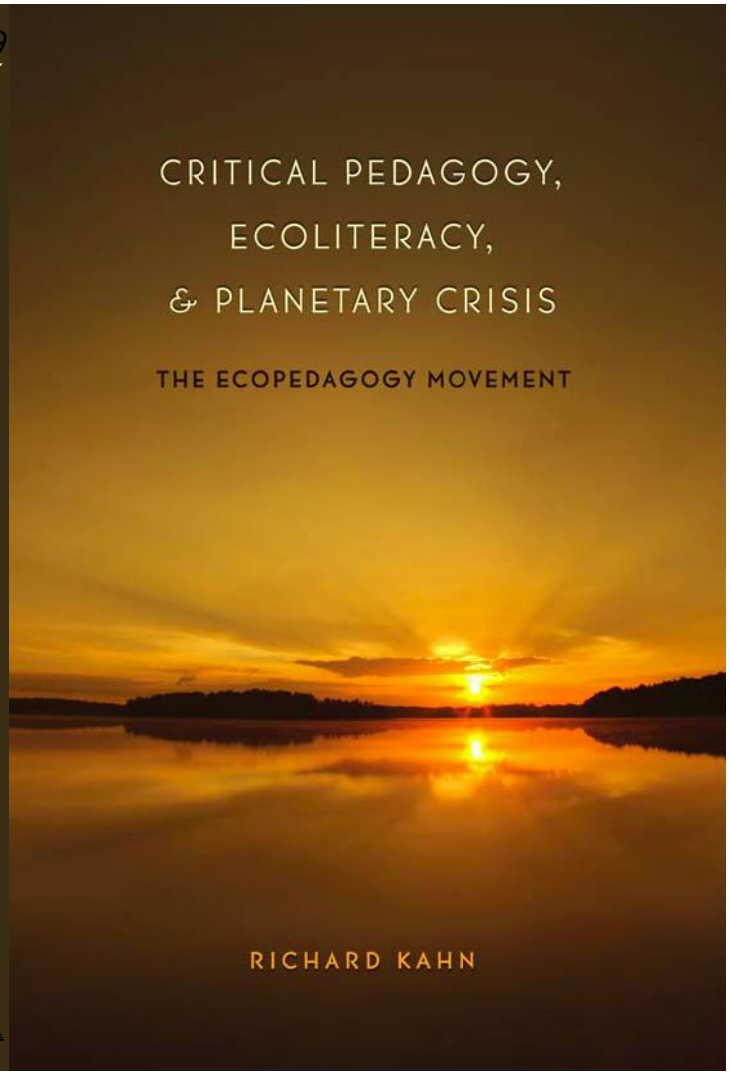
KAHN Critical Pedagogy, Ecoliteracy, & Planetary Crisis

PETER LANG



CRITICAL PEDAGOGY, ECOLITERACY, & PLANETARY CRISIS

THE ECOPEDAGOGY MOVEMENT

RICHARD KAHN

ADVANCE PRAISE FOR

Critical Pedagogy, Ecoliteracy, & Planetary Crisis

"Richard Kahn has written a dazzling book with the urgency befitting his focus: the ecological crisis that is already upon us, the looming environmental catastrophe worldwide, and the breathtaking arrogance with which powerful economic forces and their political hirelings miseducate, mislead, and misdirect any honest accounting of the mess we're in, or the broad outlines of what is to be done. Kahn aims to shock us awake, to shake us from our deep, deep and sometimes willful sleep of denial, but that is just his opening salvo. His more ambitious project is to contribute to the creation of a mighty and unstoppable social movement geared toward grounded activism on behalf of a humane, balanced, and livable future. Kahn's ethical vision as well as his clear, compelling representation of ecopedagogy and ecoliteracy will change the way we look at education and struggle in and for democracy. This book is essential reading."

–William Ayers, Distinguished Professor of Education at the University of Illinois at Chicago, and Author of To Teach *and* Teaching toward Freedom

"This book deals with one of the most important contemporary educational movements: ecopedagogy. In times of crisis convergences–such as the one we are living in, with global warming and profound climatic changes–this book brings an invaluable and accurate contribution, not only to educational theory, but also to the tradition of emancipatory pedagogical practice."

–Moacir Gadotti, Director, Paulo Freire Institute, São Paulo, Brazil

"Richard Kahn's *Critical Pedagogy, Ecoliteracy, and Planetary Crisis* is a groundbreaking work that moves the field of critical pedagogy into a visionary mode. Not to address the ecological crisis front and center in these crucial moments of the twenty-first century would be derelict. This work creates a wonderful opening linking critical pedagogy to the emergent scholarship related to ecological literacy."

–Edmund O'Sullivan, Professor Emeritus, Ontario Institute for Studies in Education

"Finally, a voice in education that blends critical theory with an ecological ethic inclusive of animal others. Richard Kahn breaks new ground with his ecopedagogy. His book will challenge critical educators to wake up and respond to the times we live in."

–David Greenwood, Associate Professor, College of Education, Washington State University

"Here we have education with enlightenment, humanity without hypocrisy, and pedagogy with a punch. Moving from critical pedagogy to ecopedagogy, Kahn transcends the entrenched prejudices and profound limitations of humanism, however radical, for a new educational, ethical, and political paradigm centered on earthlings. He updates pedagogy for the twenty-first century, making it relevant to the social and ecological crises of this profound and unprecedented do-or-die era. This is a supremely important book, the first volley of many to come from one of the most gifted and brilliant thinkers writing today."

–Steven Best, Associate Professor of Humanities and Philosophy, University of Texas, El Paso

"Richard Kahn's continuing scholarship and support for the ecopedagogy movement is an important effort to ensure that environmental education becomes an integral part of the school curriculum. Unfortunately, the Republican and Democratic 2009 national platforms did not mention environmental education and instead emphasized human capital education and its importance for U.S. economic competition in global markets. Human capital approaches to education are the problem because they contribute to the public blindness to the environmental destruction caused by continuing promotion of industrial consumerism. Richard Kahn is fighting the good fight and his ideas and scholarship will help to keep alive efforts to advance the ecopedagogy movement."

–Joel Spring, Graduate Center and Queens College, City University of New York

"Richard Kahn's book hopefully represents the beginning of the end of a long silence on the ecocrisis by the tradition known as critical pedagogy. Importantly, Kahn recognizes that ecology cannot just be tacked on to the list of oppressions that critical pedagogy has concerned itself with, but that it requires that critical pedagogy make itself an object of critique and reconstruction in order to align with the politics of sustainability."

–C. A. Bowers, Noted writer and international speaker on educational reforms that address the cultural roots of the ecological crisis

"Richard Kahn contributes a compelling new voice to debates about how to reimagine a program for North American environmental education. Such a program must redress the marginalization of environmental issues in formal schooling, and do so by bringing a critical, democratic perspective to bear on economic, political, and sociocultural inequality. The current crises in Western modernity make this a rare and opportune moment for students and researchers to explore Kahn's analyses and proposals."

–Sandra Harding, Professor, Graduate School of Education and Information Studies, UCLA

Critical Pedagogy, Ecoliteracy, & Planetary Crisis

Studies in the Postmodern Theory of Education

Joe L. Kincheloe and Shirley R. Steinberg
General Editors

Vol. 359

PETER LANG
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RICHARD KAHN

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Library of Congress Cataloging-in-Publication Data

Kahn, Richard V.
Critical pedagogy, ecoliteracy, and planetary crisis:
the ecopedagogy movement / Richard Kahn.
p. cm. – (Counterpoints: studies in the postmodern theory of education; v. 359)
Includes bibliographical references and index.
1. Critical pedagogy. 2. Critical thinking. 3. Ecology–Philosophy.
I. Title.
LC196.K344 370.11'5–dc22 2009044525
ISBN 978-1-4331-0545-6
ISSN 1058-1634

Bibliographic information published by **Die Deutsche Nationalbibliothek**.
Die Deutsche Nationalbibliothek lists this publication in the "Deutsche Nationalbibliografie"; detailed bibliographic data is available on the Internet at http://dnb.d-nb.de/.

The paper in this book meets the guidelines for permanence and durability of the Committee on Production Guidelines for Book Longevity of the Council of Library Resources.

Printed in the United States of America

To my wife, Debbie, who constantly prodded and poked for this book to be completed, and who was always the sustaining force behind its ultimate publication…my love and deepest gratitude for all you do in the world as an educator, as well as for what you must endure, with grace and dignity, as my partner through life.

To my children, Isaiah and Zoë, my cats, Fritz and Kayla, and hounds, Brando and Hanna, as well as to all the beings I have communed with and known intimately and inwardly…my teachers every one.

To all my family and friends of forty years, for all of your constant support and faith, as well as forgiveness of my many flaws…my most humble thanks.

And finally, to those who resist, who are dissatisfied and disobedient, who would rail against the dying of the light and who will not go gently, though they fear not the darkness of this world…this work is especially for you.

Contents

Preface

The Great Mother Wails

The Earth extends her arms to us;
revealing through her nature the
changing condition of our existence.

She bends and twists,
deflecting the swords of
our foolishness;
our arrogance;
our gluttony;
our deceit.

Unbridled by red alerts or amber warnings,
Her ire gives rise to monsoon winds,
jarring us from the stupor of
our academic impunity;
our disjointed convolutions,
our empty promises;
our black and white dreams.

Filled with unruly discontent,
we yearn to dominate her mysteries;
reducing her to microscopic dust,
we spit upon her sacredness,
tempting the fury of her seas.

We spill our unholy wars
upon her belly's tender flesh,
blazing dislocated corpses,
ignite her agony and grief.

Still, in love with her creations,
she warns of our complacency

to cataclysmic devastation,
rooted in the alienation of
our disconnection
our rejection,
our oppression,
our scorn.

And still, we spin ungodly
tantrums of injustice
against her love,
against ourselves,
against one another.

When will we remove blindfolds from our eyes?
When will we stretch our arms—to her?
When will the cruelty of our
hatred cease; teaching us to
abandon the impositions of
patriarchy and greed?

Oh! that we might together renew
our communion with the earth.
She, the cradle of humanity.
She, the nourishment of our seeds.
She, the beauty of our singing.
She, the wailing that precedes.

—Darder (2008)

It is fitting to begin my words about Richard Kahn's *Critical Pedagogy, Ecoliteracy, and Planetary Crisis: The Ecopedagogy Movement* with a poem. The direct and succinct message of *The Great Mother Wails* cuts through our theorizing and opens us up to the very heart of the book's message—to ignite a fire that speaks to the ecological crisis at hand; a crisis orchestrated by the inhumane greed and economic brutality of the wealthy. Nevertheless, as is clearly apparent, none of us is absolved from complicity with the devastating destruction of the earth. As members of the global community, we are all implicated in this destruction by the very manner in which we define ourselves, each other, and all living beings with whom we reside on the earth.

Everywhere we look there are glaring signs of political systems and social structures that propel us toward unsustainability and extinction. In this historical moment, the planet faces some of the most horrendous forms of "man-made" devastation ever known to humankind. Cataclysmic "natural

disasters" in the last decade have sung the environmental hymns of planetary imbalance and reckless environmental disregard. A striking feature of this ecological crisis, both locally and globally, is the overwhelming concentration of wealth held by the ruling elite and their agents of capital. This environmental malaise is characterized by the staggering loss of livelihood among working people everywhere; gross inequalities in educational opportunities; an absence of health care for millions; an unprecedented number of people living behind bars; and trillions spent on fabricated wars fundamentally tied to the control and domination of the planet's resources.

The Western ethos of mastery and supremacy over nature has accompanied, to our detriment, the unrelenting expansion of capitalism and its unparalleled domination over all aspects of human life. This hegemonic worldview has been unmercifully imparted through a host of public policies and practices that conveniently gloss over gross inequalities as commonsensical necessities for democracy to bloom. As a consequence, the liberal democratic rhetoric of "we are all created equal" hardly begins to touch the international pervasiveness of racism, patriarchy, technocracy, and economic piracy by the West, all which have fostered the erosion of civil rights and the unprecedented ecological exploitation of societies, creating conditions that now threaten our peril, if we do not reverse directions.

Cataclysmic disasters, such as Hurricane Katrina, are unfortunate testimonies to the danger of ignoring the warnings of the natural world, especially when coupled with egregious governmental neglect of impoverished people. Equally disturbing, is the manner in which ecological crisis is vulgarly exploited by unscrupulous and ruthless capitalists who see no problem with turning a profit off the backs of ailing and mourning oppressed populations of every species—whether they be victims of weather disasters, catastrophic illnesses, industrial pollution, or inhumane practices of incarceration. Ultimately, these constitute ecological calamities that speak to the inhumanity and tyranny of material profiteering, at the expense of precious life.

The arrogance and exploitation of neoliberal values of consumption dishonor the contemporary suffering of poor and marginalized populations around the globe. Neoliberalism denies or simply mocks ("Drill baby drill!") the interrelationship and delicate balance that exists between all living beings, including the body earth. In its stead, values of individualism, competition, privatization, and the "free market" systematically debase the ancient ecological knowledge of indigenous populations, who have, implicitly or

explicitly, rejected the fabricated ethos of "progress and democracy" propagated by the West. In its consuming frenzy to gobble up the natural resources of the planet for its own hyperbolic quest for material domination, the exploitative nature of capitalism and its burgeoning technocracy has dangerously deepened the structures of social exclusion, through the destruction of the very biodiversity that has been key to our global survival for millennia.

Kahn insists that this devastation of all species and the planet must be fully recognized and soberly critiqued. But he does not stop there. Alongside, he rightly argues for political principles of engagement for the construction of a critical ecopedagogy and ecoliteracy that is founded on economic redistribution, cultural and linguistic democracy, indigenous sovereignty, universal human rights, and a fundamental respect for all life. As such, Kahn seeks to bring us all back to a formidable relationship with the earth, one that is unquestionably rooted in an integral order of knowledge, imbued with physical, emotional, intellectual, and spiritual wisdom. Within the context of such an ecologically grounded epistemology, Kahn uncompromisingly argues that our organic relationship with the earth is also intimately tied to our struggles for cultural self-determination, environmental sustainability, social *and* material justice, and global peace.

Through a carefully framed analysis of past disasters and current ecological crisis, Kahn issues an urgent call for a critical ecopedagogy that makes central explicit articulations of the ways in which societies construct ideological, political, and cultural systems, based on social structures and practices that can serve to promote ecological sustainability and biodiversity or, conversely, lead us down a disastrous path of unsustainability and extinction. In making his case, Kahn provides a grounded examination of the manner in which consuming capitalism manifests its repressive force throughout the globe, disrupting the very ecological order of knowledge essential to the planet's sustainability. He offers an understanding of critical ecopedagogy and ecoliteracy that inherently critiques the history of Western civilization and the anthropomorphic assumptions that sustain patriarchy and the subjugation of all subordinated living beings—assumptions that continue to inform traditional education discourses around the world. Kahn incisively demonstrates how a theory of multiple technoliteracies can be used to effectively critique the ecological corruption and destruction behind mainstream uses of technology and the media in the interest of the neoliberal marketplace. As such, his work points to the manner in which the sustainability rhetoric of mainstream environmentalism actually camouflages wretched

neoliberal policies and practices that left unchecked hasten the annihilation of the globe's ecosystem.

True to its promise, the book cautions that any anti-hegemonic resistance movement that claims social justice, universal human rights, or global peace must contend forthrightly with the deteriorating ecological crisis at hand, as well as consider possible strategies and relationships that rupture the status quo and transform environmental conditions that threaten disaster. A failure to integrate ecological sustainability at the core of our political and pedagogical struggles for liberation, Kahn argues, is to blindly and misguidedly adhere to an anthropocentric worldview in which emancipatory dreams are deemed solely about human interests, without attention either to the health of the planet or to the well-being of all species with whom we walk the earth.

Important to the contributions of this volume is the manner in which Kahn retains the criticality of the revolutionary project in his efforts to dialectically engage the theories of Paulo Freire and Ivan Illich, in ways that significantly pushes Freire's work toward a more ecologically centered understanding of human liberation and that demonstrates Illich's continued relevance on these matters. Key to his argument is the recognition of planetary sustainability as a vital and necessary critical pedagogical concern. In a thoughtful and effective manner (which has been long coming), Kahn counters spurious criticisms railed against the integrity of critical pedagogy and its proponents. Instead, he highlights both the radical underpinnings of critical theoretical principles and the historicity of its evolution—acknowledging both its significant contributions to the field, as well as its shortcomings in past articulations. Rather than simply echo denouncements of "beyond critical pedagogy," Kahn intricately weaves possibilities drawn from Freire and Illich, neither essentializing the work of these theorists nor ignoring the problematic instances of their formulations. This discussion brings a mature and refreshing sense of both political grace and sober critique, which supports the passion of our pedagogical traditions, while simultaneously chastising our slowness in taking up the mantle of ecological responsibility.

Through the reformulation of Herbert Marcuse's contributions to critical theories of society, Kahn gives voice to a North American ecopedagogy that thoughtfully seizes the power of radical environmental activists, while simultaneously opposing and calling for the remaking of capitalist ecological practices, as a key component to any critical pedagogical project. By so doing, critical pedagogy is forcefully challenged to step up to the demands

and needs of a world in ecological crisis, in the hopes of transforming itself into a counter-hegemonic resistance movement imbued with ecological consciousness, respect for beauty in all life, and a serious commitment to preserving the multifarious nature of our humanity. In the process, Kahn propels us beyond the debilitating theoretical posturing of the left in ways that liberate our political sensibilities and guide us toward alternative pedagogies of knowledge construction and new technopolitics of education necessary for our future sustainability.

Similar to revolutionary ecologists before him, Kahn urges for a critical shift in our worldview from one that is dominated by the instrumentalization of ethnocentrism, xenophobia, militarism, and the fetishizing of all living functions, to one that acknowledges unapologetically and wholeheartedly the deep intimacy and organic connection at work in all forms of existence. In the spirit of Vandana Shiva's "earth democracy," Kahn also argues for a ecopedagogy that demands we "remove our blinders, imagine and create other possibilities," reminding us that "Liberation in our genocidal times, is, first and foremost, the freedom to stay alive."[1]

True to this dictum, Kahn unambiguously demands that the survival of the planet (and ourselves!) underscore our political and pedagogical decisions, despite the fact that seldom have questions of ecological concern been made central to the everyday lives of teachers and students or to the larger context of movement work, save for the liberal agenda of the Sierra Club or the well-meaning discourse on population control for poor and racialized women, espoused by people of all ideological stripes. Perhaps, it is this "missing link" in the curriculum of both public schools and political movements that is most responsible for the historically uncritical and listless response to the global suffering of human beings subjected to imperial regimes of genocide, slavery, and colonialism. In truth, a deeper analysis exposes sharply a legacy that persists today in the shrouded values and attitudes of educators from the dominant class and culture who expect that all oppressed populations and living species should acquiesce to the dominion and hegemonic rule of the wealthy elite.

It is precisely such a worldview of domination that perpetuates the extinction of whole species, as it does the cultural and linguistic destruction of peoples and nations outside of a "first-world" classification. As a consequence, our biodiversity is slipping away, despite scientific findings that clearly warn of the loss of hardiness and vitality to human life, as a direct consequence of the homogenization of our differences. It is equally ironic to

note here how repression of the body itself is manifested within the capitalist fervor to commodify or colonize all forms of vital existence. Schools, unfortunately, are one of the most complicit institutions in the exercise of such ecological repression, generally carried out through the immobilization of the body and the subordination of our emotional nature, our sexual energies, and spiritual capacities.

In response, Kahn eloquently argues for a critical ecopedagogy and ecoliteracy that supports teachers in engaging substantively students' integral natures, in an effort to forge an emancipatory learning environment where all can thrive amid everyday concerns. As such, he makes clear that, although important, it is not enough to rely solely on abstract cognitive processes, where only the analysis of words and texts are privileged in the construction of knowledge. Such an educational process of estrangement functions to alienate and isolate students from the natural world around them, from themselves, and one another. This, unwittingly, serves to reinforce an anthropocentric reading of the world, which denies and disregards the wisdom and knowledge outside Western formulations. In contrast, an ecopedagogy that sustains life and creativity is firmly grounded in a material and social understanding of our interconnected organic existence, as a starting place for classroom practice and political strategies for reinventing the world.

Also significant to Kahn's notion of ecopedagogy is an engagement with the emancipatory insights and cultural knowledge of indigenous populations, given that the majority of the social and political problems facing us today are fundamentally rooted in mainstream social relations and material conditions that fuel authoritarianism, fragmentation, alienation, violence, and greed. Such anti-ecological dynamics are predicated on an ahistorical and uncritical view of life that enables the powerful to abdicate their collective responsibility to democratic ideals, while superimposing a technocratic and instrumental rationality that commodifies and objectifies all existence. Such a practice of education serves to warp or marginalize diverse indigenous knowledge and practices, by privileging repetitive and unimaginative curricula and fetishized methods. Anchored upon such a perspective of schooling, classroom curriculum socializes students into full-blown identities as entitled consuming masters and exploiters of the earth, rather than collective caretakers of the planet.

In contrast, Kahn explores the inherent possibilities at work within indigenous knowledge and traditions, in ways that enhance our capacity to not only critique conditions of ecological crisis, but to consider ways in which

non-Western societies and peoples have enacted ecologically sustaining practices within the everyday lives of their communities. He turns the false dominion of the West on its head, offering alternative ways of being that hold possibilities for the reconstruction of institutional culture, the transformation of how we view technology and science, and thus the reformulation of public policy. As critical educators and revolutionary activists across communities of difference, we are encouraged to turn to the wisdom of our own historical survival, in serious and sustained ways, in order to work toward the abandonment of colonizing values and practices that for centuries have denigrated our cultural ways and attempted to disable our life-sustaining capacities.

Moreover, to contend effectively with issues of racism, sexism, homophobia, disablism, and other forms of inequalities, a life-affirming ecological praxis is paramount. That is, one that encompasses a refusal to adhere to political, economic, and philosophical disconnections, which falsely separate humankind from those ecological dynamics that shape local, global, regional, rural, and urban landscapes. Instead, static views of humanity and the planet, which inadvertently serve the commodifying interests of capital and its penchant to divide and conquer, are challenged and dismantled through an integral political solidarity of heart, mind, body, and spirit. Accordingly, a critical ecopedagogy must then encompass those philosophical principles that are at home with ambiguity, dissonance, difference, and heterogeneity, as an ever-present phenomenon. Such an ethos supports a world where cross-species concerns are both commonplace and valued for their creative potential in the making of a truly democratic, just, and peaceful world.

At the heart of Kahn's project is the intention to move us beyond a capitalist orthodoxy of consumerism, careerism, and corporate profiteering. As educators, we are invited to commit ourselves to a critical ecopedagogy that courageously embraces a new paradigm for the living out of a transformative ecological praxis—one that is shaped by the power of human emotions, the cultural rituals of diverse ways of being, a deep respect for universal rights, and the integration of planetary consciousness. More importantly, he points us toward re-envisioning ourselves as activists, committed to ending oppression in all its manifestations, through embracing with revolutionary love and grace the significance and necessity of all life forms.

The late Murray Bookchin, in *The Ecology of Freedom*, proclaimed that "Humanity has passed through a long history of one-sidedness and of a social condition that has always contained the potential of destruction, despite its creative achievements in technology. The great project of our time must be

to open the other eye: to see all-sidedly and wholly, to heal and transcend the cleavage between humanity and nature that came with early wisdom."[2] True to these words, Kahn urges us "to open our other eye" and be mindful of the delicate balance of the earth and our collective accountability to future generations. Written with analytical prowess, uncompromising courage, and political fortitude, *Critical Pedagogy, Ecoliteracy, and Planetary Crisis: The Ecopedagogy Movement* draws upon the passion of revolutionary visions and ancient indigenous sensibilities to awaken us to our responsibility and unequivocal commitment to the sustainability of all life. Through the perseverance of his own political and pedagogical reflections, Richard Kahn invites us to discover the beauty of a steadfast ecology of life—one that might help to release us from the bondage of our inhumanities.

When we've totally surrendered to that beauty,
We'll become a mighty kindness.
—*Rumi*

Professor Antonia Darder
Distinguished Professor of Education
University of Illinois, Urbana Champaign

NOTES

1. See Vandana Shiva (2005), *Earth Democracy Justice, Sustainability, and Peace*, Boston: South End Press: p. 185.
2. See Murray Bookchin's *The Ecology of Freedom* (2005), Oakland, CA: AK Press: p. 152.

Acknowledgments

A very special thanks is owed to Douglas Kellner, my doctoral mentor, frequent co-author, and supplier of this book's Afterword. It is common in our educational circles to speak of transformation. Truly, our relationship has transformed my life. You gave me the break I needed and it was under your tutelage that I have become the scholar that I am today. Always kind, gracious, and wise beyond belief, I appreciate immensely all that you have done for me, as I strive now to model the same for my own doctoral students.

Also, let me express profound thanks to Steve Best and Peter McLaren. Your friendship and influence have meant a great deal to me over the years, and I have learned much from you both. Perhaps, more than anything else, I have learned that my work should strive to be courageously relevant to the historical situation at hand, and that sometimes a true comrade is as powerful and necessary as a new idea. No small teaching indeed.

Finally, a big hug to Antonia Darder for her wonderful Preface for this book, delivered under challenging conditions. I will always remember meeting for the first time at the Paulo Freire Forum at UCLA, under what seemed like the kind of magical atmosphere that only artists, or people in tune with spiritual realms, or lovers, are aware of and can admit. You amaze and inspire. To be on your side in this struggle makes me proud.

Let me gratefully acknowledge all the fantastic scholars who have lent support to the ecopedagogy project over the years, including (but not limited to): Shirley Steinberg, Joe Kincheloe, Ken Saltman, Chet Bowers, Bill Ayers, Carlos Torres, Joel Spring, Anthony Nocella, Greta Gaard, Pauline Sameshima, Henry Giroux, David Greenwood, Madhu Suri Prakash, Moacir Gadotti, Sandra Harding, Jenny Sandlin, Tyson Lewis, Clayton Pierce, Dolores Calderon, Nathalia Jaramillo, Dave Hill, Gene Provenzo, Connie Russell, Helena Pedersen, Simon Boxley, Edmund O'Sullivan, Therese Quinn, Rebecca Martusewicz, Peter Mayo, Ilan Gur-Ze'ev, Jason Lukasic, Rhonda Hammer, Levana Saxon, Donna Houston, Greg Martin, Peter Buckland, all those who have been involved in the *Green Theory & Praxis*

journal, my phenomenal colleagues in the Department of Educational Foundations & Research at UND, Isham Christie and UND's Students for a Democratic Society, the members of my 2009 Foundations of Ecoliteracy class, and the many, many others who undoubtedly deserve mention here save that space prevents me from more properly articulating my sincere appreciation for your assistance, ideas, and influence on my work.

I also acknowledge with admiration all of the many different stripes of activists working for another world on a daily basis, especially those who exhibit the courage to take direct action in building the foundations of a better reality. Jerry Vlasak, in particular, has always been a good friend and great speaker in my college classes. It has been my privilege also to know Kevin Jonas, and my thoughts go out to him while he serves time in a Minnesota prison for his leadership in the highly successful SHAC-USA campaign. Vivisectors all should rot in the hell they are daily creating.

Special thanks are owed to David Ulansey for teaching me of the Sixth Extinction during my time at the California Institute of Integral Studies.

Again, my gratitude goes to Shirley (and Joe) for accepting this book for the Counterpoints series; and thanks to Sophie Appel and all those at Peter Lang who assisted me in the production and publication of this manuscript.

Lastly, I should note that while this book has been substantially rewritten in both form and content, it is based on my dissertation work completed at the University of California, Los Angeles, in 2007, under the title, *The Ecopedagogy Movement: From Global Ecological Crisis to Cosmological, Technological, and Organizational Transformation of Education*.

Elements of that dissertation appeared in the following publications:

Kahn, R. Toward a Critique of Paideia and Humanitas: (Mis)Education and the Global Ecological Crisis. In I. Gur-Ze'ev & K. Roth (Eds.), *Education in the Era of Globalization*. New York: Springer, 2007. All rights reserved.

Kahn, R. & Kellner, D. Reconstructing Technoliteracy: A Multiple Literacies Approach. *E-Learning* 2(3). Symposium Journals, 2005. All rights reserved.

Kahn, R. & Kellner, D. Paulo Freire and Ivan Illich: Technology, Politics and the Reconstruction of Education. In C. Torres & P. Nogeura (Eds.), *Social Justice Education for Teachers: Paulo Freire and the Possible Dream*. The Netherlands: Sense Publishers, 2008. All rights reserved.

Kahn, R. The Educative Potential of Ecological Militancy in an Age of Big Oil: Towards a Marcusian Ecopedagogy. *Policy Futures in Education* 4(1). Symposium Journals, 2006. All rights reserved.

Ecopedagogy: An Introduction

> 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 (in Ince, 1995, p. 123)

> Our destiny exercises its influence over us even when, as yet, we have not yet learned its nature: it is our future that lays down the law to our today.
>
> —Friedrich Nietzsche (1908)

Introducing the Problem

In 1970, the first Earth Day event helped to mark the global arrival of the environmental movement and it is often hailed as a pedagogical and political milestone toward the production of a more ecologically sound society. By contrast, it is not uncommon today to hear students, environmentalists, and other informed citizens criticize Earth Day with declarations like, "Every day should be Earth Day—to give the Earth one day a year of love and respect, while denying it the other 364 doesn't help much at all." While such critique can be symptomatic of a form of paralyzing and reactionary cynicism, it should also be seen as representative of modern environmentalism's compelling achievement as an educational social movement to date. Whereas the critical socioenvironmental visions of theorists such as Aldo Leopold, Rachel Carson, or Murray Bookchin must have sounded like voices crying out in the wilderness in the 1950s or 1960s, in the twenty-first century it is no longer necessary for a great many people to argue even about the ecological burdens produced by global society. However, if recent decades have seen the rise of a powerful popular demand for planetary sustainability, this must be placed in the alarming context of the more rapid expansion of unsustainable economic practices throughout the world since the end of World War II—

the modern development strategies commonly denoted by the discourse of "globalization."

In 2005, the UN-funded Millennium Ecosystem Assessment (MEA) released the most encompassing study to date about the state of the planet's ecology. To summarize, it found that during the last fifty years, humanity has altered (and mainly degraded) the earth's ecosystems "more rapidly and extensively than in any comparable time of human history" (MEA, 2005, p. 2). This was done largely on behalf of an exponential demand for primary natural resources that coincides with the social and economic changes wrought by corporate and other transnational capitalist interests (Kovel, 2007). For instance, between 1960 and 2000, the world's population doubled and the global economy increased by more than sixfold. At the same time, the mining of and dependence upon large-scale industrial energy resources like oil, coal, and natural gas followed and exceeded the trends set by the population curve despite many years of warnings about the consequences inherent in their overuse and extraction. This, of course, has led to a corresponding increase in the carbon emissions known to be responsible for global warming (Gore, 2006).[1]

Additionally, more land (e.g., forests, wetlands, prairies, savannahs) has been converted for agricultural uses over the last half-century than had taken place during the 150 years prior combined (MEA, 2005, p. 2). The majority of the world's dominant farming practices (e.g., agribusiness monocropping; slash-and-burn technique) developed during this period has debased soil quality and furthered global desertification. However, the so-called "green revolution" has been sold as a success because short-term food production via these methods increased by a factor of nearly three. Other land usage statistics from this time frame show that water use doubled (nearly 70 percent of used water goes to agriculture), half of all wetlands were developed, timber pulping and paper production tripled while 50 percent of the forests disappeared, and the damming of flowing waterways doubled hydropower (p. 5). Moreover, unsustainable fishing practices contributed to grave losses of global mangroves during the second half of the twentieth century, reducing them by approximately 35 percent. Coral reef biomes—our underwater tropical rain forests—have likewise tolled worldwide extinction and damage rates of 20 percent each respectively since 1960 (p. 5).

This has led (and will continue to lead) to unthinkable levels of marine species extinction. The rise of commercial fishing is now known to have eradicated some 90 percent of the ocean's largest fish varieties. 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 commonly drowning and killing about 1,000 whales, dolphins, and porpoises daily, some of the very species already near extinction from centuries of commercial hunting (Verrengia, 2003), and there has even been a startling move toward the reintroduction of commercial whaling by the International Whaling Commission due to pressure from countries such as Norway, Iceland, and Japan.

The effects of corporate globalization have been equally profound on other species, as we have experienced 1,000 times the historical rate of normal background extinction, with upwards of 30 percent of all mammals, birds, and amphibians currently threatened with permanent disappearance (MEA, 2005, p. 4). In other words, over the span of just a few decades we are involved in a mass die-off of nonhuman animals such as we have not witnessed for 65 million years, and worse yet, predictions for the future expect these rates of extinction to increase tenfold (p. 5). Moreover, these figures only document the indirect destruction of land animals and so fail to account for the ways in which capitalism has transformed family farms and subsistence-oriented agriculture into vast, unimaginable factory farms and their corresponding slaughterhouses—brutal and ecologically ruinous production lines, in which thousands of animals are murdered for meat harvesting every hour per the business standard (Singer & Mason, 2006).

Almost all of these trends just summarized are escalating and most are accelerating. Even during what amounts to a current economic downturn, transnational markets and neoliberal policies continue to flow and evolve, and the globalization of technocapital (Best & Kellner, 2001) persists in order to fuel yet another vast reconstruction of the information society that has developed under the aegis of American imperialism. Over the last fifty to sixty years, then, a particularly noxious economic paradigm has unfolded like a shock wave across the face of the earth, one that has led to an exponential increase of global capital and startling achievements in science and technology, but which has also had devastating effects upon ecosystems both individually and taken as a whole (Foster, 2002). According to the United Nations Environment Programme's *GEO-3* report, a vision of continued economic growth of this kind is consonant only with planetary extinction:

either great changes are made in our global lifestyle now or irrevocable social and ecological upheavals will grip the world by 2032 (United Nations Environment Programme, 2002).

Ecocrisis and Environmental Education

> Nor do piecemeal steps however well intended, even partially resolve problems that have reached a universal, global and catastrophic character. If anything, partial "solutions" serve merely as cosmetics to conceal the deep seated nature of the ecological crisis. They thereby deflect public attention and theoretical insight from an adequate understanding of the depth and scope of the necessary changes.
>
> —Murray Bookchin (1982)

For the reasons just outlined, many now routinely speak of an unprecedented global environmental or ecological crisis (or crises) as being underway. However, while the term *crisis* is utilized in a colloquial fashion to connote ideas of uncontrollable mayhem and danger, it should rather be understood as a diagnostic philosophical concept that indicates the need for personal critical deliberation toward the possibility of affecting meaningful change. Etymologically, the concept relates to the ancient Greek verb *krinein*, which means "to decide." Throughout history, the idea of crisis has also possessed a primary medical connotation in which it identifies the potential turning point of diseases in which the infirm will either begin to gain health or become fatally ill. This diagnostic aspect of the term doubtlessly informed its use as a modern political concept beginning during the Age of Enlightenment when revolutionary activity, sociocultural disruptions, and sweeping changes in the economy led to the creation of new theories and intellectual perspectives in the attempt to reveal the symptoms of social pathology and provide prognoses that might ensure a better future. Hence, to be subjected to crisis is to partake of structural threats and potential failures but it is also, contradictorily, to be able to identify threats such that they become the objects of one's own autonomous decision-making power. A crisis should thus be seen as "a moment of decisive intervention…of thorough-going transformation…of rupture" (Hay, 1999, p. 323). It is potentially catastrophic, but not necessarily so—the matter very much hangs in the balance. The idea is captured succinctly by Frijtof Capra, who noted in the opening of his own founding ecological manifesto, *The Turning Point* (1984), that the Chinese ideogram "for 'crisis' - *wei-ji* - is composed of the characters for 'danger' and 'opportunity'" (p. 26).

Just as there is now an ecological crisis of serious proportions, there is also a crisis in environmental education over what must be done about it. Again, over the last half-century, the modern environmental movement has undeniably helped to foster widespread social and cultural transformation. In part, it has developed ideas and practices of environmental preservation and conservation, struggled to understand and reduce the amount of pollution and toxic risks associated with industrialized civilization, produced new modes of counterculture and morality, outlined the need for appropriate technologies, and led to powerful legislative environmental reforms as well as a wide range of alternative institutional initiatives. As a form of nonformal popular education it has stirred many people to become self-aware of the role they play in environmental destruction and to become more socially active in ways that can help to create a more ecological and sustainable world.

In terms of formal educational programs, federal and state legislatures have mandated that environmental education be included as part of the public education system's curricular concerns. Over the last thirty-eight years, the North American Association for Environmental Education—the world's flagship environmental education organization—has grown from being a fledgling professional society to its current state as the coordinator, in over fifty-five countries worldwide, of thousands of environmental organizations toward the certification and legitimation of environmental education as a professional research field. These educational programs have apparently made their case, as a comprehensive set of studies completed in 2005 found that:

- 95% of all American adults support having environmental education programs in schools;
- 85% of all American adults believe that governmental agencies should support environmental education programs; and that
- 80% believe that corporations should train their employees in how to solve environmental problems. (Coyle, 2005)

In many ways, then, the foundation for comprehensive and powerful forms of environmental literacy and ecoliteracy has never been more at hand throughout society.

To reiterate: despite the environmental movement's significant pedagogical accomplishments, there have also been numerous setbacks and a

tremendous amount of work remains to be done—perhaps more than ever before (see the still relevant Dowie, 1996). For example, the same studies that revealed Americans' overwhelming support for environmental education programs reported a variety of findings which demonstrate that most Americans continue to have an almost shameful misunderstanding of the most basic environmental ideas. Thus, it was found that an estimated:

- 45 million Americans think the ocean is a fresh source of water;
- 125 million Americans think that aerosol spray cans still contain stratospheric ozone-depleting chlorofluorocarbons (CFCs) despite the fact that they were banned from use in 1978;
- 123 million Americans believe that disposable diapers represent the leading landfill problem when they in fact only represent 1% of all landfill material; and
- 130 million Americans currently believe that hydropower is the country's leading energy source when, as a renewable form of energy, it contributes only 10% of the nations total energy supply. (Coyle, 2005)

Of course, more problematic still for educators is the burgeoning rise in social and ecological disasters that are resulting from the mixture of unsustainable economic exploitation of nature and environmentally unsound cultural practices.[2] Such ecological issues, requiring critical knowledge of the dialectical relationship between mainstream lifestyle and the dominant social structure, require a much more radical and more complex form of ecoliteracy than is presently possessed by the population at large. In this context, while it may be unfair to lay the blame for social and ecological calamity squarely on the environmental movement for its inability to generate effective pedagogy on this matter, it must still be noted that the field of environmental education has been altogether unable to provide either solutions or stop-gaps for the ecological disasters that have continued to mount due to the mushrooming of transnational corporate globalization over the last few decades.

In fact, despite a proliferation of programs since the 1970s, environmental education has tended to become isolated as a marginal academic discipline relative to the curricular whole.[3] The major trend on campuses today is for environmental studies to be lodged within and controlled by natural sciences departments, with little more than tips of the cap to the humanities, and ostensibly no input from scholars of education (see Kahn &

Nocella, Forthcoming). When such studies are housed in colleges of education proper, however, they are rarely integrated across required programs of study in either teacher training, educational leadership, or educational research. Instead, they are generally confined to specialized M.A.-level or other certificate-based environmental education programs.

These degree programs often lack rigorous training in theoretical critique and political analysis, choosing to focus instead on the promotion of outdoor educational experiences that all too often advance outdated, essentialized, and dichotomous views of nature and wilderness.[4] As Steven Best and Anthony Nocella (2006) have argued, such views as these are typical of the first two waves of (predominantly white, male, and middle-class) U.S. environmentalism. These views have proven insufficient and even harmful toward the advancement of richly multiperspectival ecological politics and environmental justice strategies (for instance, see Adamson, et al., 2002), which seek to uncover collective social action across differences of race, class, gender, species, and other social categories. Hence, many outdoor education programs stand in need of radical reconstruction away from an uncritical form of environmental literacy that has remained rooted as the field standard since William Stapp (1969). Stapp is considered the "founder" of the environmental education movement. He first stressed that the goals of environmental education were: knowledge of the natural environment, interdisciplinary exploration, and an inquiry-based, student-centered curricular framework, which could be used for overcoming intractable conflict and ideology in society.[5]

Critiquing Environmental Literacy: The Zoo School

A poster-child example for such environmental literacy[6] is the School of Environmental Studies, known as the "Zoo School," in Apple Valley, Minnesota. Here high school-aged juniors and seniors attend school on the zoo grounds, treating the institution and a nearby park as an experiential learning lab where they conduct independent studies and weave environmental themes into their curricular work and projects. A recent pamphlet funded and promoted by the U.S. Environmental Protection Agency, Office of Environmental Education, *Advancing Education Through Environmental Literacy* (Archie, 2003) lauds the school as one "using the environment to boost academic performance, increase student motivation, and enhance environmental literacy" (p. 8). But the literacy aspects of this education, which

accord with the aims put forth by Stapp and those of the North American Association for Environmental Education, lack the strong critical and ethical focus that is presently demanded by our unfolding planetary ecocrisis.[7]

For example, per written accounts, the heads of the Zoo School do not have the students pose problems into the history and nature of zoos—a highly problematical social and environmental institution (Rothfels, 2002)—or become active in the fight against the Apple Valley zoo's own sordid history and policies. As regards the latter project, a worthwhile educational venture would be to have students become involved in banning dolphins as a zoo exhibit (hardly a native species to Minnesota) and to have them returned to either a sanctuary or non-domesticated oceanic habitat. Instead, as of 2006, one could pay $125 to swim with the zoo's dolphins, a practice generally condemned by marine ecologists (Rose, 1996) and environmentalists/animal rightists (Watson, 1995) alike as both inhumane and beyond the bounds of good environmental stewardship.

Further, the Apple Valley zoo's Wells Fargo Family Farm claims to foster environmental literacy experiences for Zoo School students "to explain and…learn about how food gets from farms to tables."[8] Yet students could alternatively work for a critical literacy that seeks to understand how the implosion of corporate marketing and ideology into the zoo structures its educational program. That is, while the Zoo School presently offers relatively idealized experiences of life on a family farm, it could instead aim for literacy into how to organize opposition to such questionable practices as the naturalization of a corporate "family farm," as well as in how to demand answers from responsible parties as to why high-ranking executives of a leading corporate agribusiness like Cargill presently sit on the zoo's board of directors. Additionally, students could learn to read the corporate farm exhibit against the grain in order to politically problematize why the zoo has failed to create educational encounters on the ecological benefits of a vegan diet, when it instead at least tacitly supports as sustainable and conservationist-minded the standard American meat-based diet and the ecologically damaging factory farming that presently supports it.

Failing to provide critical pedagogy, the Zoo School has been promoted within leading environmental education circles as a leader because it is, in the words of the Environmental Education & Training Partnership, "Meeting Standards Naturally" (Archie, 2003). That is, it is motivating students in a new way to go to school and meet or even surpass national curricular and testing standards of a kind consistent with the outcome-orientation of the No

Child Left Behind Act. As with other schools that have adopted environmental education as the central focus of their programs, the Zoo School apparently shines—not because it is producing ecological mindsets and sustainable living practices capable of transforming society in radically necessary ways—but because its students' reading and math scores have improved; and they have performed better in science and social studies; developed the ability to transfer their knowledge from familiar to unfamiliar contexts; learned to "do science" and not just learn about it; and showed a decline in the sort of overall behavior classified as a discipline problem (Glenn, 2000, p. 3). Obviously, regardless of whatever good pedagogy is taking place at the Zoo School, this laudatory praise of its environmental literacy program by environmental educators is little more than the present-day technocratic standards movement in education masquerading as a noteworthy "green" improvement. Put bluntly: this is environmental literacy as a greenwash.[9]

Worse still, though, is that here environmental literacy has not only been co-opted by corporate state forces and morphed into a progressively-styled, touchy-feely method for achieving higher scores on standardized tests like the ACT and SAT, but in an Orwellian turn it has come to stand in actuality for a real illiteracy about the nature of ecological catastrophe, its causes, and possible solutions. As I will argue in this book, our current course for social and environmental disaster (though highly complex and not easily boiled down to a few simple causes or strategies for action) must be traced to the evolution of: an anthropocentric worldview grounded in what the sociologist Patricia Hill Collins (1993) refers to as a matrix of domination (see chapter 1); a global technocapitalist infrastructure that relies upon market-based and functionalist versions of technoliteracy to instantiate and augment its socio-economic and cultural control (see chapters 2 and 3); an unsustainable, reductionistic, and antidemocratic model of institutional science (see chapter 4); and the wrongful marginalization and repression of pro-ecological resistance through the claim that it represents a "terrorist" force that is counter to the morals of a democratic society rooted in tolerance, educational change, and civic debate (see chapter 5). By contrast, the environmental literacy standards now showcased at places like the Zoo School as "Hallmarks of Quality" (Archie, 2003, p. 11) are those that consciously fail to develop the type of radical and partisan subjectivity in students, that might be capable of deconstructing their socially and environmentally deleterious hyper-individualism or their obviously socialized identities that tend toward

state-sanctioned norms of competition, hedonism, consumption, marketization, and forms of quasi-fascistic patriotism.

Just as Stapp (1969) theorized environmental literacy as a form of political moderation that could pacify the types of civic upheaval, that occurred during the Civil Rights era, now too during the tendentious political atmosphere that has arisen as the legacy of the George W. Bush presidency, being environmentally literate quite suspiciously means learning how to turn the other cheek and listen to "both sides" of an issue—even when the issue is the unprecedented mass extinction of life taking place on the planet. In a manner that accords more with Fox News than Greenpeace, a leading environmental literacy pamphlet (Archie, 2003) emphasizes that "Teaching and learning about the environment can bring up controversies that must be handled in a fair and balanced manner in the classroom" (p. 11). Later in the document a teacher from Lincoln High School in Wisconsin is highlighted in order to provide expert advice in a similar fashion: "I'd say the most important aspect of teaching about the environment is to look at all aspects involved with an issue or problem. Teach from an unbiased position no matter how strong your ideas are about the topic. Let the kids make decisions for themselves" (p. 12), she implores.

This opinion is mirrored by the Environmental Education Division of the Environmental Protection Agency (a federal office, created by the Bush administration, dedicated to furthering environmental literacy), which on its own website underscores as "Basic Information" that "Environmental education does not advocate a particular viewpoint or course of action. Rather, it is claimed that environmental education teaches individuals how to weigh various sides of an issue through critical thinking and it enhances their own problem-solving and decision-making skills."[10] Yet, this definition was authored by an administration trumping for a wider right-wing movement that attempts to use ideas of "fair and balanced" and "critical thinking" to occlude obvious social and ecological injustices, as well as the advantage it gains in either causing or sustaining them. This same logic defending the universal value of nonpartisan debate has been used for well over a decade by the right to prevent significant action on global warming. Despite overwhelming scientific acceptance of its existence and threat, as well as of its primarily anthropogenic cause, those on the right have routinely trotted out their own pseudo-science on global warming and thereby demanded that more research is necessary to help settle a debate on the issue that only they are interested in continuing to facilitate.

Likewise, within academic circles themselves, powerful conservatives like David Horowitz have the support of many in government who are seeking to target progressive scholars and viewpoints on university and college campuses as biased evidence of a leftist conspiracy at work in higher education (Nocella, Best & McLaren, Forthcoming). In order to combat such alleged bias, "academic freedom" is asserted as a goal in which "both sides" of academic issues must be represented in classrooms, departments, and educational events. The result of this form of repressive tolerance (see chapter 5) is simply to impede action on matters worth acting on and to gain further ideological space for right-wing, corporate and other conservative-value agendas.[11]

It is clear, then, that despite the effects and growth of environmental education over the last few decades, it is a field that is ripe for a radical reconstruction of its literacy agenda. Again, while something like environmental education (conceived broadly) should be commended for the role it has played in helping to articulate many of the dangers and pitfalls that modern life now affords, it is also clear that it has thus far inadequately surmised the larger structural challenges now at hand and has thus tended to intervene in a manner far too facile to demand or necessitate a rupture of the status quo. What has thereby resulted is a sort of crisis of environmental education generally and, as a result, the prevailing trends in the field have recently been widely critiqued by a number of theorists and educators who have sought to highlight their limitations.

In this way, a variety of discourses and fields under monikers such as ecological education (Orr, 2004; 2002; 1992; Capra, 2002; 2000; 1996; Stone & Barlow, 2005), place-based education (Gruenewald & Smith, 2007; Haluza-DeLay, 2006), humane education (Selby, 2000; 1996; 1995; Weil, 2004), holistic education (Miller, 2007; Miller, 1991), eco-justice (Martusewicz & Edmundson, 2005; Wayne & Gruenewald, 2004; Bowers, 2001), commons-based education (Prakash & Esteva, 2008; Bowers, 2006a; 2006b; Martusewicz, 2005), transformative education (O'Sullivan, 1999; O'Sullivan, Morrell & O'Connor, 2002; O'Sullivan & Taylor, 2004; Hill & Clover, 2003), and peace education (Andrzejewski, Baltodano & Symcox, 2009; Wenden, 2004; Eisler & Miller, 2004) have been tentatively developed as either necessary counterparts to or more fit alternatives for environmental education programs generally. Most, if not all, of these approaches attempt to more robustly link forms of environmental literacy to the need for varieties of social and cultural literacy—what I define as a type of ecoliteracy. In this

respect, even if these ecoliteracy frameworks move beyond sustainable development discourse in ways similar to or supportive of a critical ecopedagogy, they still arise within a growing professional trend that has also increasingly fed a call for the adoption of education for sustainable development programs around the world. Insight into the potential limitations of education for sustainable development is therefore required in order to better defend more emancipatory approaches.

From Environmental Education to Education for Sustainable Development

> Developers, Developers, Developers, Developers, Developers, Developers, Developers, Developers, Developers, Developers, Developers, Developers, Developers, Developers, Developers, Developers.…Yes!
>
> —Steve Ballmer, CEO of Microsoft Corporation (ZDNet, 2001)[12]

In 1992, at the first Earth Summit in Rio de Janeiro, Brazil, an attempt to make a systematic policy statement about the interrelationship between humanity and the Earth was conceived of and arguably demanded. It was hoped that the document would formulate the sustainability 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 (http://www.earthcharter.org), 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, the founding director of the United Nations Environment Programme and organizer of the Rio Earth Summit, 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."[13] While hardly a perfect set of principles, the Earth Charter's announced mission was still nothing short of revolutionary, as it attempted a bold educational reformulation of how people should maintain sustainable cultural relations with nature and between each other. It thereby cast environmental, socioeconomic, and political problems together in one light, while demanding long-term and integrated responses to our growing planetary social and ecological problems (Gruenewald, 2004).

It was hoped that the United Nations General Assembly and other governmental leaders would officially recognize and pledge to adopt the Earth Charter at the 2002 Earth Summit meetings in Johannesburg, South Africa (known as the World Summit for Sustainable Development). However, the summit proved disappointing in this and many other respects. 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 global political map, social and environmental activists found the World Summit for Sustainable Development to be a sham for mostly the same reason.[14]

The W$$D (as its critics called it, due to its apparent pro-business agenda and bad taste in staging a posh Olympics-style event on the outskirts of the Soweto shantytowns' appalling poverty) therefore 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 nongovernmental organizations, the summit's concluding *Johannesburg Declaration* ultimately refused to consider ratification of the holistic, pointedly socialist in spirit, and non-anthropocentric Earth Charter educational framework (Gadotti, 2008). Instead, a Decade of Education for Sustainable Development was announced by the United Nations in 2005 and education for sustainable development was promoted as the new crucial educational field to be integrated across the disciplines and at all levels of schooling.

A leading international critic of environmental education has been Edgar González-Gaudiano (2005), who rightly charges that all-too-often the theories, policies, and discursive themes of environmental education have

represented voices of the advanced capitalized nations. This results in the pressing need for environmental justice, which seeks to counteract the cultural racism inherent in mainstream sustainable (and unsustainable) development strategies, being problematically overlooked by most educational programs currently dealing with environmentalism as a set of wilderness-oriented preservationist issues (McLaren & González-Gaudiano, 1995). Therefore, by promoting an intersectional ecological concept of "human security" (p. 74), González-Gaudiano has sought to displace hegemonic ideas of national security in favor of a problem-posing pedagogy that seeks knowledge 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 and economic problems deserving of everyone's attention. In this context, he has further surmised that education for sustainable development might be used as a "floating signifier" or "interstitial tactic" capable of providing diverse groups with opportunities to produce alliances as part of the construction of a new emancipatory educational discourse (González-Gaudiano, 2005).[15] Unfortunately, however, he finds it troubling for this vision that thus far those who are not environmental educators "either appear to be uninformed or have shown no interest in the inception of a Decade that concerns their work" (p. 244).

The founding editor of the *Canadian Journal of Environmental Education* and recent co-organizer of the 5th World Congress of Environmental Education, Bob Jickling (2005), is additionally worried by the preponderance of forms of instrumentalist and deterministic education for sustainable development discourse to date. In his opinion, it is extremely worrisome that a major emerging trend within education for sustainable development is to treat education as a mere method for delivering and propagating experts' ideas about sustainable development, rather than as an opportunity to work for participatory and metacognitive engagements with students over what (if anything) sustainable development even means (Jickling & Wals, 2007).

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 the social critic Ivan Illich referred to as the prison of the "global classroom" (Illich & Verne, 1981)—an opportunity to turn ecocrisis into a rallying venture for "money, manpower, and management" (Illich, 1978). Yet, it should be pointed out that despite his serious reservations, Jickling has noted that educators are already doing good work

under this moniker as well (for instance, see Sterling, 2001; Scott & Gough, 2004) and that it contains potential worthy of exploration by those concerned with educating for sustainability.[16]

Against the Third Way

Akin to González-Gaudiano and Jickling, I believe that critical ecological educators should make strategic use of the opportunities afforded by the Decade of Education for Sustainable Development (see chapter 4), but that they must refrain from becoming boosters who fail to advance rigorous critiques of its underlying political economy. To my mind, it is clear that this economy is mainly the political and economic global Third Way of so-called liberal centrists like 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.[17]

The rhetoric of this approach now champions *sustainable development* as a win-win-win for people, business, and nature, 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 the carrying capacity of supporting ecosystems" (Munro & 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 & 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 social welfarism and the insanely aggressive corporatism recently favored by the Bush/Cheney administration. The only major 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 the majority of center-left liberals, who believe that governmental administrations can learn to legislate temperance by creating evermore opportunities for intemperate economic investment in alternative, socially responsible markets. The sustainable development vision thereby proffered 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).[18] However, in this respect we might wonder if in reality this turns out to be anything other than the foxes being left in charge of the hen house.

"Sustainable development" has thus increasingly become a buzzword uttered across all political lines; one is as likely to hear it in a British Petroleum commercial as on a Pacifica radio station. As noted, the United Nations also now casts it as environmental education's heir, thereby challenging every nation to begin transforming its educational policies into a global framework for ecological and social sustainability, which can be built in relatively short order. But just what kind of sustainable development is education for sustainable development supposed to stand for? Is it consonant with alter-globalization views, or is it rather synonymous with neoliberalism in either its right or left-liberal variants?

The United Nations charges institutions (especially educational institutions) to alter their norms and practices to accord with cultural conservation strategies. 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?

The next decade will ultimately decide whether education for sustainable development is little more than the latest educational fad or, worse still, turns out to be a pedagogical seduction developed by and for big business-as-usual in the name of combating social and ecological catastrophes—the educational arm of what Naomi Klein (2007) has termed *disaster capitalism*. Due to the inherent ideological contradictions currently associated with the term *sustainable development*, the Decade of Education for Sustainable Development 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 offered within this model can critically question and produce reconstructive action on the well-established social and human development models (in all of their left, center, and rightist formulations).

On the other hand, it is my belief that if education for sustainable development is utilized strategically to advance the sort of radical ecopedagogy such as for which this book will begin to lay the foundations, it could be a much-needed boost to social movements that are desperately attempting to respond to the cataclysmic challenges posed by unprecedented planetary ecocrisis. In this way, what has been heretofore known as environmental education could at last move beyond its discursive marginality by joining in solidarity with critical educators, and a real hope for an ecological and planetary society could be better sustained through the widespread deployment of transformative socioeconomic critiques and the sort of emancipatory life practices that could move beyond those programmatically offered by the culture industries and the state.

The Ecopedagogy Movement

> Eco-pedagogy is not just another pedagogy among many other pedagogies. It not only has meaning as an alternative global project concerned with nature preservation (Natural Ecology) and the impact made by human societies on the natural environment (Social Ecology), but also as a new model for sustainable civilization from the ecological point of view (Integral Ecology), which implies making changes on

> economic, social, and cultural structures. Therefore, it is connected to a utopian project—one to change current human, social, and environmental relationships. Therein lies the deep meaning of eco-pedagogy.…
>
> —Angela Antunes and Moacir Gadotti (2005)

Though nascent, the international ecopedagogy movement[19] represents a profound transformation in the radical educational and political project derived from the work of Paulo Freire known as *critical pedagogy*.[20] Ecopedagogy seeks to interpolate quintessentially Freirian aims of the humanization of experience and the achievement of a just and free world with a future-oriented ecological politics that militantly opposes the globalization of neoliberalism and imperialism, on the one hand, and 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. In this, it attempts to produce what Gregory Martin (2007) has theorized as a much needed "revolutionary critical pedagogy based in hope that can bridge the politics of the academy with forms of grassroots political organizing capable of achieving social and ecological transformation" (p. 349).

The ecopedagogy movement grew out of discussions first conducted around the time of the Rio Earth Summit in 1992. During the years leading up to the event, environmental themes became increasingly prominent in Brazilian circles. Then, following the Summit, a strong desire emerged among movement intellectuals to support grassroots organizations for sustainability as well as worldwide initiatives such as the Earth Charter. In 1999, the Instituto Paulo Friere 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 also to key movement documents such as the Ecopedagogy Charter (Spring, 2004). 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.[21]

As previously noted, scholars and activists interested in furthering either environmental literacy through environmental education or variants of social

and environmental ecoliteracy via education for sustainable development and its many potential subfields, have a wide number of alternatives from which to choose. However, these frameworks often ultimately derive, are centered in, or are otherwise directed from relatively privileged institutional domains based in North America, Europe, or Australia—primary representatives of the global north (Brandt, 1980). The ecopedagogy movement, by contrast, has coalesced largely within Latin America over the last two decades. Due in part to its being situated in the global south, the movement has thus provided focus and political action on the ways in which environmental degradation results from fundamental sociocultural, political, and economic inequalities.[22] As González-Gaudiano (2005) has emphasized, it is exactly these types of views and protocols that are necessary for ecoliteracy in the twenty-first century, due to their being routinely left off of northern intellectual agendas in the past. However, in a manner that moves beyond González-Gaudiano's anthropocentric, social justice–oriented approach to environmental issues, the ecopedagogy movement additionally incorporates more typically northern ecological ideas such as the intrinsic value of all species, the need to care for and live in harmony with the planet, as well as the emancipatory potential contained in human aesthetic experiences of nature.[23]

In this way, the ecopedagogy movement represents an important attempt to synthesize a key opposition within the worldwide environmental movement, one that continues to be played out in major environmental and economic policy meetings and debates. Further, as an oppositional movement with connections to grassroots political groups such as Brazil's Landless Rural Workers' Movement and alternative social institutions such as the World Social Forum, but also academic departments and divisions within the United Nations Environment Programme, the ecopedagogy movement has begun to build the extra- and intra-institutional foundations by which it can contribute meaningful ecological policy, philosophy, and curricular frameworks toward achieving its sustainability goals. Still, the ecopedagogy movement might not presently demand much interest from northern educational scholars—beyond those whose specialty is in the field of international and comparative education—save for the movement's historical relationship to the critical pedagogy of Paulo Freire.

While drawing upon a range of influences,[24] ecopedagogical theory has evolved both directly out of Freire's work and indirectly through the Latin American networks for popular education (Gutierrez & Prado, 1999; Gadotti, 2009; 2000)[25] and liberation theology (e.g., Camara, 1995; Boff,

2008; 1997) where Freire's ideas have exerted great influence. Freire himself apparently intended to issue a book on ecopedagogy, which was prevented by his death in 1997. However, in a late reflection published posthumously in *Pedagogy of Indignation*, he concluded:

> 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. Ecology takes on fundamental importance at the end of the century. It has to be present in any radical, critical or liberationist educational practice. For this reason, it seems to me a lamentable contradiction to engage in progressive, revolutionary discourse and have a practice which negates life. A practice which pollutes the sea, the water, the fields, devastates the forests, destroys the trees, threatens the birds and animals, does violence to the mountains, the cities, to our cultural and historical memories.…(Freire, 2004, pp. 46–47)

A Critical Ecopedagogy for the North

Freire's influence upon and reinvention in the work of two generations of critical pedagogues from the United States and other advanced capitalist nations has led to his well-known reputation as being one of the greatest educational figures of modern times. Therefore, Freire's belief that today's emancipatory educational ventures must strive to combat ecocrisis means that a transformative critique of critical pedagogy as developed in northern contexts can now be made in the comparative light of the initial push for ecopedagogy in the south. This is further mandated because, despite the more recent move by some northern theorists associated with critical pedagogy to articulate or engage with ecological concerns,[26] the field of critical pedagogy has tended to remain historically silent on environmental matters. Moreover, some critics like C. A. Bowers (2003a) believe that this silence is more than accidental, and that critical pedagogical theory may not only be insufficient to fully grasp planetary ecocrisis in all its complexity, but could also unconsciously reproduce unsustainable harms in its struggle for human freedom and equity.

Affirming this idea in his own recent critique of critical pedagogy, the critical theorist of education Ilan Gur-Ze'ev (2005) has written:

> Until today, Critical Pedagogy almost completely disregarded not just the cosmopolitic aspects of ecological ethics in terms of threats to present and future life conditions of all humanity. It disregarded the fundamental philosophical and exis-

> tential challenges of subject-object relations, in which "nature" is not conceived as a standing reserve either for mere human consumption or as a potential source of dangers, threats, and risks. (p. 23)

Of course, those familiar with Freire's own work will recognize that environmental themes were less than explicit in most of his writing or activities—an important point especially as he had friends and influences such as Ivan Illich, Myles Horton, Herbert Marcuse, and Erich Fromm who differed significantly from him in this respect.[27] Further, while Freire's final pedagogical reflections espoused a sort of revolutionary eco-humanism that conceived of the need to dialectically overcome the objectification of human and nonhuman natures as part of a more fully inclusive vision of liberation, one also finds therein that Freire continued to speak of humanization as an ontological vocation that stands in hard opposition to the state of nonhuman animality (Freire, 2004). This foundational humanistic dualism between the "human" and the "animal" in fact runs throughout all of Freire's work and must itself be subjected to a reconstructive ecopedagogical critique.

A crucial point is therefore raised that ecopedagogy, while drawing upon a coherent body of substantive ideas, is neither a strict doctrine nor a methodological technique that can be applied similarly in all places, all times, by all peoples. As Freire himself demonstrated with his own philosophy, pedagogies and theories evolve in their historical capacities as they meet actual challenges and reflect on their potential limitations. As a burgeoning movement, ecopedagogy is itself developing rapidly through the involvement of new individuals and groups and as political actualities on the ground change. Further, North American ecopedagogy requires reimagination in the same way that Freire demanded his own pedagogy be reinterpreted and reconstructed in order to reflect the varying cultural and historical contexts in which it was situated (Freire, 1997a, p. 308).[28]

A northern ecopedagogy should therefore begin to side and dialogue with its Latin American and related southern counterparts, at least as such positions are tentatively theorized in the Eco-pedagogy and Earth Charters (Gadotti, 2003). This means also drawing upon the emancipatory commitments and potentials of Freirian and other forms of critical pedagogy as they militate against and critique northern hegemonic forms of power such as neoliberal globalization, Machiavellian imperialism, patriarchy, systemic racism, as well as other forms of structural oppression. Lastly, a Freirian ecopedagogy also analyzes schools as practical sites for ideological struggle,

but with an eye to how such struggle is connected with counterhegemonic forces outside the schools in the larger society. In other words, a northern ecopedagogy must be concerned with the larger hidden curriculum of unsustainable life and look to how social movements and a democratic public sphere are proffering vital knowledge about and against it.

The Need for Marcuse and Illich

Recently, Latin American theorists of ecopedagogy have begun to connect their work to the critical theory of Herbert Marcuse (Magelhaes, 2005; Delgado, 2005) and, to a lesser degree, other members of the Frankfurt School. As recent critical readers on Marcuse assert (Kellner, Lewis, Pierce & Cho, 2008; Abromeit & Cobb, 2004), ecological politics were an important aspect of Marcuse's revolutionary critique, and he should be considered a central theorist of the relationship between advanced capitalist society and the manifestation of ecological crisis.[29] Marcuse also taught how to overcome this crisis through the creation of revolutionary struggle and the search for new life sensibilities capable of transcending the nature/culture dichotomy that the he and other Frankfurt School members saw as a driving force behind the horrors of Western civilization. Relatedly, as Andrew Light (in Abromeit & Cobb, 2004, pp. 227–35) argues, Marcuse was an often uncited but key figure in the creation of non-anthropocentric social theory. Therefore, while both Freire and Marcuse sought through their pedagogies and politics to promote the goal of humanization, Marcuse's theory can help the ecopedagogy movement to provide a sympathetic correction of the Freirian dichotomy of the human and nonhuman.

Like Marcuse, Freire vehemently defended the pedagogical primacy of biophilia.[30] As Henry Giroux notes in his introduction to Freire's *The Politics of Education*, Freire developed a partisan view of education and praxis that "in its origins and intentions was for 'choosing life'" (Giroux, 1985, pp. xxiv–xxv). Yet, Marcuse differs from Freire in that, akin to Antonio Gramsci, he began with the primacy of the political sphere through which the necessity of education was derived—politics as education. Freire's work arguably starts with the historical given of education and strives toward a goal of political action, thereby producing a politics of education or theory of education as politics (Cohen, 1998).

For this reason, Freire's work is often tailored within critical pedagogy literature as mainly relevant to education professionals and teachers. Yet,

Marcuse offers a theory of education as a political methodology that is "more than discussion, more than teaching and learning and writing" (Kellner, 2005a, p. 85). He feels that unless and until education "goes beyond the classroom, until and unless it goes beyond the college, the school, the university, it will remain powerless. Education today must involve the mind and the body, reason and imagination, intellectual and the instinctual needs, because our entire existence has become the subject/object of politics, of social engineering" (p. 85). As a result, though a critical ecopedagogy is concerned with politicizing and problematizing the organizational milieu in which standardized ecoliteracy now occurs (or fails to occur), the manner in which ecopedagogy is first and foremost a sociopolitical movement that acts pedagogically throughout all of its varied oppositional political and cultural activities is illuminated via Marcuse's influence.

Marcuse also offers imaginative and hermeneutical "conceptual mythologies" (Kellner, 2006; 1984) that can be used to read the world in novel ways and provide openings for alternative theories and practices to the dominant exterministic order. In *Eros and Civilization* (1974), he offers the archetypal images of Orpheus and Narcissus as possible "culture-heroes" (p. 161) for a "Great Refusal" (Marcuse, 1966; 1968) of the social order. In Marcuse's view, these countercultural types exist in contradistinction to that of the Freudian Prometheus—the patriarchal representation of "toil, productivity, and progress through repression," who as "the trickster and (suffering) rebel against the gods…creates culture at the price of perpetual pain" (p. 161). Of course, Prometheus[31] is also hailed as symbolizing humanity's prophetic, historical, educative and justice-seeking aspects, and in this way he became the favorite classical mythological figure of Karl Marx. Via the Marxist reading, then, Prometheus has also come to symbolize daring deeds, ingenuity, and rebellion against the powers that be to improve human life, and in this way we can read Freirian critical pedagogy as very much a promethean movement for change.

But Marcuse's Orpheus and Narcissus make valuable ecopedagogical additions to a conceptual mythos centered on Prometheus as a figure of both good and ill.[32] Notably, Orpheus was a sort of shamanic figure who is often pictured as singing in nature and surrounded by pacified animals, while Narcissus portrays the dialectic of humanity gazing into nature and seeing the beautiful reflection of itself on new terms. Marcuse's Great Refusal, then, must be thought as intending a post-anthropocentric form of cultural work in which nature and the nonhuman are profoundly humanized, meaning that

they are revealed as subjects in their own right. As Marcuse writes, through the Great Refusal, "flowers and springs and animals appear as what they are—beautiful, not only for those who regard them, but for themselves" (Marcuse, 1966, p. 166).

Another counter-reading of the Prometheus myth is offered by Ivan Illich in *Deschooling Society* (1970, pp.105–16). Illich counsels therein not for the abolishment of the Promethean instinct, but for its hegemonic displacement such that a new cultural and political age can be forged through the ideas and values of collaborative Epimethean individuals.[33] Following Marcuse, Illich revisits the Prometheus myth as a tale supporting the historical emergence of patriarchy and *Homo faber*—the progenitor of the kinds of technologies and institutions that Illich believed had drowned political hope in a global cult of expectation and social control. Versions of the myth dating back to Ancient Greece depict Prometheus as a hero whose forethought could compensate for his dim-witted brother, Epimetheus, and the destructive feminine curiosity of Epimetheus's wife, Pandora. Illich notes that prior to the establishment of patriarchy, however, Pandora was actually an ancient fertility goddess whose name meant "All Giver" and that rather than being a sexual temptation, Pandora's box was a kind of ark of sanctuary and keeper of future dreams. In marrying her, then, Epimetheus became wedded to the earth and all its gifts. Thus he represents for Illich the archetype of all those who give but do not take, who care for and treasure life (especially during times of catastrophe), and who attend to the preservation of seeds of hope in the world.

Illich was undoubtedly one of the great social and educational critics of the last few decades, a polymath who was able to bring a wide-range of learning to bear on seemingly all of the crucial issues of the day. He was intimately involved in the environmental and antinuclear movements, was a leading proponent of sustainable "post-development" (Rahnema & Bawtree, 1997) subsistence culture and the need for appropriate technologies, and championed vernacular forms of learning that took place beyond the nefarious epistemological and institutional grip of standard Western science (Prakash & Esteva, 2008). It is thus puzzling that little work, especially in educational circles, has been done on Illich altogether (Morrow & Torres, 1995, p. 232) and there is only scant scholarship that examines his theoretical relevance for understanding and solving global ecological crisis (e.g., Stuchul, Esteva & Prakash, 2005).

One possible answer to Illich's veritable disappearance from current theory has been offered by David Gabbard (1993), who surmises that Illich's

gadfly politics and anarchistic sentiments have so terrified educational institutions that academics have responded by more or less collusively seeking to "write him out" of ongoing discourse, thereby rendering his work professionally illegitimate.[34]Another reason that Illich's importance as an educational philosopher may have been forgotten may ironically lie in the highly successful reception that has been given to Freire's work within critical pedagogy generally.[35] Though initially close friends, political allies, and colleagues—Illich in fact helped to free Freire from jail in 1964 and then hosted him for two summers at the Center for Intercultural Documentation (CIDOC) in Cuernavaca, Mexico, while Freire prepared his work for publication in the United States—their collaboration cooled in the ensuing decades. After Freire's *Pedagogy of the Oppressed* and Illich's *Deschooling Society* became bestsellers in the early 1970s, both became intellectual superstars and leading spokespersons for a generation of young leftist scholars and activists who sought to combat academic privilege and revolutionize campus life post–May 1968. By the late 1970s, however, Freire and Illich began to openly clash on ideological issues like the necessity of schooling, the role of *conscientization* in pedagogy, and Freire's connection to the World Council of Churches.

Though Freire and Illich ultimately remained publicly cordial and privately friendly, professionally their theoretical camps split. Critical educational theorists like Henry Giroux, Stanley Aronowitz, and Michael Apple supported Freire in the 1980s, while Illich took on the role of outsider critic and maverick, much akin to friends of his like Paul Goodman and the "home schooling" movement founders John Holt and Everett Reimer. As a result, Freire and Illich exerted influence on divergent audiences and the two were less and less seen as offering complimentary and overlapping forms of radical pedagogy. The reassertion of Illichian concerns within ecopedagogy can thereby overcome a possible historical over-reliance upon merely Freirian positions within the field of critical pedagogy. Furthermore, by dialectically conceiving of the intellectual traditions of Freire and Illich as Promethean and Epimethean collaborators, the ecopedagogy movement can achieve the sort of perspective that Illich himself counseled was necessary for the politics and culture of a new ecological age.

The Cognitive Praxis of the Ecopedagogy Movement

It must be remembered that the ecopedagogy movement is not just an

abstract theory or meta-theory, untethered from a sociopolitical context. As an inclusively educational social movement trying to name, reflect upon, and act in ways that ethically accord with the vicissitudes of our current planetary ecocrisis, the movement for ecopedagogy is complex, heterogeneous, situational, both formal and informal, and a historical organizational force that is both prone to change and redefinition. Just as attempts to describe something like a "global environmental movement," or even the "American environmental movement," are hopelessly doomed to over-generalization and even reification, to speak of an "ecopedagogy movement" similarly runs the risk of violently enclosing a wide-range of different practices, ideas, and geographic struggles under a falsely singular umbrella term. It will therefore prove useful to provide a classifying framework for future work in ecopedagogy to which different groups/scholars can contribute and map themselves in relationship.

In studying differing aspects of various nations' environmentalism, social movement theorists Ron Eyerman and Andrew Jamison (1991) have helpfully pinpointed three broad dimensions, or "knowledge interests" (Habermas, 1972), that all environmentally oriented movements share in their values, work, and goals. These are, respectively, the cosmological, technological, and organizational dimensions of social change that environmental movement actors struggle to propagate (Eyerman & Jamison, 1991, pp. 70–78) throughout civic debate as well as academic and other intellectual domains of ideation. These three knowledge interests can alternatively be thought of as constituting the epistemic standpoint (Harding, 2004a) of modern environmentalism as an ecoliteracy movement.

The cosmological dimension of this standpoint speaks to the transformation in worldview assumptions that ecoliteracy can provide. According to Eyerman and Jamison this transformation represents revolutionary changes in how the dominant relationship between nature and society manifests, and its success can be measured by the degree to which a popular adoption of new paradigm ecological concepts occurs, such as happened with ideas like *ecosystem* and *dynamic balance* in previous decades (Eyerman & Jamison, 1991, p. 70). The technological dimension of environmentalism's cognitive praxis attempts to convey a winning critique of dangerous and polluting technologies, on the one hand, and the promotion of alternative, appropriate, and clean technologies developed in accordance with an ecological worldview, on the other (pp. 75–76). Finally, the organizational dimension of an ecoliteracy standpoint can be described as the principle concern that "knowledge…should serve the people" such that there is an "active dissemination of

scientific information" and a "popularization of ecology and its demands for relevant interdisciplinary environmental education, merged with the identities of the other new social movements" (p. 76).

In Eyerman and Jamison's view, environmental movements (as social movements) are not simply oppositional communities but are more fully "a socially constructive force" and "a fundamental determinant of human knowledge" (p. 48). In this way, environmental movements engage pedagogically with society, with their own membership, and with other movements. They thereby generate theories, new strategic possibilities, and emergent forms of identity that can be accepted, rejected, or otherwise co-opted by dominant institutional power. This, then, is what can be called the collective *cognitive praxis* (p. 44) of disparate environmental movements—that which variously integrates and blends cosmological, technological, and organizational knowledge interests out of a plethora of movement thoughts and practices.[36] Again, these do not arise in a vacuum. Part of the development of cognitive praxis is to wage transformative campaigns on behalf of these thoughts and practices, and to attempt to march through all manner of social institutions with them, especially those overtly concerned with the function of education.

For the production of educational critique from an ecopedagogical standpoint, I thus enlist the idea of cognitive praxis as a movement intellectual in order to provide a basic structure for the further theoretical investigations of this book. In so doing, I find it neither desirable nor perhaps even possible to attempt to translate the full range of movement ideas into academic discourse. Nor is this book an attempt to be a chronicle, blueprint, or manifesto of the ecopedagogy movement and its related offshoots. Rather, in what follows, I more humbly begin to offer some foundational northern contributions to ecopedagogy as a movement concerned with the cosmological, technological, and organizational dimensions of social life, that seeks to achieve victory through its ability to:

1. provide openings for the radicalization and proliferation of ecoliteracy programs both within schools and society;

2. create liberatory opportunities for building alliances of praxis between scholars and the public (especially activists) on ecopedagogical interests; and

3. foment critical dialogue and self-reflective solidarity across the multitude of groups that make up the educational left during an extraordinary time of extremely dangerous planetary crisis.

NOTES

1. It should be noted that despite the media spectacle tethering vehicular gas mileage to global warming as a primary cause, the global livestock industry contributes far and away more global warming emissions than all forms of transportation combined and should be considered a grave environmental harm. For more on this, see the UN Food and Agriculture Organization's 2006 report, *Livestock's Long Shadow* (Steinfeld, et al., 2006). In this respect, Al Gore has himself been the subject of recent critiques by animal rights organizations like PETA and some environmental groups such as Sea Shepherd Conservation Society for leaving the demand for systemic changes in livestock and dietary practices out of his agenda to combat global climate change, in order to focus instead on eco-modernization and the creation of green technological infrastructure. It should be pointed out that he has also refused to take on the nuclear industry in this regard.

2. On the disasters and their causes, see Brown (2008); Kolbert (2006); Flannery (2006); Kunstler (2005); Diamond (2005); Posner (2004); and Rees (2003).

3. Indeed, in 2001, it was revealed 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 (Wolhuter, 2001). More recent work like that of Sauvé (2005) has begun to fill this gap, however.

4. Though it must be noted that fields like outdoor education are contested terrains in which norms and boundaries can be pushed to advance progressive agendas. For instance, see Russell, Sarick & Kennelly (2003) and some of the place-based accounts in Gruenewald & Smith (2007).

5. One such reconstructive project worthy of notice is the Outdoor Empowerment program (http://www.outdoorempowerment.org).

6. We should not make environmental education into a straw man. It must be emphasized that despite the prevalent forms of environmental education and literacy that are subject to critique here, the field can be defined and analyzed to include a wide number of diverse approaches that move far beyond its problematic mainstream formulation(s) (see Sauvé, 2005). Here I argue both that most of these frameworks are not endorsed by large-scale organizations for widespread adoption and that a number of these approaches are better subsumed within the emergent field of education for sustainable development in order to contest its potential one-dimensionality and so as to highlight the ongoing normalization of environmental education as an outdoor experiential pedagogy.

7. The North American Association of Environmental Education (2000) lists four essential aspects to environmental literacy: (1) Developing inquiry, investigative, and analysis skills; (2) Acquiring knowledge of environmental processes and human systems; (3) Developing skills for understanding and addressing environmental issues; and (4) Practicing personal and civic responsibility for environmental decisions. While the third and fourth aspects respectively gesture to the possibility of a politicized version of environmental education, the lack of a specific demand for critical social thought on the part of students or for the understanding of the role of power in society, coupled with the field's traditionally "bi-partisan," approach to conflict resolution, means that the potential in this literacy agenda to foment positive ecological change through educative means is significantly undermined.

8. See http://www.mnzoo.com/animals/animals_familyfarm.asp.

9. Wikipedia (http://en.wikipedia.org/wiki/Greenwash) defines *greenwash* thusly: "Greenwash (a portmanteau of green and whitewash) is a pejorative term that environmentalists and other critics use to describe the activity of giving a positive public image to putatively environmentally unsound practices."

10. See http://www.epa.gov/enviroed/basic.html.

11. Ecopedagogy has itself come under attack by conservative educational groups such as the National Association of Scholars. For instance, see http://www.nas.org/polInitiatives.cfm?Keyword_Desc=How%20Many%20Delawares?&doc_id=303.

12. Ballmer was recently ranked by Forbes.com as the twenty-fourth wealthiest individual in the world (see http://www.forbes.com/lists/2006/10/Rank_1.html).

13. http://www.earthcharter.org/innerpg.cfm?id_page=95.

14. For coverage critical of the former 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" at http://www.un.org/jsummit/html/whats_new/feature_story39.htm.

15. Highlighting the ambiguity and complexity involved in distinguishing between fields like environmental education and education for sustainable development, Gray-Donald & Selby (2008) have similarly written, "Environmental education is well positioned to be a unifier, to bring together different disciplines and galvanize them into unified action" (p. 18). If environmental education is conceived very broadly, I agree with them and am arguing similarly in this book. Yet, as environmental education becomes construed more narrowly, their conclusion becomes quite untenable.

16. I follow Rolf Jucker (2002) in attempting to theorize and enact "education for sustainability" as an endeavor in critical theory that seeks transformative ecoliteracy beyond a market-based or bureaucratic sustainable development approach.

17. It is worth considering whether or not Barack Obama's ideology or policy is properly placed

within the spectrum of the Third Way. While his administration must still bear this out, I would argue that even if he is individually further to the left of the Bill Clintons and Tony Blairs or Gordon Browns of the world (a point that is unclear), his political vision as the president cannot itself be so. Thus the critique of the sustainable development made here should be thought applicable to our current political moment in the United States. The Obama administration could be to the right of the Third Way when it is all said and done, but it is unlikely to be left of it without the kind of public pressure that a critical ecopedagogy would work for and support.

18. While not specifically championing Third Way economics, it is remarkable how leading environmental thinkers of the present moment who *understand* that capitalism is a primary cause of planetary ecocrisis still wind up endorsing it in the variety iterated here (e.g., Speth, 2009; the Global Scenario Group, 2002). The seeming intractability of capitalist ideology among global sustainability gurus serves to bolster Slovoj Zizek's (1999) sardonic remark, "Today, we can easily imagine the extinction of the human race, but it is impossible to imagine a radical change of the social system—even if life on earth disappears, capitalism will somehow remain intact." Sustainable development must be seen, then, in at least some instances as an outcome of the systematic failure of our political imagination.

19. A growing number of texts utilize the terminology of *ecopedagogy*, without a clear relationship to the ecopedagogy movement described here. These include works by Ahlberg (1998); Jardine (2000); Petrina (2000); Yang & Hung (2004); and Payne (2005). The work of Lummis (2002) shares some sympathies, such as a critical theory approach. The earliest use of *ecopedagogy* may have been by Gronemeyer, (1987), who described it as the merging of environmentalist politics and adult education. Ironically, at the same time it was coined by Freire's friend-cum-critic Ivan Illich (1988) to describe an educational process in which educators and educands become inscribed in abstract pedagogical systems, resulting in pedagogy as an end and not a means. As used by Illich, ecopedagogy is represented by forms of education that seek the total administration of life through mandatory pedagogical experiences of systemization. As such, he believed that the movements for lifelong education and the creation of *global classrooms* (Illich & Verne, 1981) by bureaucratic educational institutions exemplified such approaches, though he was also critical of popular environmentalist pedagogy attempting to mobilize people's sentiments for *solutions* to *problems* such as global warming, hunger, and rain forest destruction. Illich's point was that such an ecopedagogy works on a problems/solutions axis that implies a global managerialism that is abhorrent to truly sustainable living in the world. This is a vastly different idea from the way the term and concept is being defined and utilized in critical education circles today, though it is potentially of great importance for the future development of the ecopedagogy movement on the whole.

20. For background on critical pedagogy, see Kincheloe (2008) and The Paulo and Nita Freire International Project for Critical Pedagogy, online at: http://freire.mcgill.ca/.

21. I was in charge of coordinating ecopedagogy initiatives for the UCLA Paulo Freire Institute from 2003 to 2005. Other institutes exist in countries such as Argentina, Portugal, India, Korea, Malta, South Africa, and Canada.

22. Infamously, the ideological divide over environmental issues was played out during the first Earth Summit in Rio de Janeiro in 1992. While representatives from the north promoted chief concerns such as habitat conservation and species preservation, representatives from the south argued that the main environmental problems affecting the planet could be traced to hemispheric economic inequalities that led the north to over-produce and consume while the south was mal-developed and being exploited by corporations for the very natural resources that northern interests argued must be preserved. The differences in values and goals between the two sides have been labeled the Green and Brown agendas, with Green issues of conservation and preservation generally favored by financially wealthier nations/regions and Brown infrastructural issues (e.g., clean water, sanitation, population health, and happiness) favored by less monetarily wealthy countries/regions.

23. This juxtaposition between the north and the south is clearly limited in that it fails to properly account for the ideas, values, and practices of the world's indigenous peoples. Indigenous perspectives often appear to integrate northern and southern agendas in key respects, but in ways that generally run parallel to and are separate from them. However, southern governance has recently shown itself more permeable to the direct incorporation of indigenous political voices. For instance, Bolivia's president is the indigenous leader, Evo Morales. In this capacity, he has been advancing a sustainability vision consonant with the ecopedagogy movement for wider audiences in Latin America (e.g., his ideas about the *rights of nature* have been likewise adopted by the Ecuadorian government) and in international policy arenas (see his United Nations speech of April 22, 2009 at http://www.boliviaun.org/cms/?p=1108).

24. The work of complexity theory, especially that offered by the French theorist, Edgar Morin, is of particular importance to Latin American ecopedagogues.

25. A listserv run by Flavio Boleiz Junior is also of central importance in coordinating work on ecopedagogy, see http://br.groups.yahoo.com/group/ecopedagogia/.

26. For instance, see Sandlin & McLaren (2009); hooks (2009); Eryaman (2009); Malott (2008); McLaren & Kincheloe (2007); Hill & Boxley (2007); McLaren & Houston (2005); Grande (2004); Gruenewald (2003); Roberts (2003); Fawcett, Bell & Russell (2002); and Mayo (2001). In the Media Education Foundation's 2006 video, *Culture, Politics & Pedagogy*, Henry Giroux also cites the tremendous challenge for critical pedagogy imposed by the grave level of planetary environmental destruction taking place. Additionally, as one can see from her prefaces for this book and Andrzejewski, Baltodano & Symcox (2009), Antonia Darder is mindful of and active on issues of planetary ecocrisis.

27. Yet, when Freire served as Sao Paulo's Minister of Education from 1989–91, he helped to implement a far-reaching curricular reorientation called the Inter Project that contained environmental justice-oriented and other ecological coursework that was thought serviceable to urban development problems and the toxicity of favela life (see O'Cadiz, Wong & Torres, 1998).

28. To this end, with Levana Saxon, I have begun organizing the Ecopedagogy Association International (http://ecopedagogy.org) that publishes *Green Theory & Praxis: The Journal of*

Ecopedagogy (http://greentheoryandpraxis.org). This association has worked in connection with various academic and activist groups interested in direct action sustainability politics such as the Institute for Critical Animal Studies (http://criticalanimalstudies.org) and Rainforest Action Network (http://action.ran.org/index.php/Ecopedagogy).

29. Jurgen Habermas also briefly notes Marcuse's importance as an ecological theorist when he writes in his "Afterword" to the *Collected Papers, Volume Two*, "Long before the Club of Rome, Marcuse fought against 'the hideous concept of progressive productivity according to which nature is there gratis in order to be exploited'" (Kellner, 2001, p. 236).

30. It is important to note that biophilia is not simply a cultural invention of the West, but can be linked to indigenous forms of traditional ecological knowledge (Cajete, 1999b) such as argued for in chapter 4.

31. Prometheus, the Greek titan whose name means *forethought*, stole the element of fire from the gods to give to humankind because his brother Epimetheus (or *afterthought*) was required to give traits to all the beings of the earth but, lacking forethought, gave them all away before he reached humanity. As a result of his theft of the divine fire, Prometheus was condemned to eternal bondage on a mountaintop where an eagle fed perpetually upon his liver.

32. Marcuse's final published writing during his lifetime was entitled "Children of Prometheus: 25 Theses on Technology and Society," in which he again reiterated how Promethean social forces have dominated nature and produced an industrially technological world of capitalism in which the repressed figure of Auschwitz is the historical possibility that drives technical progress. While he did not mention the figures of Orpheus or Narcissus, he continued to demand that a reconstruction of technological society needed to be made, not by placing artificial limits on that society, but rather by engaging inwardly and outwardly with the transvaluation of values made possible by the countercultural movements. Specifically, he concluded, "This advance towards the new is emerging today in the women's movement against patriarchal domination, which came of age socially only under capitalism; in the protests against the nuclear power industry and the destruction of nature as an ecological space that cut across all fixed class boundaries; and—in the student movement, which despite being declared dead, still lives on in struggles against the degradation of teaching and learning into activities that reproduce the system" (Marcuse, 1979, trans. Charles Reitz).

33. Fascinatingly, Illich commented that this idea was to his mind the most important of the entire book and interestingly the one that was least discussed and commented upon during his entire tenure as a public intellectual.

34. It should be noted, however, that an Illich movement has recently begun to resurface in education. For example, in the last few years a special interest group on Illich was officially formed within the American Educational Research Association. I am presently the Chair of this group and in this role have founded *The International Journal of Illich Studies* (http://ivan-illich.org/journal).

35. It should be noted that in *The Critical Pedagogy Reader* (Darder, Baltodano & Torres, 2008) Illich is included alongside Freire as a foundational figure for the field.

36. It is true that in exploring a movement's cognitive praxis, one cannot reveal the purely cosmological, technological, or organizational dimensions of its work. However, these categories can be hermeneutically useful for understanding the ways in which the texts and activities of a wide-range of groups develop common sets of understanding and hope in order to build a wider movement-oriented process for social change.