

Critical Pedagogy, Ecoliteracy, and Planetary Crisis: The Ecopedagogy Movement

By Richard Kahn.

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Reviewed by Peter Buckland and Jacqueline Edmondson

In December 2009 thousands of leaders, experts and activists attended the United Nation's climate summit in Copenhagen, Denmark (COP 15). These so-called leaders reached no meaningful agreement to decelerate or curb climate change. Don Brown, director of Penn State's Collaborative Program on the Ethics of Climate Change, attended the conference and reported that the United States, China, India, Brazil, and South Africa demolished two years of negotiated potential action begun after the 2007 Bali, Indonesia climate talks.¹ If COP 15 stands, *homo educandus*, Earth's dominant animal, will deliberately warm Earth's atmosphere by up to 5.2° Celsius this century.² *Homo solidaris* must reeducate, retool, and reconstruct for conviviality even as *homo educandus* pushes us into this ecocidal abyss.

In this context, Richard Kahn's *Critical Pedagogy, Ecoliteracy, and Planetary Crisis: The Ecopedagogy Movement* challenges educators to critically engage and join the nascent but growing international ecopedagogy movement. Ecopedagogy's complex and inclusive roots lie within early environmental education and educators' and philosophers' teachings including those of Paulo Freire, Ivan Illich, and Herbert Marcuse. Invested ecopedagogues seek to cultivate and appreciate human beings' collective and communal potentials in the struggle to achieve convivial life on Earth. We see ecopedagogy as a potential Illichean social and educational "tool for conviviality," a tool that creates the possibility for "individual freedom realized in personal interdependence."³

Kahn's book traces ecopedagogy's historical and philosophical roots, its implications, and its current possibilities in literacy, technology and science education. The book casts a wide net across multiple and complex influences that contribute to our current yet evolving understandings of ecopedagogy. As Douglas Kellner notes at the volume's end:

Kahn is thus sketching out a project that requires further development, debate, and new concepts and teaching strategies as we learn more about the environment, ecological crisis, and ways we can develop a more sustainable lifestyle and ways of living on this planet.⁴

We agree with Kellner and hope this review will encourage readers to seriously engage Kahn's work and the broader discussions needed as we struggle toward human and non-human conviviality. To encourage this engagement we focus this review on three areas Kahn expresses as priorities in the opening of his book:

1. the radicalization and proliferation of ecoliteracy programs both within schools and

¹ Donald Brown, "Climate Change, Climate Justice: Lessons from Copenhagen" (paper presented at the Climate Justice panel discussion, University Park, Pennsylvania, January 24, 2010).

² David Chandler, "Revised MIT Climate Model Sounds Alarm," *TechTalk* 53:26 (2009), <http://web.mit.edu/newsoffice/2009/techtalk53-26.pdf>

³ Ivan Illich, *Tools for Conviviality* (Berkeley: Heyday Books, 1973), 11.

⁴ Douglas Kellner, "Afterword," in Richard Kahn, *Critical Pedagogy, Ecoliteracy, & Planetary Crisis: The Ecopedagogy Movement* (New York: Peter Lang Publishers, 2010), 153.

society;

2. creation of liberatory opportunities for building alliances of praxis between scholars and the public (especially activists) on ecopedagogical interests;
3. fomenting 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.⁵

We will address each of these in turn in what follows.

Ecoliteracy programs

Kahn closely attends to literacy throughout this book. Relying on Paulo Freire, who defined literacy as reading the world and the word,⁶ Kahn engages critical readings of texts, practices, and policies. Some of the most interesting and compelling moments come through his own critical demonstrations.

In the book's introduction, Kahn critically reads environmental and outdoor education projects. The School of Environmental Studies (also called the "Zoo School") in Apple Valley, Minnesota provides high school students with an experiential learning lab school on the zoo's grounds. The Zoo School promotes itself as a way for students to meet academic standards naturally and improve their test scores across all subject areas as they learn to 'do science'.⁷

While this project appears to provide engaging opportunities for students to learn more about nature, Kahn's analysis illuminates the illusion. The Zoo School builds itself on neoliberal assumptions about schooling and the environment, leading to what Kahn describes as "a real *illiteracy* about the nature of ecological catastrophe, its causes, and possible solutions."⁸ Kahn points to critical gaps in the experience: there is no engagement of the history and nature of zoos; there are no opportunities for students to critically engage the social and political problems the zoo has presented within this local community; and no alternatives—including the ecological benefits of a vegan diet—are provided as options for students. The resultant idealization of animal life and family farms fails to foster ecopedagogical understandings about human relationships with non-human life.

Kahn's critiques extend beyond discrete examples to encompass U.S. education policies, including *No Child Left Behind* and the *National Educational Technology Plan*, as well as international policies such as the *United Nation's Project 2000+: Scientific and Technological Literacy for All*. He disrupts narrowly held understandings of technology and literacy that function to isolate and limit engagement as he considers the possibilities both offer in our crisis-filled world.

To move forward, ecopedagogues must critically engage literacy issues as a central component of this movement. Kahn's work impels this discussion. Kahn relies on understandings of multiple literacies—which he distinguishes from the New London Group's ideas about multiliteracies—to develop a theory of multiple technoliteracies. Kahn believes these

⁵ Richard Kahn, *Critical Pedagogy, Ecoliteracy, & Planetary Crisis: The Ecopedagogy Movement*, (New York: Peter Lang Publishers, 2010), 27-28.

⁶ Paulo Freire & Donald Macedo, *Literacy: Reading the Word and the World* (Westport, CT: Bergin & Garvey, 1987).

⁷ Kahn, *Critical Pedagogy, Ecoliteracy, & Planetary Crisis*, 9.

⁸ *Ibid*, 9, emphasis ours.

literacies will allow people to become more ethical producers who can redesign and reconstruct technology toward people's needs rather than desires. He navigates readers toward this conceptualization of multiple technoliteracies through overly quick discussions of literacy, critical multiple literacies, and critical media studies. To more completely inform the ecopedagogy movement, this discussion needs to be slowed down, contested, and debated by critically engaged educators. Ecopedagogues need to direct their attention toward literacies that engage and critically read both the natural and artificial worlds to deepen understandings of new possibilities for convivial life. Reading the world involves both technological and non-technological conditions as the public comes to understand the signs and conditions that indicate global environmental crisis in addition to fostering shared stories and meanings, a point we flesh out later in this review. In this fashion, Freire's ideas about public pedagogy, which have been further elaborated by Henry Giroux and others, have much to contribute to ecopedagogy's project.

Alliance Building

Kahn's second goal seeks to "create liberatory opportunities for building alliances of praxis between scholars and the public (especially activists) on ecopedagogical interests."⁹ The book, on the surface, accomplishes this by incorporating Freire's development of literacy for critical consciousness, Illich's dialectical historiography to develop social critique, and a Marcusean view toward potential dialogue and coeducation between moderated, radicalized, and militant ecoactivists. We find his discussion most fruitful and productive in Illich's and Marcuse's cases.

As ecopedagogy evolves, it will need to critically engage technology and practically navigate paths within and without institutional life. On the first point, Kahn notes that Illich did not demonize tools per se but saw that *homo economicus* and *homo educandus* transforms its tools from "'means to ends' into the ends in themselves, and they thus alter the social, natural, and psychological environments in which they arise."¹⁰ This hearkens back to Illich's analysis of how cars, buses, and planes monopolize traffic, reducing people to the means of industrial transportation at our own peril when feet and bicycles can sustain economic, social, and biotic communities.¹¹ Therefore we foresee ecopedagogues necessarily developing formal and informal curricula that seek to answer Kahn's questions about who and what technology serves, who it excludes and why, and the strategies that should be pursued.

Consider for a moment the social, natural, and economic costs associated with using iPhones, Droids, Blackberries, laptops that get ever smaller, and other emerging personal widgetry. Any utilitarian calculation whose primary goal is conviviality will have to do some ethical acrobatics to justify using some of these tools – tools we note that may not be equally convivial. An investigation of the ecological and social costs of the supply chain behind these devices exposes pollution from "resource" extraction, human suffering, greenhouse gas intensive processes at every step from extraction to implementation, cradle-to-grave versus cradle-to-cradle production models, and more. We note one of Wendell Berry's reasons for not buying a computer: "It should not replace or disrupt anything good that already exists, and this includes

⁹ Ibid, 27.

¹⁰ Ibid, 95.

¹¹ Ivan Illich, *Tools for Conviviality*, 52.

family and community relationships.”¹² Perhaps ecopedagogical technoliteracy would result in refusal. Others, Kahn invites us to consider, might result in actual attacks on modern industrial technology, a point we will return to below.

Fomenting critical dialogue

We believe that Kahn’s third goal brings the constructive ecopedagogue to the table by inviting “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.”¹³ Here we hope to foster some of that discussion with Kahn and within the movement at large, noting that the goal here is solidarity and not gamesmanship.

Kahn puts forth the idea that traditional ecological knowledge (TEK) ought to be considered science, such as that which Shoshonee Indians believe and practice near a U.S. nuclear weapon testing facility. We find Kahn’s classification of TEK too indiscriminate. We note that we find Western science problematic as an instrument of education, development, and empire, that the sciences and their uses have inhibited multicultural and social justice,¹⁴ and that the ethical and political critique in which Kahn situates himself should and does give us pause. Our discussion here does not disagree with him. However, we think that Kahn’s description of TEK as science creates a methodological issue that will encounter serious resistance from many working scientists. This is no small problem for ecopedagogy.

To our minds, science must be methodologically natural, i.e. use nature to explain nature. No science worth the name can smuggle the supernatural into its descriptions, explanations, or predictions. To do that is to open a floodgate of pseudoscience into naturalistic methods. As Kahn explains it, we suspect that aspects of TEK are pseudoscientific and some are not.

TEK might count as science if its descriptions, explanations, and predictions are naturalistic. Where TEK has been adopted/co-opted by Western modern science, it has been in part because it has satisfied naturalistic criteria. For example, what the Iroquois considered “knowledge” about their agricultural practices might have been science as it came about through the testing and retesting of social, biological, chemical, and physical arrangements and the compiled corroborative evidence of numerous generations. However, it does not follow that their concomitant “knowledge” about supernatural entities or worlds undergirding the material systems was science. Making the supernatural commitment for science pushes science onto a very slippery slope.

Consider the United States’ sociopolitical climate of the past century regarding the theory of evolution. If TEK metaphysics are science, then we are not sure how to demarcate why creationism would not also be science. Creationism readily attaches itself to biology, paleontology, and geology as descriptive sciences. After all, creationists use verifiable data in their arguments and practices but hitch them to totally unfalsifiable metaphysical claims about a particular God’s intentions and actions that they a) allege science supports and b) cause them to deny the most empirically supported theory in biology. To our minds, Kahn’s definition of science could invite a “repressive tolerance”¹⁵ that sanctions creationism, or even more

¹² Wendell Berry, *What Are People For?* (New York: North Point Press, 1990), 172.

¹³ Kahn, *Critical Pedagogy, Ecopedagogy, & Planetary Crisis*, 28.

¹⁴ *Ibid*, 106.

¹⁵ *Ibid*, 11.

detrimentally, climate change denial because of religious revelations as science.¹⁶

We must note two things. First, claiming that parts of TEK are outside of science is not to say that TEK is ultimately untrue, nor that science necessarily disproves any of TEK's – including creationism's – metaphysical truth. Ontological materialists will say that. Few people are ontological materialists.

Second, and more importantly, we must recognize the innumerable evolving traditional ecological knowledges as parts of human natural history. They are many of the beautiful threads in human history's grand quilt. We ought to not just preserve but revel in them as part of collective meaning and story telling embedded in a much-needed commons. Humans are not simply scientismic logic or input-output robots. Science need not be our most important story and we need not label myths as science to use myths' powers. We are sensual myth makers, story tellers whose suchness comes through stories that have brought us happiness and meaning and continue to do so despite "progress," "development," and ecocidal mechanical efficiency. It is with this last point in mind that we close.

Kahn invites us to consider Marcuse as ecopedagogue because he endorsed direct civil disobedience. Kahn uses Marcuse to show that in the age of Gaia's revenge when the Earth's systems are feeding back on us,¹⁷ the most radical among us, perhaps even those who engage in industrial sabotage, have much to teach and much to learn. We note that perhaps less "radical" academics than Kahn, such as John Lemons (Professor Emeritus of Biology and Environmental Science at the University of New England), wonder if people "in environmental ethics should consider helping to provide an ethical defense of nonviolent civil disobedience to better promote policies."¹⁸ In our own conversations with people inside and outside academia we are finding notions of direct action increasingly attractive. This is all to note that this part of ecopedagogy is happening and might well escalate.

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Richard Kahn has offered us a potentially beautiful tool for recalibrating and reconstructing education. Given the horrific interrelationship of climate injustice and the collapse of human systems the Worldwatch Institute now calls for such a recalibration to change global society from consumer-oriented to sustainability-oriented, part of which must be accomplished in formal and informal education.¹⁹ We believe that Kahn's *Critical Pedagogy, Ecoliteracy, and Planetary Crisis: The Ecopedagogy Movement* will help us to co-create educational "tools for conviviality" that can help us to adapt, mitigate, and possibly flourish in unfolding crises.

¹⁶ See the following: Paul R. Gross & Norman Levitt, *Higher Superstition: The Academic Left and Its Quarrels with Science* (Baltimore: Johns Hopkins University Press, 1998), 149-178; Robert Pennock, *Tower of Babel: The Evidence Against the New Creationism* (Cambridge: MIT Press, 1999); Robert Pennock, *Intelligent Design Creationism and Its Critics* (Cambridge: MIT Press, 2001).

¹⁷ James Lovelock, *The Revenge of Gaia*, (New York: Basic Books, 2006), 26-38.

¹⁸ John Lemons, "The Urgency to Address Global Climate Change: Possible Implications for New Directions of Climate Change Ethics," *ClimateEthics*. September 5th, 2009, <http://climateethics.org/?p=225> (accessed January 24, 2010).

¹⁹ Erik Assadourian, "The Rise and Fall of Consumer Culture" in *2010 State of the World: Transforming Cultures for Consumerism to Sustainability*, edited by Linda Starke and Lisa Mastny (New York and London: W.W. Norton, 2010), 3-20.

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