

Reconceiving the Foundations of Education: An Ecological Model

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While environmental education has become an established part of educational practice, the rise in ecological thinking since the early 1970s has only recently made an impression on the philosophy of education. This state of affairs is symptomatic of the direction that education, both in theory and practice, has taken since well before the beginning of modern environmental movements. That direction is an increasingly narrow economic conception of educational purposes. While there have been challenges to this tunnel-vision in the theoretical literature, there has been an unspoken agreement that economic growth and technological innovation exhaustively define progress. As such, ecological problems are addressed through a host of ad hoc measures, from school recycling to Earth Day cleanups and tree planting. While such projects are to be encouraged, they all happen, apparently without contradiction, alongside programs designed to increase our nation's competitiveness in an extractive global economy. Such contradictions belie the attitude that ecological threats are not traceable to fundamental philosophical inadequacies, such as a human-nature dualism and a fragmented way of knowing that seeks dominion over our environment. Education is still considered a strictly social process that takes place essentially apart from and in opposition to the non-human environment. These are the assumptions that have left educational philosophy largely unresponsive to ecological thought. In this paper I want to evaluate the prevailing assumptions and then propose an ecological foundation that does more than add ecological crises to an already fragmented educational agenda. An ecological educational theory offers hope of reconnecting our many educational concerns while resolving contradictions that undermine the very purpose of education. This process rightly begins with a look at the icon of American educational thought.

The fundamental purpose of education is to make future social life possible. This is not a provocative new insight, but rather a simple truth made complicated by the language used to state it. This truth is that education, by a teacher, a community, or a family, is a process that is implicitly mindful of the future, both of future experiences and of future generations. This basic truth did not escape John Dewey who clearly perceived the necessity of education:

Society exists through a process of transmission quite as much as biological life. This transmission occurs by means of communication of habits of doing, thinking, and feeling from the older to the younger. Without this communication of ideals, hopes, expectations, standards, opinions, from those members of society who are passing out of the group life to those who are coming into it, social life could not survive.¹

Dewey's primary concern here is not with the necessary biological conditions of life, such as the waters and the soil, but rather with the intangible motives and ends, borne of a collective life, that make living more than brute survival. Like the complex oral traditions that were lost with the annihilation of native tribes, our

collective projects and conversations could also come to an end, leaving us all but annihilated. Such destruction need not come at the hands of an invading force. It could very well come from within, from an acute case of myopia. For though we have at our disposal vast libraries of recorded tradition, these storehouses of information would be useless if the value of learning, the ideal of knowledge, and the responsibility to future generations were allowed to wither. Likewise, what would our prospects and those of the next generation be without the ideal of equality, the hope for justice, the expectation of fairness, or the standards of morality? These are qualities that can wither because they exist only to the extent that they are consciously transmitted and affirmed through our “habits of doing, thinking, and feeling.” Dewey’s simple yet profound reminder is that if our collective life is to survive and flourish, we must ensure that our noblest habits be deliberately communicated and upheld. This is a principle that has served as the foundation of education, yet it alone does not provide a guarantee of future social life.

Though Dewey was primarily concerned with the conditions necessary for the reproduction of a qualitative social life, he acknowledged the equal necessity of “biological life” for the continued existence of society. He plainly states that “man’s [sic] home is nature; his purposes and aims are dependent for execution upon natural conditions.”² In an essay on the ecological elements of Dewey’s philosophy of education, Tom Colwell notes that Dewey’s acknowledgment of this essential dependence flows from his “unitary conception of nature,” which characteristically dissolves the human-nature dualism of traditional philosophy that viewed humans and nature occupying separate realities.³ Colwell’s reinterpretation of Dewey, in light of contemporary ecological concerns, is supported in part by passages such as the following from *Democracy and Education*:

For this associated life, with its experiments, its ways and means, its achievements and failures, does not go on in the sky nor yet in a vacuum. It takes place on the earth. This setting of nature does not bear to social activities the relation that the scenery of a theatrical performance bears to a dramatic representation; it enters into the social happenings that form history. Nature is the medium of social occurrences.⁴

For Dewey, our social life unfolds in interaction with a nature that is not inert, lifeless “scenery,” but rather a dynamic totality of which human social life is just one part. Thus, while the purpose of education is to make future social life possible, that life depends not only on the transmission of values in the form of “habits of doing, thinking, and feeling,” but also quite fundamentally on the continued viability of nature’s life supporting systems. Social life is not sufficient unto itself, and so the totality of nature deserves to be the foundation of education in more than name. Whether Dewey draws the same conclusion from his own premises remains to be seen. For now, it is worth asking why so much contemporary educational theory, produced in an ecological era, gives scant attention to what Dewey called “the medium of social occurrences.”

If Dewey was right that human social life is carried on in dynamic interaction with nature, why has it been excluded from educational theory, as if it were just “stage scenery?”⁵ The obvious answer is that it is so obvious. Humans have always

developed communities “in relation to” and “in conjunction with” natural environments.⁶ One might argue that it is included subconsciously or that it has been overlooked without consequence. A more serious response would grant the dependence on nature and then ask why the background can’t simply be held constant to allow for a more in-depth appraisal of a uniquely human process. This is probably where most educational thinkers stand, but such arguments are typically after-the-fact justifications rather than sincere statements of methodology. According to Colwell, the problem is in attitudes toward nature, not in an obliviousness to our dependence on it. Elsewhere he notes that, indeed, humans have always recognized the natural environment as the essential setting of life, but, he adds, “Nature has been regarded as an object of control, alteration, and exploitation.”⁷ In other words, the natural environment has been taken for granted, in the worst sense, because it has been regarded not as a living whole of which we are a part, but as a collection of “resources” available for unconstrained human purposes and as a force to be struggled against. As such, limits inherent in the nature of things are obstacles to be overcome, not boundaries to be respected. Such hubris is one reason why nature has been bracketed out of social and educational thought at the risk of degrading human and non-human communities.

A more familiar cause of this bracketing is the fragmentation of knowledge into disciplinary camps, a process exacerbated by a reductionism that makes a virtue of breaking up problems into ever smaller units. These units, reported in academic journals, too often do not get placed in a larger context where their meaning could be assessed and acted on. By not making vital connections across disciplines, the knowledge producers bury us in details so that it indeed becomes impossible to see the ground on which we stand.

In the absence of an ecological foundation, educational systems do not just reflect the split between humanity and nature, they actively maintain the divide. Neil Evernden believes the Italian Renaissance of the fifteenth and sixteenth centuries exemplifies the transformation that gave us the “modern understanding of nature” which obsessively seeks an objective view of the surrounding world that is uncontaminated by human perception.⁸ Prior to this time, the prevailing sense was that knowing nature required empathy. Evernden’s understanding of empathy comes from Ernst Cassirer who states that empathy is “only possible if the subject and the object, the knower and the known, are of the same nature; they must be members and parts of one and the same vital complex. Every sensory perception is an act of fusion and reunification.”⁹ This empathetic identification with nature was given up in favor of the distant, objective approach of modernity that is diligently reproduced in our educational institutions. Evernden explains the process as follows:

[T]he epistemological policing of nature is very much the concern of the modern system of education in the West. This education, in which we invest so much money and faith, ostensibly to make ourselves more “competitive” with other industrialized societies, is in essence an intellectual manicure that will scrape the dirt of human perception from the understanding of nature and so maintain the purity of that external realm. It is also, of course, a means of maintaining the conceptual segregation of humanity and nature.¹⁰

Thus, educational theory's continued bracketing of non-human nature is not simply an expedient or an oversight; it is the legacy of attitudes that have been deliberately cultivated by institutions that produce educational theorists in the West. Perhaps this is why past insights into this problem had little effect in their day.

Today, Dewey's insight into the oneness of humanity and nature should have a more receptive audience, for he appears to identify the roots of our contemporary ecological predicament. Colwell, for instance, sees in Dewey the philosophical grounding for a more ecological understanding of education. Dewey can plausibly be named as a pioneer in this effort, especially given his thoughts on how to mend the human-nature split that education reinforces by grouping disciplines into the human and the natural. Dewey shows, for example, how geography (natural) and history (human) can be seen as "different ways of studying the same reality."¹¹ The result is a thoroughly ecological education that embodies naturalism's insight that human social life cannot be considered in isolation from nature.

In order to assess whether Dewey's ecological thinking goes beyond opposition to a human-nature dualism, I want first to probe the depths of his naturalism. The potential problem for Dewey is that those who proclaim a naturalistic philosophy and see nature as a unitary, dynamic whole, still have questions to answer if they see that same nature as primarily a source of problems to be overcome or an unruly force to be subdued. According to philosopher and deep ecologist George Sessions,

Many naturalistic philosophies, from the Enlightenment to Marx and Dewey, claimed that humans were a part of Nature. But they seem to have meant this in a somewhat superficial sense for they still pictured humans as dominating the rest of Nature, as manipulating, controlling, or managing the biosphere.¹²

Sessions suggests that even though Dewey clearly considers humans a part of nature, and acknowledges the necessity of biological life for social life, his attitudes toward the two interdependent systems are vastly different. On the one hand, social life, if it is to continue, requires vigilant care and conscious reproduction. Nature, on the other hand, apparently requires no comparable care, and can be expected to provide the requirements of life no matter how humans may treat it. If nature takes care of itself, then education need only concern itself with the social realm. This is especially true if nature is considered not our provider, but only a source of problems and challenges. According to Sessions, Dewey wanted to overcome nature, not cooperate with it. Granted, this was the norm during that time when challenges to the social fabric were the dominant concern, but this is no reason to overlook a problematic element of Dewey's thought that is very much alive today. Thus, regardless of how naturalistic one's philosophy, the most relevant issue is how one views the role of humanity within nature. What is needed is a commitment to ensuring that human creations and practices complement and conserve the rest of nature and promote the long-term existence of communities, human and other, including all the qualitative aspects of life that make for thriving. This is where Dewey begins rating poorly as an ecological pioneer, and where Colwell, given his opposition to viewing nature as "an object of control, alteration, and exploitation," should have been more cautious about painting Dewey as a visionary ecologist.

C.A. Bowers is someone who has taken up this critique of naturalism, particularly as it applies to Dewey. In *Education, Cultural Myths, and the Ecological Crisis*, Bowers argues that Dewey's "hidden cultural agenda" disqualifies him from any role as an ecological pioneer. Three features of this agenda lead Bowers to conclude that "Dewey, for all the attractiveness of his position when compared to the existing alternatives in early twentieth-century American educational and social thinking, is part of the ecological problem, and will not be part of the solution."¹³ Bowers's threefold critique reveals the weaknesses of Dewey's culture-bound way of thinking.

First, Dewey didn't recognize his preferred way of thinking — scientific, experimental problem solving — as being the product of one culture, and thereby just one among a number of equally legitimate, culturally unique ways of knowing. This way of thinking, coupled with the belief that all change is progressive, has been identified as one of the most ecologically disastrous.¹⁴ A second problem with Dewey that Bowers identifies is the absence of a substantive role for tradition, and especially traditional knowledge. Such knowledge and values are a source of guidance as well as communal stability and cohesion. While they can become a source of oppression and injustice, and Dewey's thinking is suited to rooting out such problems, essential life-affirming traditions can lose their authority under the constant scrutiny of Dewey's method of intelligence. In this way qualitative traditions are devalued and we are left with an uprooted culture whose only foundation is the new, and whose dominant values are efficiency and control. Finally, Dewey's aggressive, problem solving mode of operation is good at calling all aspects of culture into question — and this is why he is appealing to critical pedagogues — but poor at creating or affirming forms of social cohesion that are necessary for a society that needs to live within limits.¹⁵ Though Dewey dissolved dualisms wherever he saw them, he ended up perpetuating a consciousness that is divided against itself. Bowers concludes that "it is this modern form of consciousness, with its vision of continued progress in technology and personal freedom, that is now exceeding the life-sustaining capabilities of the natural systems that constitute our habitat."¹⁶

The conclusion of this critique is that there are strong objections that can be raised against Dewey's candidacy as an ecological pioneer. While Dewey affirms the need for an ecological, interdisciplinary practice, his culture bound understanding of knowledge, and the lack of any provision for maintaining or creating rooted, sustainable ways of life, make him a poor source of guidance and inspiration. More importantly, though, the critique of Dewey provides an outline for a genuinely ecological theory of education. To begin with, reunifying the foundations of education will require more than professing the kind of naturalistic philosophy found in Dewey's work. This effort must somehow be enlarged to include as much sensitivity to preserving the conditions of biological life as it does to preserving a qualitative social life. The solution, though, must not be a simplistic balancing act, where equal attention is given to two realms, nature and human, that remain separate.

As an example of a contemporary historian who has heeded Dewey's interdisciplinary advice with great success, though with a more dynamic sense of humanity's

place in nature, I want to present some of the methods and findings from Carolyn Merchant's book, *The Death of Nature*. The purpose of this example is twofold. First, I want to illustrate how interdisciplinary studies, inspired by ecological method, can effectively transcend the human-nature dualism. Second, I want to reinforce the conclusion that overcoming the human-nature division in this way does not presuppose a desire to abandon hubris in favor of living cooperatively within biophysical limits. Interdisciplinarity is a means that can have starkly differing ends, and, as should become clear, Merchant provides what Dewey lacked in this regard.

In *The Death of Nature*, Merchant traces the myriad of factors that led to the shift in the sixteenth and seventeenth centuries from an organic, female view of nature, to a "mechanistic world view in which nature was reconstructed as dead and passive, to be dominated and controlled by humans."¹⁷ In one section of the book, Merchant presents what she calls an "earth's-eye view" of early modern Europe in order to highlight the interconnection between human attitudes and practices, on the one hand, and the natural systems of the earth, on the other. Consistent with Dewey's interdisciplinary proposal, this "earth's-eye" approach is unlike traditional history, which considers the natural environment as just stage scenery. As Merchant puts it, "Instead of dichotomizing nature and culture as a structural dualism, it [this approach to history] sees natural and cultural subsystems in dynamic interaction."¹⁸ The result is a study that treats social and environmental systems as elements of a dynamic whole, not as merely equals, and certainly not as separate realities. Though Dewey would probably approve of this method, Merchant's purposes are ultimately to bring human attitudes and practices into balance with the natural world, a project not on Dewey's agenda.

Merchant applies this "ground up" method in reconstructing the complex of events that led to the famines and plagues that ravaged the population of western Europe between 1315 and 1350. To set up the scenario and give a sense of its inherent instability, Merchant first sketches the relatively stable, cooperative, interdependent peasant agrarian system of premodern Europe. She then adds to this system the destabilizing force of "landlord domination." The landlords took from this community rents, services, labor, and taxes. Peasants were also compelled to pay fees for grinding grain with the landlord's water and windmills. Peasants preferred their own handmills for obvious economic reasons, but these were often confiscated by landlords or simply outlawed. Tensions are heightened even further with the addition of an increasing population, and the result is changes in the entire ecosystem.

After sketching the unstable dynamics of the system, Merchant proceeds to recount the devastating consequences. She tells how, prior to the early 1300s, the population was increasing, and along with it the need for food. In turn, the demand for arable land increased dramatically. While pastures and previously undesirable lands were converted to cropland, forests shrank rapidly as they, too, were cleared to make room for more food production. Meanwhile, landlords were taking from unfree peasants all income above the subsistence level. With no resources to reinvest in manure-producing livestock, the peasants could not put back what they had taken

from the land. They saw soil fertility decline and, along with it, food production. A poor harvest would mean famine, and that is precisely what happened. Between 1315 and 1317, food shortages, malnutrition, and death were rampant over western Europe. The weak, malnourished survivors were susceptible to disease, and in 1348 the first of a series of plagues began wiping out what would amount to two-thirds of the population. With the population at such a low level, the pressure was taken off the ecosystem and it was able to restore itself by about 1550.¹⁹ As is clear, the consequences for the people, and the ecosystem on which they depended, were devastating.

Though some of the details have been excluded for brevity's sake, the advantages of this holistic "earth's-eye view" should be quite clear. There is no single cause that can be identified for the disaster that Merchant recounts. Rather, the complex interplay of factors, from political economy to epidemiology to soil fertility, offers a lesson to those who would prefer single discipline explanations. It is especially important to note how so-called social issues flow from and respond to the condition of the natural environment. For instance, when famines and plagues hit Europe again in the 1600s, people were driven to the cities where "crime, violence, banditry, and vagabondry" became common among the poorest in society.²⁰ Thus, even problems that appear entirely social in origin, such as crime, can be connected to the health of the ecosystem as well as institutions and practices claimed by the scientific disciplines.

Merchant concludes this section by emphasizing how human well-being cannot be considered in isolation from the health of ecosystems and the practices that affect it:

Without consideration of how the resource of soil fertility affects population growth and decline, peasant-landlord conflict, and market expansion, the history of the change from feudalism to early capitalism is inadequate. The rise of both democracy and capitalist economic institutions in Europe and America were directly dependent on the exploitation of natural resources — metals, soils, grasses, timber, furs, etc. The disruption of associated ecosystems...and their human components affects the course of history in the form of social uprisings, wars, laws, and technological innovation, and has an important impact on human health, nutrition, and welfare.²¹

The most crucial aspect of this historical approach is that it provides lessons on how to view social and environmental problems as a dynamic, so that the errors of the past are not repeated. Merchant has an acute awareness of how ecosystems, though able to recover given enough time, need to be stewarded, not exploited. Her studies provide also provide a vivid illustration of why it is so important to include the natural environment in educational discussions. If the ecosystem that we need for our continued existence is bracketed out of history and social theory, including educational theory, then we are left with an incomplete and inadequate understanding of how best to make future communal life possible. And finally, Merchant provides a model for how to begin developing an ecological theory and practice of education. The importance for education is *not* that we should now focus all our attention on the natural environment to the exclusion of other pressing concerns. This would only perpetuate the dualism and continue the current fragmentation that characterizes our academic and political life. What ecology offers education is not

another issue, but rather, a method for shutting down the marketplace of competing causes; an ecological method insists that we cannot rip serious social questions from the soil and expect to adequately understand them.

Thus far I have tried to demonstrate through the insights of philosophical naturalism, as well as through methodological and historical example, why education needs an ecological theory and practice. I have also tried to show that the reasons for this are not solely for a more consistent and complete understanding of education, but also because a failure to make such a change can lead and has led to consequences that undermine the fundamental purpose of education. I am suggesting that the human-nature split and a fragmented way of knowing have led to dangerous contradictions in our society. One way to begin resolving such contradictions is to return to the foundations of education. Education's purpose is to make future communal life possible. If it has been transmitting "habits of doing, thinking, and feeling" that undermine future communal life, then it has become dangerously contradictory. For instance, the economic system, on which education is now so narrowly focused, is supposed to provide for the material well-being of the whole community, yet it is now providing well for the few and leaving increasing numbers of people without access to the means of survival.²² Education has fostered such contradictions by perpetuating non-ecological ways of knowing that have divided us against one another. If education doesn't enable us to make the connection that the exploitation of nature involves the exploitation of the have-nots by the haves, with nature as the instrument, then we will continue to pursue a narrow economism at the expense of justice and, ultimately, survival. The solution, again, is not simply to build a chorus of voices in favor of more environmental education. This is a mistake because such a move maintains a dualistic foundation and encourages the purveyors of false choices who divide us with such options as jobs or the environment. The ecological option is a fundamental reintegration, using a method similar to what Carolyn Merchant has used, that provides an opportunity to reconnect the seemingly separate items on the list of educational concerns. The first step is to adopt a single foundation: education is about making future communal life possible and this means always taking into consideration the totality of factors — in dynamic, ecological interaction — that affirm future social life.

1. John Dewey, *Democracy and Education* (New York: The Free Press, 1916), 3.

2. *Ibid.*, 285.

3. Tom Colwell, "The Ecological Perspective in John Dewey's Philosophy of Education," *Educational Theory* 35, no. 3 (1985): 255-66.

4. Dewey, *Democracy and Education*, 211.

5. Colwell, "The Ecological Perspective in John Dewey's Philosophy of Education," 261.

6. Thomas B. Colwell, "The Ecological Basis of Human Community," *Educational Theory* 21, no. 4 (1971): 418-33.

7. *Ibid.*, 427.

8. Neil Evernden, *The Social Creation of Nature* (Baltimore: The Johns Hopkins University Press, 1992), 40.

9. Ernst Cassirer, *The Individual and the Cosmos in Renaissance Philosophy* (Philadelphia: University of Pennsylvania Press, 1972), 148.
10. Evernden, *The Social Creation of Nature*, 55.
11. Dewey, *Democracy and Education*, 260.
12. George Sessions, "Ecophilosophy, Utopias, and Education," *The Journal of Environmental Education* 15, no. 1 (1983): 27-42.
13. C.A. Bowers, *Education, Cultural Myths, and the Ecological Crisis* (Albany: SUNY Press, 1993), 97.
14. See, for instance, Vandana Shiva, *Staying Alive: Women, Ecology, and Development* (London: Zed Books, 1988).
15. Bowers, *Education, Cultural Myths, and the Ecological Crisis*, 104.
16. Ibid.
17. Carolyn Merchant, *The Death of Nature* (San Francisco: HarperCollins, 1989), preface.
18. Ibid., 43.
19. Ibid., 44-48.
20. Ibid., 50.
21. Ibid., 68.
22. This problem was outlined by Professor Helmut Peukert in a paper presented in New York City in April of 1994.