

CULTIVATING THE ECOLOGICAL CONSCIENCE: SMITH, ORR,  
AND BOWERS ON ECOLOGICAL EDUCATION

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During the past two decades, one of the positive developments in academia has been the emergence of a sizable literature pertaining to ecological education—the theory and practice of preparing children and adults alike for ecologically responsible citizenship. Gregory A. Smith, David W. Orr, and C. A. Bowers are three of the more prolific writers in the field. Smith critiques modern primary and secondary education and argues for, and paints a picture of, an alternative “green pedagogy” that seeks to inculcate in students strong community and ecological values. Orr focuses on the social and ethical problems associated with the environmental crisis and the changes that colleges and universities need to make in order to become propagators of, rather than impediments to, a widespread diffusion of ecological literacy. Bowers emphasizes the role that ecologically problematic modern cultural assumptions play in blinkering the ecological vision of most educational theorists and in preventing the flowering of an eco-justice pedagogy. Each writer seeks the transformation of both education and culture with a view toward realizing ecological sustainability, strong communities, social justice, and moral edification. They neglect or ignore some important subjects, including animal welfare ethics, politics, and corporate influence on governments.

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## CHAPTER 1

### INTRODUCTION: SMITH, ORR, AND BOWERS ON ECOLOGICAL EDUCATION

In his famous essay titled “The Land Ethic,” published in 1949, Aldo Leopold reasons that “Perhaps the most serious obstacle impeding the evolution of a land ethic is the fact that our educational and economic system is headed away from, rather than toward, an intense consciousness of land.”<sup>1</sup> He observes disapprovingly that even the field of philosophy, so intimately concerned with the study and progress of ethical thought, is unaware of the subject of environmental conservation.<sup>2</sup> In the modern era ecology is mostly missing from educational curricula, and as for colleges and universities they appear for the most part intentionally to neglect ecological concepts. The societal embrace of a land ethic, Leopold thinks, would seem “hopeless but for the minority which is in obvious revolt against these ‘modern’ trends.”<sup>3</sup>

With the rise of the environmental movement over the past few decades that minority has been steadily growing. Its ranks include scholars from a variety of academic disciplines whose ecological awareness, environmental commitments, and concern with education lead them to conclusions in line with Leopold’s. For instance, environmental philosopher Holmes Rolston, III holds that Western intellectual and moral education does a poor job of inculcating in students a proper sense of the value of and their duties toward the various components of the biosphere.<sup>4</sup> These shortcomings have a great deal to do, he believes, with the fact that currently human knowledge is so constituted as to render us poor inhabitants of the Earth, “so misfitted,” he

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<sup>1</sup> Aldo Leopold, *A Sand County Almanac, and Sketches Here and There* (1949; reprint, London: Oxford University Press, 1968), p. 223.

<sup>2</sup> *Ibid.*, p. 210.

<sup>3</sup> *Ibid.*, p. 224.

<sup>4</sup> Holmes Rolston, III, “Earth Ethics: A Challenge to Liberal Education,” in *Earth Summit Ethics: Toward a Reconstructive Postmodern Philosophy of Environmental Education*, ed. J. Baird Callicott and Fernando J.R. da Rocha (Albany: State University of New York Press, 1996), pp. 167-68.

writes, that our species is veritably at risk of extinction. He adds that under the circumstances, we require “a new vision of responsibility.”<sup>5</sup> According to education scholars Ronald Laura and Matthew Cotton, in the industrialized world historically the principal function of schools has been the propagation of *Homo oeconomicus*: to train students to participate “in the mindless reductionist expropriation of the earth’s resources” and to accept blindly the “fundamentally anti-ecological” and hugely waste-promoting industrial consumerist ethos.<sup>6</sup> Environmental education, they argue, should be transfigured so that its moral orientation is an “empathetic ecology” that promotes within students an enhanced respect for and deeper feeling of connectivity with the different parts of the natural world and a serious commitment to moral improvement.<sup>7</sup> Peter Madsen, a professor of applied ethics, argues that a sine qua non for stemming the environmental crisis is that the public acquire at least “the primary level” of environmental knowledge, and he makes a persuasive argument that institutions of higher learning have a moral duty to promote its diffusion throughout society.<sup>8</sup> John Lemons, a professor of biology and environmental science, believes university educators ought to search for ways to promote environmental ethics and ecological literacy on their campuses. He believes that should they fail, “any philosophizing done about resolving problems of sustainable development and environmental protection will be of little practical moment.”<sup>9</sup>

The aforementioned scholars are but a handful of the several dozen writers who have

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<sup>5</sup> Ibid., p. 164.

<sup>6</sup> Ronald S. Laura and Matthew C. Cotton, *Empathetic Education: An Ecological Perspective on Educational Knowledge* (London: Palmer Press, 1999), p. 130.

<sup>7</sup> Ibid., pp. 162-73.

<sup>8</sup> Peter Madsen, “What Can Universities and Professional Schools Do to Save the Environment?” in Callicott and da Rocha, *Earth Summit Ethics*, pp. 71-91.

<sup>9</sup> John Lemons, “Afterword: University Education in Sustainable Development and Environmental Protection,” in Callicott and da Rocha, *Earth Summit Ethics*, p. 194.

contributed to the now copious literature on the subject of education and environmental ethics.<sup>10</sup> Given the seriousness of the environmental crisis and because of the centrality of education to the beliefs people hold and the actions they undertake, this welcome efflorescence of social theorizing is unsurprising. Relatively little has been done, however, in terms of critiquing and synthesizing their ideas. It would seem to be time for some assessment of the ideas of the philosophers in this area, so as to determine what in their work is of particular value, what is mistaken or misguided, and what some of the new directions are, if any, in which we ought to begin moving. This study reviews and assesses the work of three scholars who have published widely in the field and who have been keen to argue the case for what we might call the ecologicalization of education: pedagogical reformer Gregory A. Smith, environmental studies professor David Orr, and educational theorist C.A. Bowers.

The following study comprises three chapters and a brief conclusion. Chapter 2 examines the work of Gregory A. Smith, a professor of education in the Graduate School of Education at Lewis and Clark College in Oregon. Smith's analysis and reform efforts focus on the possibilities and methods of educating K-12 students to be sensitive to the needs of, and caring toward, their communities and to be knowledgeable and good stewards of the natural environment. This chapter looks at 10 of Smith's published articles and his book *Education and the Environment*.<sup>11</sup> These writings are the part of Smith's scholarship specifically concerned with what in his more recent writings he calls "ecological education," in which teachers

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<sup>10</sup> For an early but still useful bibliography, see Callicott and da Rocha, *Earth Summit Ethics*, pp. 225-29. For a look at the thought of other writers in the field, see the essays in Jonathan Collett and Stephen Karakashian, *Greening the College Curriculum: A Guide to Environmental Teaching in the Liberal Arts* (Washington, D.C.: Island Press, 1996); Gregory A. Smith and Dilafruz R. Williams, eds., *Ecological Education in Action: On Weaving Education, Culture, and the Environment*, (Albany: State University of New York Press, 1999); Patricia J. Thompson, ed., *Environmental Education for the 21<sup>st</sup> Century: International and Interdisciplinary Perspectives* (New York: Peter Lang, 1997), pp. 279-348.

<sup>11</sup> Gregory A. Smith, *Education and the Environment: Learning to Live with Limits* (Albany: State University of New York Press, 1992).



emphasize inducing in students a strong sense of their embeddedness in nature and society as well as a vastly heightened social and ecological conscience.<sup>12</sup>

Chapter 3 discusses and evaluates the thought of David Orr, a professor at Oberlin College in Ohio and education editor of the journal *Conservation Biology*. Orr's writings on what he variously calls ecological literacy and ecological education emphasize the cultural consequences of humans' cavalierly instrumental valuation of nature, the importance of landscape and architectural design to people's understanding of and attitudes toward nature and the use of resources, as well as the important role that the improvement of personal character can be expected to play in the formation of an ecofriendly population. This chapter focuses primarily on Orr's book *Ecological Literacy*, his collection of essays titled *Earth in Mind*, and his more recent education columns for *Conservation Biology*.<sup>13</sup>

Chapter 4 reviews and assesses the ideas and arguments of cultural critic and educational philosopher C.A. Bowers, currently an adjunct professor of environmental studies at the University of Oregon. The most prolific writer in the area of moral education and ecological literacy, Bowers has sought to promote the ecologicalization of education by extensively criticizing what he sees as the mostly unquestioned assumptions about science, technology, progress, language, and human welfare that are widely held in the industrialized world. In grappling extensively with the implications of conservative and critical educational theory he has sought to contribute to what historian Roderick Nash calls (in another context) the "greening of

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<sup>12</sup> Gregory A. Smith, "The Greening of Pedagogy: Reflections on Balancing Hope and Despair," *Holistic Education Review* 9 (1996): 43-51; Gregory A. Smith and Dilafruz R. Williams, "Ecological Education: Extending the Definition of Environmental Education," in *Educating for Humanity: Rethinking the Purposes of Education*, ed. Mike Seymour (Boulder: Paradigm Publishers, 2004), p. 163.

<sup>13</sup> David W. Orr, *Ecological Literacy: Education and the Transition to a Postmodern World* (Albany: State University of New York Press, 1992); and *Earth in Mind: On Education, Environment, and the Human Prospect* (Washington, D.C.: Island Press, 1994). Many of Orr's early columns for *Conservation Biology* are reprinted in the foregoing books.

philosophy.”<sup>14</sup> This chapter focuses principally on the ideas presented in the following books: *Education, Cultural Myths, and the Ecological Crisis*; *Educating for an Ecologically Sustainable Culture*; *The Culture of Denial*; and *Educating for Eco-Justice and Community*.<sup>15</sup> These works, published between 1993 and 2001, contain most of the notable arguments and ideas that Bowers has presented in his large corpus of writings on education and the environment. Although Bowers is a highly repetitive writer whose other books in this field need not be discussed extensively, a consideration of the noteworthy elements of those works is included here.

The conclusion has two purposes. First, it draws attention to the commonalities between the ideas of these three thinkers. Second, it briefly shows that four subjects not extensively examined by them ought to be considered by theorists and practitioners of ecological education to be important areas of concern. These subjects are animal ethics, political theory, leisure, and caring for nature.

At the outset it is necessary to discuss one terminological matter. The general subject under consideration here, the area where environmental ethics, philosophy of education, and environmental studies overlap, does not have a name that is universally agreed upon. Terms applied to it have included “environmental literacy,” “green pedagogy,” “ecological literacy,” “environmental education,” and “ecological pedagogy.”<sup>16</sup> Following Gregory Smith and

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<sup>14</sup> Roderick Nash, *The Rights of Nature: A History of Environmental Ethics* (Madison: The University of Wisconsin Press, 1989), p. 121.

<sup>15</sup> C.A. Bowers, *Education, Cultural Myths, and the Ecological Crisis: Toward Deep Changes* (Albany: State University of New York Press, 1993); *Educating for an Ecologically Sustainable Culture: Rethinking Moral Education, Creativity, Intelligence, and Other Modern Orthodoxies* (Albany: State University of New York Press, 1995); *The Culture of Denial: Why the Environmental Movement Needs a Strategy for Reforming Universities and Public Schools* (Albany: State University of New York Press, 1997), and *Educating for Eco-Justice and Community* (Athens: The University of Georgia Press, 2001).

<sup>16</sup> Lemons, “Afterword,” pp. 196-206, 209; Smith and Williams, “Ecological Education,” p. 163; Smith, “The Greening of Pedagogy”; Orr, *Ecological Literacy*; and Charles Sokol Bednar, *Transforming the Dream: Ecologism and the Shaping of an Alternative American Vision* (Albany: State University of New York Press, 2003), pp. 129-66.

Dilafruz Williams, when referring to the subject in general I use the term *ecological education*.<sup>17</sup>

Ecological education includes most of the foregoing subjects, but in terms of environmental science is less expansive than “environmental education,” which usually does not involve the consideration of ethical or educational theory. Ecological education effectively connotes the intersection of environmental studies, the practice and theory of ecology-based teaching, and environmental ethics.

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<sup>17</sup> Smith and Williams, “Ecological Education,” pp. 162-68.

## CHAPTER 2

### THE “GREEN PEDAGOGY” OF GREGORY A. SMITH

For Gregory A. Smith, American schools are not doing a very good job of educating students. Smith believes that the United States is entering a period of growing and sustained crisis in all major spheres of society, including nature and the economy, and that our schools “are poorly suited” for the challenge of preparing young people to successfully cope with the new realities, including a reduced material standard of living in the sense in which that is generally understood in modern consumer society.<sup>1</sup> While dealing with the altered circumstances in a manner leading to human health and happiness and ecological sustainability requires strong community and a tendency on the part of people to cooperate with their fellows, schools groom their students to see themselves as social atoms whose inevitable fate is to jostle their way to a good position and status within a competitive labor market. Thus schools “erode social collectivities more than they support them.”<sup>2</sup>

The ways in which schools fail their students and society are manifold. Representing the ideology and promoting the values of socioeconomically privileged groups, teachers and administrators discount the knowledge students gain through their encounters within their immediate familial and cultural milieus by emphasizing the topics and approaches favored by the mainstream middle class.<sup>3</sup> They estrange children from local and personal knowledge by conducting classes within buildings, effectively separating students from the natural environment, thereby rendering it mostly an abstraction.<sup>4</sup> The tendency toward abstraction is

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<sup>1</sup> Gregory A. Smith, *Education and the Environment: Learning to Live with Limits* (Albany: State University of New York Press, 1992), pp. 2-3.

<sup>2</sup> Ibid., p. 3.

<sup>3</sup> Ibid., p. 61.

<sup>4</sup> Ibid., pp. 61-62.

heightened by the instructor and text-centered pedagogy practiced inside of schools whereby students are approached as vessels into which ostensibly valuable information is deposited and which the students very often perceive as irrelevant to their lives. Smith laments the fact that, in terms of the potential to become intimately acquainted with the actual world through hands on experience and observation, the highly mediated learning experience of children in today's schools is poor in comparison to that typically found in pre-modern societies. Indeed it is so bad, he writes, that students are left with a mental disconnect from the world akin to that "of fighter pilots whose knowledge of the destruction they have unleashed on civilian populations is restricted to electronic patterns little different from those they may have seen in video arcades."<sup>5</sup>

Another major problem with the schools lies in their propensity to advance an instrumental form of valuing everything. For Smith, the scientific revolution marks a sharp break between the pre-modern era, when the common tendency of people was to consider things in terms of their meaning, and the modern period when the primary focus of human rationality has been the conquest of nature for human purposes.<sup>6</sup> The instrumentalist mindset, which values things for their use or their potential for advancing the interests of an individual or group, has become so prominent in the modern psyche that "In a sense, the scientific revolution has turned the entire world into a workshop in which all phenomena are judged on the basis of their usefulness" instead of upon their mere intrinsic value.<sup>7</sup> This mindset is no less evident in the schools, which concentrate on inculcating in students "instrumental knowledge" instead of local "cultural values and meanings," thereby weakening the social ties necessary for the health and

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<sup>5</sup> Gregory A. Smith, "Schooling in an Era of Limits," *Holistic Education Review* 6 (1993): 52.

<sup>6</sup> Smith, *Education and the Environment*, p. 24.

<sup>7</sup> Ibid., p. 25.

maintenance of communities.<sup>8</sup>

This mentality is not accidental. As Smith notes, since its inception public education in the United States has been concerned above all with a kind of social control aimed at maintaining order within a consumer capitalist society.<sup>9</sup> Although the federal government in the United States has never assumed power over public education, general concurrence among the citizenry as to the purpose of common schools has resulted in their evolution into a principal device “for increasing the susceptibility of children to centralized political and economic institutions.”<sup>10</sup> Given that these institutions largely serve the interests of the economic elite, the schools tacitly support the prevailing competitive market culture and the values of its defacto custodians. Smith notes that in the nineteenth-century factory owners found that educated workers were more productive and more compliant than other employees, and adds that such workers were in greater harmony with the rhythms of factories than with the rhythms of the natural environment, “and more accepting of labor that required them to function as adjuncts to machines.”<sup>11</sup>

However, Smith asserts that although it is not readily apparent, public education has advanced the social decay it was designed to turn around.<sup>12</sup> In large measure this deterioration is the result of the fact that in terms of the political power structure and the economic class system, American public education is in the main a guardian of the status quo. In recent years, Smith writes, educators have focused on working to keep the United States competitive in the

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<sup>8</sup> Ibid., p. 58.

<sup>9</sup> Ibid., p. 46.

<sup>10</sup> Ibid., p. 48.

<sup>11</sup> Ibid., pp. 47-48. On the subject of schools’ success in training students for obedience, social conformity, and docility in face of institutional authority, see also pp. 52-53, 66, and 156, n. 2.

<sup>12</sup> Ibid., p. 52.

international economic arena.<sup>13</sup> Since the 1980s, educators have been dedicated to the idea that their principal function is to groom all youngsters “to compete successfully in the race for social mobility and contribute to U.S. economic domination.”<sup>14</sup> This idea persists even in the face of the outsourcing of American jobs by multinational corporations in search of greater profits.<sup>15</sup> Moreover, Smith adds, teachers have been much more concerned with critiquing their delivery methods than with reconsidering the content of coursework.<sup>16</sup> In still another indictment of American education, he writes that “much if not most” academic research and application “fails to touch upon the most serious issues of our time.”<sup>17</sup> When one considers all this failure, it is small wonder that educators have not noticed the shifting economic and environmental sands beneath their own feet.<sup>18</sup>

Nor has the introduction of environmental science into the curriculum done much good in terms of effecting any change in the principal aims of education. Unfortunately, it “has been relegated to the status of [just] another subject... [within] an already overburdened curriculum.”<sup>19</sup> The content of environmental education courses concentrates on scientific investigation and public policy while eschewing discussions concerning necessary cultural transformation.<sup>20</sup>

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<sup>13</sup> Ibid., pp. 11, 14.

<sup>14</sup> Gregory A. Smith, “Cultivating Care and Connection: Preparing the Soil for a Just and Sustainable Society,” *Educational Studies* 36 (Summer 2004): 73.

<sup>15</sup> Ibid., pp. 73-74.

<sup>16</sup> Smith, *Education and the Environment*, pp. 13-14.

<sup>17</sup> Ibid., p. 14.

<sup>18</sup> Ibid., pp. 11-14.

<sup>19</sup> Ibid., p. 11.

<sup>20</sup> Gregory A. Smith and Dilafruz R. Williams, “Introduction: Re-engaging Culture and Ecology,” in *Ecological Education in Action: On Weaving Education, Culture, and the Environment*, ed. Gregory A. Smith and Dilafruz R. Williams (Albany: State University of New York Press, 1999), pp. 2-3. Concerning this point, a close parallel is evident within the mainstream environmental movement which, Smith observes, has operated “more as [a collection of] special interest groups” than as instruments of cultural change. See Gregory A. Smith, “Creating a Public of

Given the state of the world all this is very problematic. Because anthropogenic environmental degradation and resource depletion are creating the conditions for severe economic and social decline Smith believes that currently we confront “a critical moment.”<sup>21</sup> If we fail to confront the growing crises of diminished economic opportunity and environmental destruction the inevitable result will be the breakdown of both nature and society.<sup>22</sup> Smith expects conditions during the twenty-first century to spawn changes in society and political economy “at least as revolutionary” as those that generated the modern age.<sup>23</sup> A good deal of what we are now accustomed to, he writes, including our political systems and even capitalism may go by the wayside as present-day institutions demonstrate their inadequacy to the task of reacting to “a world that no longer matches the assumptions upon which modernity is based.”<sup>24</sup>

Those assumptions, a list of which will be familiar to any committed environmentalist, are the source of the ecological crisis.<sup>25</sup> Some of the most important of these beliefs, which underlay industrial civilization and are mostly taken for granted, include: a mechanistic conception of both society and the universe, the reliability of objective rationality, the controllability of nature, the viability of personal independence on the one hand and centralized sociopolitical control on the other, and a permanent increase in the standard of living.<sup>26</sup> What is more, on the personal level, “greed, hatred, and self-delusion have become dominant factors in

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Environmentalists: The Role of Nonformal Education,” in *Ecological Education in Action*, p. 209.

<sup>21</sup> Smith, *Education and the Environment*, p. 10.

<sup>22</sup> Ibid., pp. 8, 10.

<sup>23</sup> Smith, “Schooling in an Era of Limits,” p. 57.

<sup>24</sup> Ibid.; Smith, *Education and the Environment*, pp. 9- 10.

<sup>25</sup> Gregory A. Smith, “The Petrolia School: Teaching and Learning in Place,” *Holistic Education Review* 8 (1995): 49; Gregory A. Smith, “The Greening of Pedagogy: Reflections on Balancing Hope and Despair,” *Holistic Education Review* 9 (1996): 44.

<sup>26</sup> Smith, *Education and the Environment*, p. 20; Smith and Williams, “Introduction,” in *Ecological Education in Action*, p. 11.



our common life in the late-twentieth century.”<sup>27</sup>

Curing the pathology associated with these assumptions calls for nothing less than a “transformation of consciousness.”<sup>28</sup> For Smith, the taking down and rebuilding of “the conceptual platform upon which we live our lives” is imperative if we are to effectuate the thoroughgoing cultural shift necessary for making the transition to an ecologically sustainable way of life.<sup>29</sup> He speculates that if the cultural transformation needed to avoid environmental catastrophe is to occur, “the process that will support it may well need to resemble a religious conversion.”<sup>30</sup>

For their part, educators must wake up to the growing crises brought on by industrialism and realize that the lifestyle changes necessitated thereby “call into question fundamental assumptions about the historical process, progress, and the place of humanity on this planet.”<sup>31</sup> As an important element of their project to assist society in forming an ecologically sustainable relationship with the rest of nature, environmental educators need to critique and undermine the basic cultural beliefs, including those which form the intellectual foundation of modern and postindustrial societies, that stand in the way of ecological enlightenment.<sup>32</sup> “As important disseminators of culture and social relations,” Smith writes, educators are duty bound to begin to formulate and convey a new *Weltanschauung*, one predicated on the principles of ecological

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<sup>27</sup> Smith, “Schooling in an Era of Limits,” p. 56.

<sup>28</sup> Smith, “Creating a Public of Environmentalists,” p. 207; Smith, “The Greening of Pedagogy,” p. 44.

<sup>29</sup> Smith, “The Greening of Pedagogy,” p. 44.

<sup>30</sup> Smith, “Creating a Public of Environmentalists,” p. 220.

<sup>31</sup> Smith, *Education and the Environment*, p. 14.

<sup>32</sup> Gregory A. Smith and Dilafruz R. Williams, “Ecological Education: Extending the Definition of Environmental Education,” in *Educating for Humanity: Rethinking the Purposes of Education*, ed. Mike Seymour (Boulder: Paradigm Publishers, 2004), p. 162, 167; Smith, *Education and the Environment*, pp. 10-11.

sustainability.<sup>33</sup> They can begin, however, only after they admit the extent of their complicity in fostering the modern industrial worldview.<sup>34</sup>

A central aspect of that worldview, as well as an epiphenomenon of the ideology of personal independence (mentioned above), is the enthusiastic embrace of the idea of competition. Smith rejects the seldom-questioned but ubiquitous belief that competition, whether it be in the personal, academic, or economic realm, leads, as if part of some law of nature, to personal improvement and social progress. Rather, under capitalism the logic of the marketplace reduces the competing individual and her skills to commodities, the value of which is judged relative to the perceived value of other human commodities. As Smith observes, under this state of affairs “survival depends on competition with strangers rather than cooperation with intimates.”<sup>35</sup> Because children need to recognize the interdependence of humans, the linkage between their own welfare and the welfare of others, and the reality that the pursuit of one’s individual self interest does not necessarily advance the commonweal, both they and society would be far better served if schools viewed learning as fundamentally a social activity.<sup>36</sup> Cooperation promotes human flourishing far more than does competition, given that the fundamental units of society are not detached individual consumers but “the primary groups or small communities in which they are embedded.” Because a much more cooperative orientation toward others is necessary if we are to fend off “widespread human misery and chaos,” it is imperative that we rethink many of our basal suppositions concerning the individual and society.<sup>37</sup> People need to realize that inevitably living a life grounded on “the celebration of human inclinations of greed and avarice”

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<sup>33</sup> Smith, *Education and the Environment*, pp. 42-43.

<sup>34</sup> Ibid., p. 43.

<sup>35</sup> Ibid., p. 30.

<sup>36</sup> Ibid., pp. 3, 43, 59-60, 101.

<sup>37</sup> Ibid., pp. 2, 42, 75, 80, 84-87, 98-103, 107-108.

will damage themselves and our communities.<sup>38</sup> “From this perspective,” Smith concludes, “the pursuit of self-interest without an awareness of our broader relationships will be seen for what it is—a tear in the fabric of the world.”<sup>39</sup>

Mending that tear requires that we explore deeper sources of existential meaning for our lives. For Smith, an important element of this is a turn toward focusing on personal identity and self improvement rather than on possessions and material comfort.<sup>40</sup> A preoccupation with the latter concerns has been a hallmark of modernity, with terrible results. He writes:

...inventiveness and power have been cultivated at the expense of compassion, generosity, service, and humility. In a sense, those of us who have reaped the benefits of modernity have made a Faustian bargain that entailed forgetting our connection both to the planet and to others less fortunate than ourselves. What we must do at this late date is acknowledge that attempting to live without those connections now threatens our very ability to survive.<sup>41</sup>

Because of a lack of shared purpose and conception of the good society is in danger of sliding into moral nihilism, and thus a concerted effort is needed to fundamentally alter peoples’ judgments concerning the goals of human life and the social and environmental effects of modern industrial civilization.<sup>42</sup> Schools must be reconstructed so that they empower students to discover their “sense of meaning and purpose not in the preoccupations of a consumer society but in the experience of relatedness.”<sup>43</sup>

All of these assumptions are wholly inconsonant with the “new way of being” that we

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<sup>38</sup> Smith and Williams, “Ecological Education,” p. 167.

<sup>39</sup> Ibid.

<sup>40</sup> Smith, *Education and the Environment*, pp. 75, 88-89.

<sup>41</sup> Smith, “Schooling in an Era of Limits,” p. 56.

<sup>42</sup> Smith and Williams, “Introduction,” in *Ecological Education in Action*, p. 12; Smith, *Education and the Environment*, p. 31.

<sup>43</sup> Gregory A. Smith, “Shaping Bioregional Schools,” *Whole Earth Review* Winter (1993): 74.

need to develop in order to avert environmental and social disaster.<sup>44</sup> This incompatibility calls for the radical transformation not only of thought but of culture. Educators, Smith insists, “have a grave responsibility” to contribute to this effort.<sup>45</sup>

He would have them transform education radically by changing their course content and instructional methods with a view toward providing students with what, in his more recent writings, he (and coauthor Dilafruz Williams) has taken to calling “ecological education.”<sup>46</sup> This new philosophy of education may be defined as environmental education widened to incorporate cultural, ethical, scientific, and policy questions.<sup>47</sup> Ecological education accents “the inescapable embeddedness” of humans in nature and the obligations that obtain from this condition, and eschews both the conception of nature as “other” and the undue privileging of the human species, and thus is philosophically biocentric. In its emphasis on the importance of the connections between people and the local environments in which they live, it takes a bioregional perspective toward the relationship between nature and human culture.<sup>48</sup>

Smith sees ecological education as having seven core principles.<sup>49</sup> The first is the expansion of students’ “personal affinity with the earth through practical experiences” in nature and via “the practice of an ethic of care.”<sup>50</sup> He notes approvingly paleontologist Stephen J. Gould’s contention that (in Smith’s words) “human beings are unlikely to protect what they do

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<sup>44</sup> Smith, *Education and the Environment*, pp. 10-11.

<sup>45</sup> Ibid., p. 11.

<sup>46</sup> Smith and Williams, “Ecological Education,” p. 162.

<sup>47</sup> Ibid., p. 164.

<sup>48</sup> Ibid., p. 162.

<sup>49</sup> Smith and Williams, “Introduction,” in *Ecological Education in Action*, pp. 6-7; Smith and Williams, “Ecological Education,” pp. 163-64.

<sup>50</sup> Smith and Williams, “Introduction,” in *Ecological Education in Action*, p. 6. See also Smith and Williams, “Ecological Education,” pp. 164-65.

not love,” and unable to love what they are unfamiliar with.<sup>51</sup> Smith describes and presents examples of a variety of approaches and activities that a small number of schools and some regional environmental groups take or hold to bring students as well as adults into a more conscious relationship with nature. In addition to in-class coursework in environmental studies, these include outdoor environmental science lessons, environmental issues seminars for the general public, ecological restoration projects, gardening, sustainability projects, the cultivation of simplicity in lifestyle, and students’ serving as guides on nature walks for younger children.<sup>52</sup>

As Smith conceives of it, ecological education is also concerned with fostering among people the disposition to care about both nature and community. He illustrates how concerned educators and activists have gone about dealing with this concern by encouraging and assisting students and adults with several types of experiences, including service learning, community oriented internships, ecological restoration, and authorship of educational publications for young children.<sup>53</sup> By being kind, friendly, supportive, generally non-punitive, and willing to listen, teachers also consciously model caring behavior for their students.<sup>54</sup>

Smith strongly advocates the care-based approach to moral education espoused by educational philosopher Nel Noddings and others. As Smith notes, Noddings wants to make care a central aspect of educational efforts and believes that, as Smith puts it, “by doing so, it will be possible to better prepare children to take their place in human and ecological communities in ways that will sustain the long-term health of these systems as well as children’s connection to

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<sup>51</sup> Smith and Williams, “Introduction,” in *Ecological Education in Action*, p. 7.

<sup>52</sup> Gregory A. Smith, “Going Local,” *Educational Leadership* 60 (September 2002): 30-32; Gregory A. Smith, “Place-Based Education: Learning to Be Where We Are,” *Phi Delta Kappan* 83 (2002): 584, 586, 588-90; Smith, “The Petrolia School,” pp. 45-47, 51-52; Smith, “Creating a Public of Environmentalists,” pp. 212-14, 216-22.

<sup>53</sup> Smith, “Going Local,” pp. 30, 32; Smith, “Place-Based Education,” p. 590; Smith, “Shaping Bioregional Schools,” p. 71.

<sup>54</sup> Smith, “Cultivating Care and Connection,” pp. 79-81.

others and the world.”<sup>55</sup> He does not relate how he stands on the particulars of Noddings’ ethical theory, but because he agrees with David Orr and other writers that the strengthening of people’s personal affinity with nature will be a necessary part of addressing the environmental crisis, Smith recommends that educators strive to ensure that students learn both to care and to be cared for. In an article published in 2004, he provides an extended overview of how educators at the Environmental Middle School in Portland, Oregon, put the ethic of care into practice with their students.<sup>56</sup> Smith believes that a care ethic has the considerable virtue of “transcend[ing] ... sectarian differences, incorporating what lies at the heart of most religious and moral systems.”<sup>57</sup> In a statement denoting the critical importance of the issue of care, he argues that the “willingness to care,” is the source of those “moral sentiments” which would found a public accommodation to the ineluctability of the human/ nature connection.<sup>58</sup>

The second core principle of ecological education is that learning should be based on a conscious awareness of place via “the study of knowledge possessed by local elders” and exploration of the community and surrounding natural environment.<sup>59</sup> Smith provides a number of examples of educational settings where this principle had been taken to heart and elaborates on the link between students’ increased familiarity with place and community and their enhanced comprehension of their embeddedness in nature.<sup>60</sup> Bioregionalism is a strong current in his thought and he argues that the growing social and environmental crises will push education to

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<sup>55</sup> Ibid., p. 75; see also Smith, *Education and the Environment*, pp. 106-07.

<sup>56</sup> Smith, “Cultivating Care and Connection,” pp. 75-90.

<sup>57</sup> Smith, “Shaping Bioregional Schools,” p. 74.

<sup>58</sup> Smith and Williams, “Ecological Education,” p. 162.

<sup>59</sup> Smith and Williams, “Introduction,” in *Ecological Education in Action*, p. 6. See also Smith and Williams, “Ecological Education,” p. 165.

<sup>60</sup> Smith, “Creating a Public of Environmentalists,” p. 215; Smith, “Place-Based Education,” pp. 584-89; Smith, “The Petrolia School,” pp. 44-53.

embrace bioregional principles and practices.<sup>61</sup>

An important intellectual influence on Smith is the philosopher John Dewey. Smith agrees with Dewey's contention that the typical school overly isolates children from the wider world outside the classroom.<sup>62</sup> As Smith explains, Dewey proposes that the minds of youngsters "are primarily drawn to actual phenomena rather than to ideas about phenomena."<sup>63</sup> Smith adds: "I would go further and say that valuable knowledge for most children is knowledge that is directly related to their own social reality, knowledge that will allow them to engage in activities that are of service to and valued by those they love and respect."<sup>64</sup>

The third prescript of ecological education, which in practice involves such events, states that students should be brought into an active membership within their communities that countervails the prevailing tendency toward egoistic individualism.<sup>65</sup> Some of the approaches to achieving this, particularly those which take place outside the school, have already been mentioned.<sup>66</sup> The others, all of which Smith approves of, have to do with the Deweyesque notion of making a veritable community of the school itself. These approaches and activities include limiting the size of both schools and classrooms so they are small enough to enable community to develop and persist, keeping cohorts of students and teachers together for a period of years, frequent employment of group projects, encouragement of considerateness and mutual aid, and allowing students to participate in the decision-making processes that pertain to the

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<sup>61</sup> Smith, "Shaping Bioregional Schools," pp. 70-74; Smith, "The Petrolia School," pp. 44-48; Smith, *Education and the Environment*, pp. 85-86.

<sup>62</sup> Smith, "Going Local," p. 30; Smith, *Education and the Environment*, pp. 103-04.

<sup>63</sup> Smith, "Place-Based Education," p. 586.

<sup>64</sup> Ibid.

<sup>65</sup> Smith and Williams, "Introduction," in *Ecological Education in Action*, p. 6; Smith, "Schooling in an Era of Limits," p. 53. See also Smith and Williams, "Ecological Education," pp. 165-66.

<sup>66</sup> See page 17 above.

operation and governance of the school. Smith discusses how these methods have been successfully applied in several schools in the western United States.<sup>67</sup>

The fourth core principle is that students ought to acquire “practical skills needed to regenerate human and natural environments.”<sup>68</sup> Students acquire many such skills in the course of participating in restoration projects and service learning opportunities, many of which, although always teacher-facilitated, develop from students’ own determinations about environmental and community needs and priorities.<sup>69</sup> Smith suggests that exercising such responsibilities markedly improves students’ problem-solving abilities and induces them to take a more caring attitude toward their school.<sup>70</sup>

The fifth core principle of ecological education is that students should become acquainted with occupational choices conducive to environmental and cultural sustainability.<sup>71</sup> Thus, instruction in fields like architecture, forestry, business, farming, and human services would emphasize ecologically sustainable practices and social justice.<sup>72</sup> Smith argues that this emphasis will have a salutary result where freedom is concerned. “Students who might otherwise be forced to leave their hometowns,” he writes, gain assistance in creating their own economic potentialities. Along the way, they attain “some level of independence from broader economic trends that disregard the health of communities in favor of higher levels of profit. These young adults will possess the knowledge, skills, and confidence required to support the decentralized

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<sup>67</sup> Smith, “Shaping Bioregional Schools,” pp. 71-73; Smith, “The Petrolia School,” pp. 49-52; Smith, *Education and the Environment*, pp. 101-02, 126-28; Smith, “Schooling in an Era of Limits,” p. 54.

<sup>68</sup> Smith and Williams, “Introduction,” in *Ecological Education in Action*, p. 6. See also Smith and Williams, “Ecological Education,” p. 166.

<sup>69</sup> Smith, “Place-Based Education,” pp. 588-90.

<sup>70</sup> Smith, “Going Local,” p. 32.

<sup>71</sup> Smith and Williams, “Introduction,” in *Ecological Education in Action*, p. 7.

<sup>72</sup> Smith and Williams, “Ecological Education,” p. 166; Smith, “Shaping Bioregional Schools,” p. 73.



economic activities at the heart of the bioregional agenda.”<sup>73</sup>

The sixth core principle states that students should be groomed for work as environmental and social justice activists capable of dealing competently with institutions at all levels of government.<sup>74</sup> Smith notes that when students take civic action to solve a problem they can be successful, as when efforts by students from a Boston high school environmental justice course led to the installation of advanced air-pollution monitoring equipment in the city’s Roxbury area, and when elementary school students in Utah, concerned about a local toxic waste site that neither the site’s owner nor the city was willing to take action on, successfully lobbied the state legislature to pass a toxic waste cleanup measure.<sup>75</sup> “It is hard to imagine,” Smith comments, that students who have reached this level of political effectiveness assuming “a position of apathy or powerlessness in the face of similar forms of civic irresponsibility in the future.”<sup>76</sup>

The seventh core principle of ecological education prescribes that students critically appraise the core suppositions about nature and knowledge which form the philosophical cornerstone of industrial civilization, inquiring especially into the ways they have conduced to the exploitation of nature and human beings.<sup>77</sup> Some of the major problematic assumptions are listed above (page twelve) and need not be elaborated on here. Another, of great concern to Smith, is the commonly held view that a great divide exists between people and nature. “Schooled in the reductionist and objective approaches of modern science,” he writes, “many residents of industrialized nations have come to believe that human beings stand above and apart

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<sup>73</sup> Smith, “Shaping Bioregional Schools,” p. 73. See also Smith, “Place-Based Education,” pp. 590-91.

<sup>74</sup> Smith and Williams, “Introduction,” p. 7; Smith and Williams, “Ecological Education,” p. 167.

<sup>75</sup> Smith, “Shaping Bioregional Schools,” p. 73; Smith, “Place-Based Education,” p. 592.

<sup>76</sup> Smith, “Shaping Bioregional Schools,” p. 73.

<sup>77</sup> Smith and Williams, “Introduction,” in *Ecological Education in Action*, p. 7.

from the rest of nature, somehow capable of making our species immune from its processes.”<sup>78</sup>

But such thinking is wholly misguided. Smith embraces an alternative view influenced by philosopher Martin Buber:

Humankind is embedded in a physical universe that functions more as an organism than a machine. Rather than treating the universe as an *It*, we must treat it as a *Thou*, recognizing that we stand in a fundamental relationship to the natural environment from which we cannot extricate ourselves. The aim of knowledge is to further identification with that universe, rather than to master it.<sup>79</sup>

Observing the principles of ecological education requires that people in the industrialized world come to recognize that “the human economy is a subset of the ecology of particular places and the planet as a whole.”<sup>80</sup>

Smith hopes to see a number of curricular reforms aimed at bringing people closer to both nature and each other. Courses should be made available to students in conflict resolution, ecology, global environmental issues, sustainable societies, philosophy of education, group dynamics, systems theory, and multicultural studies. Students should be introduced to peace studies, including Mohandas Gandhi’s philosophy of nonviolence. Students should have the chance to explore alternative types of institutions, such as Gandhian schools in India, where ecologically sustainable practices are valued, and to consider usually marginalized ideas such as Gandhi’s conception of *enoughness*.<sup>81</sup> Where applicable, they should be encouraged, through instructors’ employment of an adapted Freirean counter-hegemonic pedagogy, to seek more control over their cultural and economic affairs.<sup>82</sup> Smith implies that educators should rethink their commitment to disciplinary specialization. It would be well, he believes, for us to

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<sup>78</sup> Smith, “The Petrolia School,” p. 49.

<sup>79</sup> Smith, *Education and the Environment*, p. 75.

<sup>80</sup> Smith and Williams, “Ecological Education,” p. 167.

<sup>81</sup> Smith, *Education and the Environment*, p. 94; Smith, “The Greening of Pedagogy,” pp. 44-46.

<sup>82</sup> Smith, “Creating a Public of Environmentalists,” p. 208.

determine “how environmental concerns could infuse all activities and thinking and become part of our definition of ourselves as cultural beings.”<sup>83</sup>

Smith argues that putting ecology at the core of formal education depends on a revolution in thought among the public in terms of how they conceive the world as well as their relationships with nature and their fellows.<sup>84</sup> Unfortunately, the perceived divide between humans and nature blinds many people to the dangers associated with environmental degradation.<sup>85</sup> As Smith notes, public obtuseness concerning the scope of anthropogenic environmental despoliation prompted a Native American elder to remark (as quoted by ecofeminist Vandana Shiva) that only after having “felled the last tree, caught the last fish, and polluted the last river” will people in modern industrial societies wake up to the seriousness of the crisis.<sup>86</sup> Smith expects large numbers of people to respond poorly to the challenges that further environmental decline will bring. But he finds some grounds for optimism, given that people tend to respond to crises once they become adversely affected by them, and because he credits the American people with valuing community and justice.<sup>87</sup> In claims that could be interpreted as contradictory, Smith argues that, for its part, while education’s ability to effect societal change absent the support of the wider culture is significantly constricted, it can be an influential instiller of enlightened expectations for students, and by inculcating them with a serious sense of environmental responsibility it can exert a heavy influence on society in general. Because the necessary political support for reform is currently lacking, educators should do what

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<sup>83</sup> Smith, “The Petrolia School,” p. 48.

<sup>84</sup> Smith, “Shaping Bioregional Schools,” p. 70; Smith, “Creating a Public of Environmentalists,” p. 222; Smith, *Education and the Environment*, p. 147.

<sup>85</sup> Smith, “The Petrolia School,” p. 49.

<sup>86</sup> Smith and Williams, “Introduction,” in *Ecological Education in Action*, p. 2.

<sup>87</sup> Smith, *Education and the Environment*, pp. 143-145, 153.

they can to strengthen the movements for environmental protection and social justice.<sup>88</sup>

Smith views the issue of education's response to the environmental crisis as fundamentally moral in nature. At its core, sustainability "is about the relationship between human beings and the world; it is about morality."<sup>89</sup> Education, Smith observes, cannot avoid exercising moral judgment, and he clearly believes that imbuing students with what Aldo Leopold calls an ecological conscience is the right thing to do. Among other things, achieving this involves providing ecological education in a way that shows students the range of views on controversial issues and teaches them to value and practice truthfulness, compassion, unselfishness, self-restraint, friendship, and bravery.<sup>90</sup>

Smith's work is a valuable contribution to the literature on ecological education. Although his manner of argumentation is overly tentative and timid, especially in his earlier writings, I find myself in agreement with him on most subjects, including the purposes, failures, and importance of education; the seriousness of the environmental crisis and the urgency of the need for radical social change; the negative consequences of competition; the need for an enlightened and humane sense of meaning; and the desirability of implementing his enumerated principles of ecological education.<sup>91</sup> The examples he provides of educators putting the core principles of ecological education into practice are instructive and even inspiring.

I would add a number of courses to Smith's list of recommended curricular offerings and I would suggest that schools make them mandatory for graduation from college and perhaps even

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<sup>88</sup> Smith, "Schooling in an Era of Limits," pp. 46, 54; Smith, *Education and the Environment*, p. 151.

<sup>89</sup> Smith and Williams, "Introduction," in *Ecological Education in Action*, p. 1.

<sup>90</sup> Smith and Williams, "Introduction," in *Ecological Education in Action*, p. 16; Smith, "Schooling in an Era of Limits," p. 56.

<sup>91</sup> On the subject of competition, see Alfie Kohn's excellent *No Contest: The Case Against Competition*, rev. ed., Boston: Houghton Mifflin Company, 1992, esp. pp. 197-232; and John G. Nicholls, *The Competitive Ethos and Democratic Education* (Cambridge: Harvard University Press, 1989). That Smith nowhere cites these works is surprising.

high school. These include, but perhaps are not limited to, environmental ethics; critical thinking; animal welfare ethics; food, agriculture, and the environment; ethical theory; biology; and evolutionary theory. Because it contextualizes and thus intellectually illumines everything, history, like ecology, should be elevated to the status of what Lynton Caldwell calls a “metadiscipline,” a subject pervading the whole of the curriculum.<sup>92</sup> All of these subjects are hugely important avenues for fostering among students a much heightened affinity for both nature and community.

As we have seen, Smith often calls for radical change, but it is unclear how far he thinks this change should go. His calls for a radical transformation of consciousness, lifestyle, and pedagogical practice seem to imply the development of a way of life so profoundly different from our own as to constitute a paradigm shift in which humans’ new way of being would have more differences from than similarities to the lives of people living in modern industrial society. Yet, commenting on the “fundamental rethinking” of education necessitated by the environmental crisis, Smith writes that “[d]espite the radical nature of place-based education” the fact that in some schools new methods are having good student outcomes “suggests that adopting them is not something that will necessitate the abandonment of our current educational system.”<sup>93</sup> Likewise, commenting on the process by which students will be made aware of the flaws in the core ideas of modernism and an alternative set of notions that foster community and environmental responsibility, Smith writes that it need not “entail a wholesale rejection of modernity in favor of a return to either premodern communities or technologies.”<sup>94</sup>

An undeniably important influence on the modern worldview is Christianity. However,

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<sup>92</sup> The quotation is from David Orr, *Ecological Literacy: Education and the Transition to a Postmodern World* (Albany: State University of New York Press, 1992), pp. 142, 144.

<sup>93</sup> Smith, “Place-Based Education,” p. 594.

<sup>94</sup> Smith, “Schooling in an Era of Limits,” p. 50.

one would never know that from Smith's writings. In his book *Education and the Environment*, Smith devotes a twenty-four page chapter to reviewing the major tenets of the modern industrial worldview, yet neither religion nor Christianity is ever mentioned.<sup>95</sup> One can argue, as Eugene Hargrove has done, that because religion has borrowed heavily from philosophy and anthropogenic environmental destruction long predates the Christian bible, religion "has played a much less fundamental role" than Western philosophy.<sup>96</sup> Still, whatever the source of Christian ideas and notwithstanding the fact that Genesis appeared long after the destruction of nature had commenced, Christianity, and Protestantism in particular, has lent considerable impetus to the modern attempt to conquer nature. As Mark Stoll observes, the chief cause of the environmental crisis is the industrial revolution, and Protestantism's "blessing to rational, orderly capitalistic activity" distinguished it from other religions.<sup>97</sup> Concerning the relationship between the Protestant work ethic and the rise of industrialism he writes:

Ceaseless activity contributed to an expanding economy and increasing productivity, and to rising per capita income and growing consumption. Calvinism thus accelerated natural resource use, generated air and water pollution, and glutted landfills. The old injunctions to work hard in one's calling, to order one's business rationally as a steward of the Lord, and to make money but not enjoy it accelerated the industrial revolution, which demanded the rational exploitation of coal, wood, iron, cotton, and much else, and which in turn has meant industrial pollution, scarred landscapes, and deforestation. The Puritan road to sanctification was paid for by ecological degradation.<sup>98</sup>

One must wonder here whether Smith wants teachers to ignore the contribution of religion to the environmental crisis when facilitating with students critical examinations of the core assumptions underlying the modern industrial worldview. Given the significant role played by

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<sup>95</sup> Smith, *Education and the Environment*, pp. 19-43.

<sup>96</sup> Eugene C. Hargrove, *Foundations of Environmental Ethic* (Denton, Tex.: Environmental Ethics Books, 1989), p. 15.

<sup>97</sup> Mark Stoll, *Protestantism, Capitalism, and Nature in America* (Albuquerque: University of New Mexico Press, 1997), p. 31.

<sup>98</sup> *Ibid.*, pp. 33-34.

religion in furthering environmental decline, omitting or glossing over the subject would be a disservice to students.<sup>99</sup>

Concerning one of the most powerful products of modernity, Smith writes that nature will not be protected until corporations, as well as their executives and investors, limit their own financial rewards in the interest of the commonweal.<sup>100</sup> But in very real and important sense the unselfish corporation is an oxymoron. This is not to deny that some corporate managers are environmentally conscientious or that some corporations are moving in ecofriendly directions. But in the main, corporate executives and large investors historically have been and currently are either indifferent or hostile to environmental protection.<sup>101</sup> Moreover, the political decentralization that is a central element of the bioregionalism that Smith embraces is an impossible goal so long as corporate owned mass media and educational institutions successfully propagate the myth of “democratic capitalism,” which, because economic power translates into political power and wealth is grossly unevenly distributed, is another contradiction in terms. It would seem that so long as corporations continue to wield enormous and very often decisive

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<sup>99</sup> On a related note, David Orr finds it disturbing that many fundamentalist Christians are convinced “that the end times are upon us, and accordingly are not inclined to worry about pollution, deforestation, or climate change, which they interpret as signs of Christ’s imminent return. But they are oblivious to the reality that they are bringing about an ‘end times’ that has nothing to do with biblical prophecy.” See David W. Orr, *The Last Refuge: Patriotism, Politics, and the Environment in an Age of Terror* (Washington, D.C.: Island Press, 2005), p. 27. For a journalistic account of this phenomenon see Stephenie Hendricks, *Divine Destruction: Wise Use, Dominion Theology, and the Making of Environmental Policy* (Hoboken, N.J.: Melville House, 2005).

<sup>100</sup> Smith, “Schooling in an Era of Limits,” p. 47.

<sup>101</sup> An adequate defense of this point is beyond the scope of this thesis, but making the case would be rather easy. Valuable writings related to this subject include John Bellamy Foster, *Ecology Against Capitalism* (New York: Monthly Review Press, 2002); Joshua Karliner, *The Corporate Planet: Ecology and Politics in the Age of Globalization* (San Francisco: Sierra Club Books, 1997); Robert F. Kennedy, Jr., *Crimes Against Nature: How George W. Bush and His Corporate Pals Are Plundering the Country and Hijacking Our Democracy* (New York: Harper Collins Publishers, 2004); Joel Kovel, *The Enemy of Nature: The End of Capitalism or the End of the World?* (New York: Zed Books, 2002); Fred Magdoff, John Bellamy Foster, and Frederick H. Buttel, eds., *Hungry for Profit: The Agribusiness Threat to Farmers, Food, and the Environment* (New York: Monthly Review Press, 2000); Jerry Mander, “Intrinsic Negative Effects of Economic Globalization on the Environment,” in *Worlds Apart: Globalization and the Environment*, ed. James Gustave Speth (Washington, D.C.: Island Press, 2003); Vandana Shiva, *Biopiracy: The Plunder of Nature and Knowledge* (Boston: South End Press, 1997); and Vandana Shiva, *Stolen Harvest: The Hijacking of the Global Food Supply* (Boston: South End Press, 2000).

political influence in the United States the political entities we call schools will function mainly as instillers of the modern industrial worldview. Of course, no single reformer can be expected to solve the problem of undue corporate power, but it would seem that someone who wants to radically change education ought to have more to say than Smith does about how we might go about stripping the corporation of its influence over the political process.

Finally it is to Smith's great credit that he is concerned with the question of how educators can influence young people to become more caring. Although it is not without flaws, the feminist care ethic that he finds value in does indeed have much to recommend it. But important questions remain: How do we get teachers to care enough about care for community and the environment to make the issue of caring for others and for nature a central part of their pedagogical efforts? What can we do to make the public at large care deeply about the flowering of community and the restoration and preservation of nature so that educators will have the social support and encouragement they need to radically reform the schools? The latter question is especially crucial because unfortunately in the United States schools and universities reflect the values and goals of the larger society far more than they challenge them. Awareness of this reality would seem to lie behind David Purpel's view that educational institutions "can only be truly transformed by social and cultural pressures." "There is no credible evidence," he writes "that the schools have ever been a major force in cultural and social transformation."<sup>102</sup> C.A. Bowers makes the same point. According to him, history shows that "universities have too often been unable to reform themselves, but that they do respond to public pressure and changing priorities for the funding of research."<sup>103</sup> Faculty and administrators, he writes "have long

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<sup>102</sup> David Purpel, "Holistic Education in a Prophetic Voice," in *The Renewal of Meaning in Education: Responses to the Cultural and Ecological Crisis of Our Times*, ed. R. Miller (Brandon, VT: Holistic Education Press, 1993), p. 83.

<sup>103</sup> C. A. Bowers, *The Culture of Denial: Why the Environmental Movement Needs a Strategy for Reforming Universities and Public Schools* (Albany: State University of New York Press, 1997), p. 225.



prided themselves” on encouraging free thought, so long as the variety of opinion did not run counter to “deep cultural assumptions.”<sup>104</sup> As Smith, Bowers, and David Orr have each insisted, culture will have to change profoundly.

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<sup>104</sup> Ibid., p. 16. See also pp. 17-18, 87-88, 227.

## CHAPTER 3

### DAVID W. ORR ON ECOLOGICAL LITERACY

In his superb book titled *Earth in Mind*, David Orr asserts that because what is present or absent in their school curricula will inculcate in students a greater or lesser degree of awareness of their organic embeddedness in nature, “all education is environmental education.”<sup>1</sup> Unfortunately (as he sees it), education has taken scant attention of that hugely important fact. Indeed, having long since made itself an important auxiliary to the capitalist economy, the educational project has been a moral failure. In its totality, education has been too cowardly to ponder what sort “of world its graduates will inherit and what kind of world they will be prepared to build.”<sup>2</sup> Because education succeeds more than anything else in enabling graduates to be “more effective vandals of the earth,” Orr entertainingly comments that if we are sufficiently attentive “it may even be possible to hear the Creation groan every year in late May when another batch of smart, degree-holding, but ecologically illiterate, *Homo sapiens* who are eager to succeed are launched into the biosphere.”<sup>3</sup> As “tinkering reforms” will not suffice to correct the situation, it is imperative that we reconsider our basic beliefs about learning and the aims of education.<sup>4</sup> What we need, as Orr nicely puts it, is “an educational ‘perestroika,’” an overall reformulation of the operation and content of education at every level.<sup>5</sup>

There are many valuable things in Orr’s impressive corpus of writings on education. One that is given especial emphasis is his denunciation of what I have come to call “truncated

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<sup>1</sup> David W. Orr, *Earth in Mind: On Education, Environment, and the Human Prospect* (Washington, D.C.: Island Press, 1994), p. 12.

<sup>2</sup> *Ibid.*, p. 129.

<sup>3</sup> *Ibid.*, p. 5. See also p. 17.

<sup>4</sup> *Ibid.*, p. 41.

<sup>5</sup> *Ibid.*, pp. 17, 145.

rationality.” Sounding very much like Wendell Berry, who has made a useful distinction between the “analytic mind” (calculating, unemotional, objective, atomistic) and the “sympathetic mind” (subjective, spiritual, emotional, holistic), Orr believes that a fundamental part of our problem is the general human habit, increasingly prominent since the scientific revolution, of employing reason in an instrumental fashion that relegates qualities like “creativity, humor, and wholeness” to the mental periphery.<sup>6</sup> There is widespread preoccupation with knowing how to do things and relatively little consideration given to why things happen or ought to be done, which of course is highly problematic given that we “are capable of doing many more things than intelligence would have us do.” Unfortunately, Orr is correct in observing that universities, which have misguidedly become (in Stan Rowe’s words) “‘know-how’” rather than “‘know-why’” institutions, regularly share the egregious but widely exhibited “obsession to do whatever is possible regardless of whether it is desirable.”<sup>7</sup>

Orr makes a helpful distinction between cleverness and intelligence. The former refers to qualities of mind and character that enable us to figure out how to accomplish particular aims. As “pure intellect” guided by no moral compass, cleverness, like reductionist thought, inclines toward fragmenting things and chiefly focuses on the short term.<sup>8</sup> It is typified by “the specialist whose intellect and person have been shaped by the demands of a single function, what Nietzsche once called an ‘inverted cripple.’”<sup>9</sup> As, in Abraham Heschel’s phraseology, “a

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<sup>6</sup> Ibid., p. 8.

<sup>7</sup> Ibid., p. 49; David Orr, “Environmental Literacy: Education as if the Earth Mattered,” in *People, Land, and Community: Collected E.F. Schumacher Society Lectures*, ed. Hildegard Hannum (New Haven: Yale University Press, 1997), p. 340; David W. Orr, “Reinventing Higher Education,” in *Greening the College Curriculum: A Guide to Environmental Teaching in the Liberal Arts*, ed. Jonathan Collett and Stephen Karakashian (Washington, D.C.: Island Press, 1996), p. 12.

<sup>8</sup> Orr, *Earth in Mind*, pp. 11, 48, 49, 52; David W. Orr, interview in *Listening to the Land: Conversations about Nature, Culture, and Eros*, ed. Derrick Jensen (San Francisco: Sierra Club Books, 1995), p. 25.

<sup>9</sup> Orr, *Earth in Mind*, p. 30.

mercenary of our will to power,” cleverness is capable of things like setting off the first atomic explosion, despite the belief among some scientists that doing so might trigger a chain reaction leading to the destruction of Earth.<sup>10</sup>

Cleverness is related to what Orr calls “fast knowledge.” The “culture of fast knowledge” is based on many core premises, which include: real knowledge is always measurable, utilitarian knowledge is better than the fruits of reflection, wisdom is indeterminable and thus insignificant, the attainment of knowledge entails no duty to ensure it is applied responsibly, and knowledge is not context-specific but rather universally valid. It is “homogenized knowledge” propelled by swift technological innovation and the spread of economic globalization.<sup>11</sup> It is the information accompaniment to the ongoing pattern of rapid cultural change, which, in the form of an inherently “frantic” industrial civilization, ruins communities.<sup>12</sup> As the dizzying pace of modern life contributes to ecologically destructive changes in natural processes and to economic injustice, it also militates against the generation of wisdom. “Information moving too quickly to become knowledge and grow into wisdom does not recharge moral aquifers on which families, communities, and entire nations depend.” Such a situation leads, Orr writes, to “moral atrophy and public confusion.”<sup>13</sup>

That instrumental thought is so closely tied to science does not redeem it. Although science is the “most powerful and far-reaching of human activities,” it is a myth that science is objective. The trouble with what we might call anti-intellectual science, what Orr calls “scientific fundamentalism,” is that it is “not scientific enough.” It takes a quite limited “view of

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<sup>10</sup> Ibid., pp. 46, 49.

<sup>11</sup> David W. Orr, “Slow Knowledge,” *Conservation Biology* 10 (1996): 699.

<sup>12</sup> Orr, *Listening to the Land*, p. 31.

<sup>13</sup> Orr, “Speed,” *Conservation Biology* 12 (1998): 6.

things that is ironically unskeptical, which is to say, unscientific, about science itself and the larger social, political, economic, and ecological conditions that permit science to flourish in the first place.”<sup>14</sup> It fosters the mistaken belief that technology is socially and ecologically neutral.<sup>15</sup> Orr notes George Woodwell’s use of the word *hyperobjectivity* to name scientists’ pretensions to objectivity, which Woodwell calls “the epitome of unreasonableness,” and the acceptance of which contributes to environmental destruction and “destroys the credibility of science and scientists as a source of simple common sense.”<sup>16</sup>

One of the major tasks to which the educational establishment must contribute is what we could call the humanization of science. The preservation of species and environments, Orr writes, will require a wider notion of science and a comprehensive rationality that links empirical knowledge with “the same emotions that make us love and sometimes fight.” Philosopher Karl Polanyi, Orr notes, called this “personal knowledge,” or understanding that brings to bear a broader “range of human perceptions, feelings, and intellectual powers than those presumed to be narrowly ‘objective.’”<sup>17</sup> Humanizing science necessitates linking it with the emotion of love. Concerning doing so, Orr expresses an intriguing if debatable point of view. Wisdom, he argues “is always motivated by love,” which is “defined as much by what it doesn’t do and will not do as by what it does.” But education largely neglects to discuss this point. “That concerns me. We are unable to connect the most powerful human emotion, love, with our most powerful activity, science. That’s not a small part of the crisis around us.”<sup>18</sup>

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<sup>14</sup> Orr, *Earth in Mind*, p. 45.

<sup>15</sup> David W. Orr, “The Limits of Nature and the Educational Nature of Limits,” *Conservation Biology* 12 (1998): 747.

<sup>16</sup> Orr, *Earth in Mind*, p. 72.

<sup>17</sup> *Ibid.*, p. 31.

<sup>18</sup> Orr, *Listening to the Land*, p. 25.

This alternative conception of science is a reflection of intelligence. Intelligence considers things holistically, takes the long term into account, and relies “upon character as much as it does on mental horsepower.”<sup>19</sup> Orr is inclined to view well-functioning ecosystems as the original fount of human intellect (there is “good reason” to think that human intelligence “could not have evolved in a lunar landscape” destitute of biological diversity) which if true means, remarkably, that “the conquest of nature, however clever,” is actually “a war against the source of mind.”<sup>20</sup> Because we obviously need to put a stop to this foolhardy project, and because some effects of our actions are impossible to foresee, the employment of intelligence necessitates “forbearance and a sense of limits.” Orr colorfully elaborates:

In [Wendell] Berry’s words, intelligent people (and civilizations) do not assume “that we can first set demons at large, and then, somehow become smart enough to control them.” If there is such a thing as a societal IQ, what we call “developed” societies would be judged retarded by Berry’s standard. Overflowing landfills, befouled skies, eroded soils, polluted rivers, acidic rain, and radioactive wastes suggest ample attainments for admission into some intergalactic school for learning-disabled species.<sup>21</sup>

Intelligence is related to what Orr calls “slow knowledge,” which aims at wisdom rather than cleverness. Slow knowledge is gained gradually via cultural development and is “shaped and calibrated to fit a particular ecological and cultural context.” In healthy and sustainable cultures this harmonizes with human capacities, as Orr suggests that the rather slow pace of human learning may be the product of natural selection. Historically, slow knowledge is the only kind of cognizance humans have “ever been able to count on for consistently good effect over the long run.”<sup>22</sup> As such, “[it] really isn’t slow at all,” for it is “acquired and applied as

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<sup>19</sup> Orr, *Earth in Mind*, pp. 49, 51.

<sup>20</sup> Ibid., p. 51.

<sup>21</sup> Ibid., p. 50.

<sup>22</sup> Orr, “Slow Knowledge,” p. 700. For a long and detailed paragraph on the differences between fast and slow knowledge, see p. 701.

rapidly as humans can comprehend it and put it to consistently good use.”<sup>23</sup> Orr wisely judges that “in a society in which people sometimes talk about ‘killing time,’ ... We must learn to take time to study nature as the standard for much of what we need to do.”<sup>24</sup> He suggests that colleges should actively seek ways to promote slow knowledge and recommends that academics “be encouraged in every way possible to take the time necessary to broaden their research and scholarship to include its ecological, ethical, and social context.”<sup>25</sup>

But the problem with human beings goes further, and is more serious, than just a lack of individual and collective wisdom. To his considerable credit, unlike many writers who consider issues bearing on environmental ethics, Orr does not shy away from the ugliest and perhaps most intractable aspect of the ecological crisis: the human psychological pathology, the “human cussedness” that gives rise to, and is exacerbated by, environmental degradation. Orr maintains that the human landscape is suffering from the erosion of virtue.<sup>26</sup> He strongly implies that most of the American people are “selfish and short-sighted” and argues that the ecological crisis is not only a problem of knowledge but the outgrowth of a crisis of human character evidenced by widespread immaturity, impoverished imagination, misplaced intellectual priorities, misguided loyalties, and heartlessness.<sup>27</sup> Therefore, we need to revive the “classical ideals of civic virtue.” In order to do that, though, Orr writes “we have to reckon with the kind of people we’ve

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<sup>23</sup> Ibid., p. 702.

<sup>24</sup> Orr, “Speed,” p. 7.

<sup>25</sup> Orr, “Slow Knowledge,” pp. 701-02.

<sup>26</sup> Orr, *Listening to the Land*, p. 30; David W. Orr, *Ecological Literacy: Education and the Transition to a Postmodern World* (Albany: State University of New York Press, 1992), pp. 17-19, 112.

<sup>27</sup> Orr, *Listening to the Land*, p. 27; Orr, “Reinventing Higher Education,” p. 9; David W. Orr, “The Problem of Education,” in *The Campus and Environmental Responsibility*, ed. David J. Eagan and David W. Orr, (San Francisco: Jossey-Bass Publishers, 1992), p. 4. In light of the above discussion of intelligence, it is unsurprising that Orr sees goodheartedness as “a kind of long-term intelligence.” See David W. Orr, “Recollection,” in *Ecological Literacy: Educating Our Children for a Sustainable World*, ed. Michael K. Stone and Zenobia Barlow (San Francisco: Sierra Club Books, 2005), p. 105.

become.” American culture is entrenched in the beginning stage of Abraham Maslow’s hierarchy of needs: “infantile self-gratification.” He goes on: “Advertisers, who spend \$120 billion a year to tell us the world is limitless, intend to keep us there. Technologists reinforce the message,” assuring us they can find solutions to any problems that arise. Sorely lacking, Orr believes, are people willing to advance the commonweal and the prospects for future generations.<sup>28</sup>

In sometimes brief but always interesting discussions of Nazism, Freud, and *The Epic of Gilgamesh*, Orr ponders both the dire practical effects of miseducation and the mental sickness and callousness toward the natural world that stem from it.<sup>29</sup> *Gilgamesh*, in which the protagonist destroys a forest in order to bolster his ego, and the reenactment of that senseless crime “through the ages” are tales of “violence and madness.”<sup>30</sup> The “deepest root” of the “collusive madness” evident among industrialized peoples is, according to Orr, the repression of what Theodore Roszak calls “the ecological unconscious.” If our assault on the environment continues, the prospects for our mental health are not so good to say the least. Orr writes:

The human mind is a product of the Pleistocene Age, shaped by wildness that has all but disappeared. If we complete the destruction of nature, we will have succeeded in cutting ourselves off from the source of sanity itself. Hermetically sealed amidst our creations and bereft of those of The Creation, the world then will reflect only the demented image of the mind imprisoned within itself. Can the mind doting upon itself and its creations be sane? Thoreau never would have thought so, nor should we.<sup>31</sup>

The aim of education, which heretofore “has largely been shaped by the drive to extend human domination [of nature] to its fullest,” ought to be, as Orr sees it, to link the thoughtfulness and

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<sup>28</sup> Orr, *Listening to the Land*, p. 29.

<sup>29</sup> Orr, *Earth in Mind*, pp. 19-20, 66, 151.

<sup>30</sup> Ibid., p. 66.

<sup>31</sup> Ibid., p. 151. See also Orr, “Deciding for Life,” p. 159.



holism of intelligence, with “cleverness, which involves being smart about details.”<sup>32</sup>

Orr sees the ecological crisis as fundamentally having a cultural basis. Blame for it is assignable all around: to politicians, the general public, educators.<sup>33</sup> Orr rightfully rejects the conventional wisdom that holds our culture to be “the pinnacle of human achievement.” In fact, as he avers, ours is “a disintegrating culture,” in which illusions are so ingrained that most people do not recognize the moral bankruptcy of capitalism. Communism, he writes, “failed as an ascetic morality. Capitalism has failed because it destroys morality altogether.”<sup>34</sup>

Like the industrialism that spawned and colored it, classical economic theory was bound to fail nature because it was formulated “in full innocence of how the world works as a physical system and why this might be important, even for the economy.” As Orr nicely puts it, the theory was unable to explain “what the economy did because it could not take account of what the economy was undoing.”<sup>35</sup> Industrial capitalists mostly oblivious to what was being undone contributed to the mediocrity of education by rewarding specialists with unexceptional minds and by limiting their enthusiasm for higher educational standards to technical and scientific fields. “The highly specialized, narrowly focused intellect” Orr observes, “fits the demands of instrumental rationality built into the industrial economy.”<sup>36</sup> Choosing between two preclusive options, people in industrial economies have unfortunately mostly acquiesced to those demands rather than to the requirements of nature and community.<sup>37</sup>

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<sup>32</sup> Orr, *Earth in Mind*, pp. 9, 11.

<sup>33</sup> Ibid., pp. 145, 180.

<sup>34</sup> Ibid., 12.

<sup>35</sup> David W. Orr, “Leverage,” *Conservation Biology* 15 (2001): 1481. Like Gregory A. Smith (page 15 above) Orr sees industrialism as “a Faustian bargain.” For his colorful elaboration of this point, see Orr, *Listening to the Land*, p. 33.

<sup>36</sup> Orr, “Environmental Literacy,” p. 241. The first sentence is a paraphrase of a quotation by Orr of Brooks Adams.

<sup>37</sup> David W. Orr, “Deciding for Life and Our Children’s Future: An interview with David Orr by Mike Seymour,” in *Educating for Humanity: Rethinking the Purposes of Education*, ed. Mike Seymour (Boulder: Paradigm Publishers,

The decimation of morality and nature has been carried out in large measure by people who, within the paradigm of techno-industrialism, are generally deemed “successful,” and most of whom have had considerable intellectual preparation at our schools and universities.<sup>38</sup> Among those universities are the land-grant agricultural colleges, whose faculty and administrators have aided and abetted the nefarious transition in the United States of an agricultural sector made up mostly of multitudes of small farms to one dominated by ecologically unfriendly corporate agribusiness.<sup>39</sup> Orr correctly charges that universities have long been growing more commercialized and corporatist and as a result have seriously compromised their intellectual integrity.<sup>40</sup> Universities and colleges have evolved into huge and costly-to-run “machines” that function in a manner closely resembling that of the for-profit corporation, are “overmanaged and underled,” dispense education in the mode of the factory, emphasize career training to the neglect of both preparation for citizenship and the discovery of purpose, and offer a homogenized “urban curriculum.”<sup>41</sup> Given the worsening ecological crisis, the nationwide push to increase achievement standards and emphasize test scores in order to

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2004), p. 158. For a discussion of the environmental crisis and economic growth, see Orr, *Ecological Literacy*, pp. 6-11. On the current dominance of capitalism and consumerism see Orr, “The Limits of Nature,” p. 747. Concerning the culture of speed and fast knowledge, Orr writes: “The increasing velocity of the global culture is no accident. It is the foundation of the corporate-dominated global economy that requires quick returns on investment and rapid economic growth. It is the soul of the consumer economy that feeds on impulse, obsession, and instant gratification.” See Orr, “Speed,” p. 6.

<sup>38</sup> Orr, *Earth in Mind*, p. 12. Holmes Rolston, III has commented that “[M]ost . . . leaders of government, commerce, and industry who urge unwise development, and who jeopardize our environment, have degrees after their names, sometimes a string of them. Substantial academic credentials do little to guarantee that a person maintains a sustainable relationship with the planet, much less an appropriate respect for nature. Often as not, the number of degrees is in inverse proportion to the degree of sustainability achieved.” Holmes Rolston, III, “Earth Ethics: A Challenge to Liberal Education,” in *Earth Summit Ethics: Toward a Reconstructive Postmodern Philosophy of Environmental Education*, ed. J. Baird Callicott and Fernando J.R. da Rocha (Albany: State University of New York Press, 1996), p. 186.

<sup>39</sup> Orr, *Earth in Mind*, pp. 179, 200-01.

<sup>40</sup> Orr, “Reinventing Higher Education,” pp. 11-12.

<sup>41</sup> Ibid., pp. 12-13; David W. Orr, “Education, Careers, and Callings: The Practice of Conservation Biology,” *Conservation Biology* 13 (1999): 1242-43; David W. Orr, “Education: What is Education For?” in *The Essential Aldo Leopold: Quotations and Commentaries*, ed. Curt Meine and Richard J. Knight (Madison: University of Wisconsin Press, 1999), pp. 255-56; Orr, *Earth in Mind*, p. 22; Orr, “Re-ruralizing Education,” p. 228.

render students more competitive in the global economy “is like equipping students for jobs onboard the *Titanic*.”<sup>42</sup> Intellectually, these problems can be traced back to the Enlightenment, which, Orr laments, “bequeathed to the modern university” its characteristic Baconian mission of subduing nature, the fulfillment of which has become “the operating creed of the modern research university.”<sup>43</sup>

Orr performs a courageous and commendable public service by asserting that in higher education the corporatization of institutions, misplaced curricular priorities, and the timidity and political apathy of most faculty are problems that must be addressed if we are to have any chance of stemming the environmental crisis.<sup>44</sup> Professionalization, Orr writes, “has Balkanized the intellectual landscape.” Directing their “allegiance” to one particular disciplinary “principality,” few academics “know enough of the whole terrain to be dangerous to the established order. Narrowness, ‘methodolatry,’ and careerism have rendered many unfit and unwilling to ask large and searching questions.”<sup>45</sup> Refreshingly, he goes on: to the extent that it is “obscure, jargon-laden, and trivial, professionalized knowledge has come as a great windfall to the comfortable, serving to direct attention from behavior that is egregious, criminal, or merely embarrassing.”<sup>46</sup> Sadly, these criticisms are applicable even to the liberal arts, which, “from an ecological perspective . . . have not been liberal enough.”<sup>47</sup> As evidenced by, among other things, the fact that dissident graduate students are largely weeded out, academia, Orr rightly observes, is too much a sanctuary for shallow careerists and much less than it ought to be “a place for passionate

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<sup>42</sup> Orr, “Deciding for Life,” p. 158.

<sup>43</sup> Orr, “Reinventing Higher Education,” p. 10.

<sup>44</sup> Orr, *Earth in Mind*, pp. 89-111, 117-21.

<sup>45</sup> *Ibid.*, p. 100.

<sup>46</sup> *Ibid.*, pp. 100-01.

<sup>47</sup> *Ibid.*, p. 109.

and thoughtful critics.”<sup>48</sup> To the reader who believes that higher education ought to be concerned at least as much with challenging the larger society as with reflecting it, Orr’s view that “The world has always needed a dangerous professorate and needs one now more than ever before” is a breath of fresh intellectual and ethical air.<sup>49</sup>

Given all these deficiencies in formal education, it is hardly surprising that the results of the educational enterprise are in many ways deplorable. One problem Orr emphasizes is the fact that, as he puts it, university students conclude, if they have not already done so prior to college, that because they are rarely expected to work out problems not directly related to their grade point averages, “practical incompetence is *de rigueur*.” The university fails both to offer students avenues for test driving their claimed values in order to see how they hold up on the road of experience and to provide them with the abilities necessary to make the attempt at some point in the future. Orr is at his witty and sarcastic best on this subject: “Nor are [students] asked to make anything, it being presumed that material and mental creativity are unrelated. *Homo faber* and *Homo sapiens* are two distinct species, the former being an inferior sort that subsisted between the Neanderthal era and the founding of Harvard.” The consequent losses are substantial: the gratification of effective labor and workmanship, the lessons of industriousness and self-control, and “the discovery of personal competence.”<sup>50</sup> By the time they graduate, college students fall into complacency where their lack of practical skills is concerned and view practical competence as “decidedly inferior to the kind that helps to engineer leveraged buyouts and create tax breaks for people who do not need them.” This complacency represents an

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<sup>48</sup> Ibid., p. 101; Orr, “Education, Careers, and Callings,” p. 1243.

<sup>49</sup> Orr, *Earth in Mind*, p. 103.

<sup>50</sup> Orr, *Ecological Literacy*, p. 104.

immeasurable loss “both to the personhood of the student and to the larger society.”<sup>51</sup>

But the consequences of education’s defects go far beyond leaving many students with a dearth of hands-on skills. It produces many individuals given to violence.<sup>52</sup> It turns out large numbers of narrow-minded specialists whose myopia constitutes a danger to the health of nature.<sup>53</sup> Its charges tend to end up unaware of or indifferent to both environmental and social justice issues.<sup>54</sup> It fails to link intellect with fondness and promote “loyalty to particular places,” or in other words to “bond minds and nature.”<sup>55</sup> The successes that education seeks to advance, such as the student’s ascending career trajectory and steady income growth, are, in Orr’s estimation “crude but useful indicators of the amount of carbon that the graduate will redistribute from the subsurface of the earth to the atmosphere over a lifetime of consumption, travel, ‘enlightenment,’ and upward mobility.”<sup>56</sup>

If such people as the aforementioned academics and their upwardly mobile students are considered among the successful, as indeed they have been, one can only nod in agreement with Orr’s assertion that “the planet does not need more successful people.” What it does need, and urgently so, are “more peacemakers, healers, restorers, storytellers, and lovers of every kind.” Its well being requires people who live in an ecologically sustainable and place-conscious manner, as well as “people of moral courage willing to join the fight to make the world habitable and humane.” Such qualities, Orr correctly believes, “have little to do with success as our culture has

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<sup>51</sup> Ibid., pp. 104-05.

<sup>52</sup> Orr, “Deciding for Life,” p. 159.

<sup>53</sup> Orr, “Reinventing Higher Education,” p. 11; Orr *Ecological Literacy*, p. 104.

<sup>54</sup> Orr, “Deciding for Life,” p. 159.

<sup>55</sup> Orr, “Reinventing Higher Education,” p. 11.

<sup>56</sup> Orr, “The Problem of Education,” p. 4.

defined it.”<sup>57</sup> If we wish success to be defined in ecofriendly terms, what we need is “a cultural revolution through which we discover (or rediscover) a larger concept of land and ourselves.”<sup>58</sup>

This cultural revolution necessarily means a sweeping overhaul of higher education. In general, the difficulty lies in producing ecologically literate people in a society composed mostly of the ecologically unversed.<sup>59</sup> At the student level, the aim is “something like the Greek model of Paideia, or that of the Renaissance person of wide understanding, competence, and commitment to the common good.”<sup>60</sup>

Therefore, he advocates major reforms, which we can group into three general types. The first has to do with public policy. To Orr a concern with politics is logical, as he sees one part of ecological education, conservation biology, as a discourse between science and politics, and because he conceives of ecological literacy as a grasping of both conservation biology and the political foundation of ecologically sustainable societies. Orr calls for the establishment of national standards for ecological literacy and for making ecological education a central part of public schooling at all levels.<sup>61</sup>

Second, schools will have to radically adjust their curricular foci and priorities. Education should provide students a full opportunity to explore and understand the roots of the environmental crisis, including its social, psychological, religious, political, technological, historical, and moral aspects, as well as potential solutions and grounds for hope about the

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<sup>57</sup> Orr, *Earth in Mind*, p. 12. See also Orr, “Recollection,” p. 106.

<sup>58</sup> David W. Orr, “Re-ruralizing Education,” in *Rooted in the Land: Essays on Community and Place*, ed. William Vitek and Wes Jackson (New Haven: Yale University Press, 1996), pp. 232-33.

<sup>59</sup> David W. Orr, “Breaking Ground,” *Yes! Magazine*, Winter 1999, retrieved October 2006, <http://yesmagazine.org/article.asp?ID=799>

<sup>60</sup> Orr, *Ecological Literacy*, p. 84.

<sup>61</sup> Orr, *Earth in Mind*, pp. 72-73. See also Orr, “Deciding for Life,” p. 160.

future.<sup>62</sup> It should also seek to ensure that students acquire a solid grounding in ecology and environmental issues.<sup>63</sup> The ecologically sustainable practices of indigenous cultures would be studied for the many helpful insights derivable from them.<sup>64</sup> In his excellent book *Ecological Literacy*, Orr provides a fifteen-page syllabus for ecological literacy and a separate list of dozens of recommended authors and topics of study across a dozen disciplines.<sup>65</sup> In a short passage that points to a number of Orr's important intellectual influences, he asserts that "Students should not be considered ecologically literate until they have read Thoreau, Kropotkin, Muir, Albert Howard, Alfred North Whitehead, Gandhi, Schweitzer, Aldo Leopold, Lewis Mumford, Rachel Carson, E.F. Schumacher, and Wendell Berry."<sup>66</sup>

Inspired by the progressive and experiential educational philosophies of Whitehead and John Dewey, Orr suggests implementation of curricular reforms that would bring faculty and students together in the fashion of what Dewey called a "'miniature community'" to solve actual practical problems.<sup>67</sup> Orr views this reform as a very important area of concern, for "thinking and doing reinforce each other and best occur together." Nonetheless, contemporary pedagogy, "which begins at the neck and works up, consigns 'material creative activity'" to vocational and technical schools mostly unconnected with the liberal arts. He goes on: "By Whitehead's logic, the liberal arts are not liberal enough. Applied to ecological education, a more liberal liberal arts would include" the subjects of sustainable agriculture, forestry, solar energy technology,

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<sup>62</sup> David W. Orr, *Ecological Literacy*, pp. 94, 111-14, 117-22, 135-36; Orr, "Reinventing Higher Education," p. 22.

<sup>63</sup> Orr, *Ecological Literacy*, pp. 109-10; Orr, *Earth in Mind*, pp. 14, 95-96, 126.

<sup>64</sup> Orr, *Earth in Mind*, pp. 97, 101, 129; Orr, *Ecological Literacy*, pp. 101-02; Orr, "Environmental Literacy," p. 241.

<sup>65</sup> Orr, *Ecological Literacy*, pp. 109-24, 135-36.

<sup>66</sup> *Ibid.*, p. 94.

<sup>67</sup> Orr, *Earth in Mind*, pp. 97-98, 110; Orr, "Reinventing Higher Education," p. 19; David W. Orr, "The Liberal Arts, the Campus, and the Biosphere," *Harvard Educational Review* 60 (May 1990): 211-12.

restoration ecology, and environmental engineering “which combine practical competence with intellectual development.”<sup>68</sup> Of the practical matters that young people need to learn about, “by far the most important” is agriculture.<sup>69</sup> Remarking that perhaps the time has come to try out “more radical ideas,” Orr suggests we think about taking up the tradition, practiced in some tribal cultures, of sending teenagers into the wilderness as a right of passage with a view to toughening them up, honing their practical problem solving skills, and cultivating their affinity for nature. A summer in the wilderness, he writes “would do more to bond young people to the earth than any amount of classroom experiences.”<sup>70</sup>

The third major area of reform comprises radical changes in the operations and administration of colleges and universities. Tenure committees should consciously inquire of candidates what the relevance of their research is to the common good and how their fields are related to ecological concerns.<sup>71</sup> Agricultural education programs should be moved and placed within liberal arts colleges, so that rather than its current constitution as “a series of technical specializations,” agriculture can be transformed into what it ought to be: “a broadly conceived enterprise with technical aspects . . . based on a solid agrarian philosophy and moral foundation.”<sup>72</sup> Universities and colleges should create programs and incentives to allow for and encourage real interdisciplinary research and projects.<sup>73</sup>

Ranking systems for colleges should be changed by making the degree to which

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<sup>68</sup> David W. Orr, “The Dangers of Education,” in *The Renewal of Meaning in Education: Responses to the Cultural and Ecological Crisis of Our Times*, ed. Ron Miller (Brandon, Vermont: Holistic Education Press, 1993), pp. 34-35. See also Orr, “Recollection,” p. 98.

<sup>69</sup> Orr, “Re-ruralizing Education,” p. 229.

<sup>70</sup> Orr, “The Dangers of Education,” pp. 35-36.

<sup>71</sup> Orr, *Earth in Mind*, p. 102.

<sup>72</sup> Ibid., pp. 119-20, 179.

<sup>73</sup> Ibid., pp. 102-03.



institutions practice and teach sustainable living a chief evaluative criterion.<sup>74</sup> This reform would signal a major improvement in higher education, as heretofore rankings have for the most part measured all the wrong things. Orr writes:

Peer reputation may measure only the excellence with which some institutions do what should not be done. It can also be an index of snobbery and intellectual inbreeding. Faculty publications may even be a tolerable indicator of student dissatisfaction and the decline of forests. Large endowments might be a reasonable index of the strength of institutional attachment to the status quo. The volume of research grants may, on occasion, reflect ties to corporate and military activities, the effect of which is ecological ruin.<sup>75</sup>

Orr recommends that the bases for rankings should include the extent to which the curriculum outfits students for continued ecological literacy and the degree to which graduates leave a small ecological footprint, or as Orr nicely puts it, whether they are “part of the larger ecological enlightenment that must precede the transition to a sustainable society, or part of the rear guard of a vandal economy.” Other recommended criteria concern the environmental performance of schools themselves. Here rankings would reflect an institution’s ecofriendliness in the areas of resource consumption, pollution, recycling, waste management, expenditures, and investment.<sup>76</sup>

The greening of colleges themselves, in the aforementioned areas as well as of their architecture and landscaping, is the sphere of administrative reform to which Orr devotes the most attention.<sup>77</sup> The appearance and physical operations of a campus, he observes, constitute a misguided, ill-advised, and pernicious “hidden curriculum.”<sup>78</sup> This concealed curriculum very

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<sup>74</sup> Orr, “Reinventing Higher Education,” pp. 13-16.

<sup>75</sup> Orr, “Reinventing Higher Education,” pp. 13-14.

<sup>76</sup> Ibid., p. 14-16.

<sup>77</sup> Orr, “The Problem of Education,” pp. 4-5; Orr, “Reinventing Higher Education,” pp. 16-20; Orr, *Ecological Literacy*, pp. 105-06.

<sup>78</sup> David W. Orr, “Reassembling the Pieces: Ecological Design and the Liberal Arts,” in *Ecological Education in Action: On Weaving Education, Culture, and the Environment*, ed. Gregory A. Smith and Dilafruz R. Williams (Albany: State University of New York Press, 1999), p. 229; Orr, “Breaking Ground,” <http://yesmagazine.org/article.asp?ID=799>

effectively teaches students a number of lessons: energy is inexpensive and plentiful and can therefore be consumed carelessly, the use of toxic building materials is perfectly acceptable, humans and nature are separate, location is unimportant, and there is no need to consider the local and long distance environmental impacts of campus operations.<sup>79</sup> Moreover, the regular and hidden curriculums combine to deliver students the message that it is enough merely to become aware of ecological degradation and social injustice while not acting in any substantial way to alleviate them. Not surprisingly, students do not get around to questioning the environmental performance of “the very institution that presumes to induct them into responsible adulthood.”<sup>80</sup>

Orr insists that institutions of higher education have a moral duty to transform their campuses to make them environmentally friendly and ecologically sustainable in all respects.<sup>81</sup> Colleges and universities should become aware of the ecological characteristics of their own regions and work to take care of their own lands in an ecofriendly manner as well as alter their purchasing patterns with a view to strengthening their local economies.<sup>82</sup> Orr offers some reasonable guidelines for greening college campuses and operations and provides an instructive overview of his experience spearheading the project to construct a new, state-of-the-art “green” building intended to house the growing environmental studies program at Oberlin College.<sup>83</sup> Because he laments the loss of beauty and many “elegant place-centered economies and

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<sup>79</sup> Orr, “Reassembling the Pieces,” pp. 229-30; Orr, *Ecological Literacy*, p. 103; Orr, “Breaking Ground,” <http://yesmagazine.org/article.asp?ID=799>

<sup>80</sup> Orr, *Ecological Literacy*, p. 104.

<sup>81</sup> Orr, “The Problem of Education,” p. 5; David W. Orr, “2020: A Proposal,” *Conservation Biology* 14 (2000): 340.

<sup>82</sup> Orr, *Earth in Mind*, pp. 65-66, 68; Orr, *Ecological Literacy*, pp. 105-06.

<sup>83</sup> David W. Orr, “Educating For the Environment,” *Yes! Magazine*, Winter 1999, retrieved October 2006, <http://yesmagazine.org/article.asp?ID=795>; David W. Orr, “Can Educational Institutions Learn? The Creation of the Adam Joseph Lewis Center at Oberlin College,” in *Sustainability on Campus: Stories and Strategies for Change*, ed. Peggy F. Barlett and Geoffrey W. Chase (Cambridge: MIT Press, 2004), pp. 159-75.

societies” to the ravages of industrialism Orr also calls for a renewed appreciation of beauty.<sup>84</sup> Referring to the need for ecological enlightenment both generally and on college campuses, he writes, “the issue has to do with art and beauty. In the largest sense, what we must do to ensure human tenure on the earth is to cultivate a new standard that defines beauty as that which causes no ugliness somewhere else or at some later time.”<sup>85</sup> Orr quotes Rene Dubos: “The worst thing we can do to our children is to convince them that ugliness is normal.”<sup>86</sup>

Turning the campus into a “laboratory” for the development, implementation, and enjoyment of sustainable living practices will have many valuable benefits for students. By analyzing the issues to be addressed and how these and the campus are related to the wider world, they will learn a great deal about context and the significance of environmental problems. Because they will be expected to participate in sustaining and improving the ecofriendliness of the campus, among other positive outcomes students will sharpen their problem solving skills; increase their knowledge of agriculture, political economy, ecology, and environmental ethics; and become much more intimately acquainted with the workings of their schools.<sup>87</sup>

Along with these reforms, Orr hopes to see a great cultural shift in the form of a transformation in political economy.<sup>88</sup> Orr is certainly correct in believing that the destructive effects of capitalism have “everything” to do with ecological education, which, as he writes “is not just about biology, it is equally about the deeper causes of biotic impoverishment, which have to do in one way or another with political behavior, institutions, and philosophies.”<sup>89</sup> That

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<sup>84</sup> Orr, “Listening to the Land,” p. 33.

<sup>85</sup> Orr, “Reassembling the Pieces,” p. 236.

<sup>86</sup> Ibid., p. 229.

<sup>87</sup> Orr, “The Problem of Education,” pp. 5-6; Orr, “Reinventing Higher Education,” p. 22.

<sup>88</sup> Orr, *Ecological Literacy*, pp. 6-11, 23-64.

<sup>89</sup> Orr, *Earth in Mind*, p. 72.

environmental protection is a moral issue, while capitalism “destroys morality altogether” (see page 39 above), leads one to suspect that for Orr nature preservation requires the elimination of capitalism. Orr does not explicitly go that far, but his enthusiastic endorsement of bioregionalism, which among other things prescribes decentralized participatory democracy and a significant withdrawal from the global economy, suggests that he would not shed any tears were capitalism to crumble into the dust bin of history. Orr tells us less than we would like to know about how he sees bioregionalism winning its subversive war against corporate globalism in the face of the massive power of plutocracy and the complacency with which tens of millions of Americans greet the growing threat of home-grown fascism (although in fairness I cannot recall Orr predicting that bioregionalism will win out in the end) and he does not offer much help on the question of how we can move people to care enough about themselves and the fate of the world to join the movement for earth healing and community building. Still, he writes compellingly and interestingly about some of the problems, trends, people, ideas, and possibilities germane to the issue of creating new governmental and economic patterns conducive to strong communities, a politically engaged citizenry, and environmental conservation.<sup>90</sup>

The fundamental transformation of education and society requires a general ennobling of humanity. The crisis we face is not really ecological or technological but rather political, spiritual, and philosophical.<sup>91</sup> Without a “virtuous” citizenry, minus “a good society” that esteems the intellectual life and lives distinguished by “heroism and high purpose,” we can hardly expect to make our schools what we need them to be.<sup>92</sup> Such a citizenry will not only

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<sup>90</sup> Ibid., pp. 72-73; Orr, *Ecological Literacy*, pp. 68-80.

<sup>91</sup> Orr, “Deciding for Life,” pp. 156-57.

<sup>92</sup> Orr, *Earth in Mind*, pp. 38, 62.

accept natural limits but be grateful for them, as recognition of our own mortality moves us to consider the momentous in life.<sup>93</sup> Concerning the importance of the personal search for meaning, Orr relates Victor Frankl's assertion that human beings can (in Orr's words) "survive an incredible amount of deprivation but almost no meaninglessness." As "meaning-making creatures," Orr holds "spirituality bubbles out of us like water out of an artesian well." Humans are innately religious and spiritual, but not necessarily veritably so.<sup>94</sup> Authenticity, like the challenge posed by the environmental crisis, requires a dedication to "Truth in its largest dimensions."

However, hell bent on domination, industrialized man has been chiefly concerned with instrumental knowledge. Moderns have viewed such truth as freeing them from the constraints of nature. But Orr correctly sees it differently:

I believe that the idea that the truth sets us free is just a slogan. Truth, I suspect, is furtive, seldom showing itself in air-conditioned rooms, as someone once put it. When it shows itself, it is likely to be daunting, confusing, conflicting, ironic, perhaps even terrifying, but not necessarily liberating as we understand that word. It is more likely to be hard, demanding, and elusive. The path of least resistance is to seek smaller truths and live comfortably in denial of larger ones. The proper role of education is to jar us out of that somnambulant state and prepare the learner for the encounter with truth if and when so graced.<sup>95</sup>

Orr advocates what we might think of as a postmodern conception of truth that Glenn Tinder calls "humbling truth," which is in Orr's words:

... aimed toward health, justice, fairness, peace, and all of those things that tie us together in community—including the biotic community. Humbling truth has to do with wisdom and restraint, not technical fixes. Humbling truth would lead us to ask more often, "How much is enough?" and "For what purpose?" Those seeking truth of this sort know that ignorance is not a solvable problem, as Descartes assumed, but an inescapable and paradoxical given in the human condition. This recognition should inform all of our attempts to acquire knowledge and use it wisely.<sup>96</sup>

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<sup>93</sup> Orr, "The Limits of Nature," p. 748.

<sup>94</sup> Orr, "Deciding for Life," pp. 157-58.

<sup>95</sup> Orr, "Recollection," p. 105.

Fairness demands that we exercise restraint in order to avoid imposing, through irreversible damage to the environment, “an irrevocable form of remote tyranny” on future generations.<sup>97</sup> Orr is impressively radical on this point, indicating his solicitude for the welfare of our descendants by suggesting we think about following the lead of the Philippines’ Supreme Court in according legal standing to children. In comments worth quoting in full, he elaborates:

The rights of children now and for future generations should be foremost, and not the rights of corporations. There’s no divine right of capital or of the bottom line. Capital needs to be dethroned and children put in its place. In that change of power is our best chance of developing something that is sustainable and sustaining. It says that my interests as a parent are subservient to those of my children. I think people from all walks of life will sacrifice a great deal for their kids, and in that commitment we may find hope. This doesn’t mean indulging children. It means daring to give their legitimate interests and rights a priority over everything else.<sup>98</sup>

Orr calls on us to embrace three concepts that in my view have been underappreciated in academic environmental philosophy: biologist E.O. Wilson’s philosophy of biophilia (“more than a defensible hypothesis—it is the best hope for our future that I know”), physician Albert Schweitzer’s notion of “reverence for life,” and the necessity of political engagement.<sup>99</sup> “Were we to confront our creaturehood squarely,” Orr asks, what would we endeavor to do in education? He believes the answer “is implied in the [Latin] root of the word education, *educere*, which means ‘to draw out.’ What needs to be drawn out is our affinity for life.”<sup>100</sup> The decisions we make related to our embrace or rejection of biophilia are political ones and thus “the laws of ecology and those of thermodynamics, which mostly have to do with limits, must

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<sup>96</sup> Orr, “The Problem of Education,” p. 7. See also David W. Orr, “A Literature of Redemption,” *Conservation Biology* 15 (2001): 305-06.

<sup>97</sup> Orr, “2020: A Proposal,” p. 340.

<sup>98</sup> Orr, “Deciding for Life,” pp. 159-60.

<sup>99</sup> Orr, *Earth in Mind*, pp. 61, 70-73, 131-53; Orr, *Ecological Literacy*, pp. 21, 133, 140; Orr, “Listening to the Land,” pp. 27-28; David W. Orr, “Foreword,” in *Ecological Literacy: Educating Our Children for a Sustainable World*, ed. Michael K. Stone and Zenobia Barlow (San Francisco: Sierra Club Books, 2005), p. ix.

<sup>100</sup> Orr, *Earth in Mind*, p. 205.

become the foundation for a new politics.”<sup>101</sup>

Orr’s writings on ecological education are consistently and uncommonly intelligent, thoughtful, highly readable, and persuasive; often profound; and not infrequently eloquent--in a word, brilliant. Although much of the material considered here is more than a decade old, in all the ways that matter his writings and interviews are as relevant now as when they were initially published. Orr’s work is as valuable and necessary as anything that American intellectuals have produced in the past generation.

In addition to the many valuable insights and ideas already discussed, Orr should be applauded for raising the important and often neglected issue of animal welfare. Noting the research of various scientists that records a capacity among animals for solving problems, using tools, mental experience (“those who profess not to believe that animals think,” he writes elsewhere “have never ventured alone and vulnerable into a conversation with one on its terms and in its native habitat”), memory, and emotionality “that resemble[s] our own” Orr agrees with Roger Fouts that present-day legal and moral codes rest on a fanciful interspace between humans and animals that in reality is nonexistent. Still drawing on Fouts, Orr continues: “The logical conclusion, drawn a long time ago by none other than Charles Darwin, is that our moral progress will not be complete until we extend our compassion to all people and all species.” “Beyond compassion,” Orr writes, it ought to be evident now “as legal scholar Steven Wise puts it, ‘that the ancient Great Wall that has for so long divided humans from every other animal is biased, irrational, unfair, and unjust. It is time to knock it down.’”<sup>102</sup> In a chapter titled “Love It or Lose It: The Coming Biophilia Revolution,” Orr calls for a “new covenant” or relationship with animals in which we resolve “to limit the human domain in order to establish their rights in law,

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<sup>101</sup> Ibid., p. 150.

<sup>102</sup> Orr, “A Literature of Redemption,” p. 306; Orr, “Recollection,” p. 103.

custom, and daily habit.”<sup>103</sup> I hope that someday Orr will revisit this subject and discuss its importance for, and place in, ecological education.

In an article on “re-ruralizing education,” Orr writes that the specialized mind ought to be replaced with “a mind capable of shifting from one material to another, from one set of tools to another, and from mechanics to biology to animal husbandry all in the same day.” “It is a mind,” he goes on “with the wherewithal to design, build, repair, grow, heal, form, tinker, orchestrate, improvise, neighbor (the verb), and tell good stories—a mind with range and stretch to it.” “A mind that knows how to do many things well,” Orr believes, “has a complexity, agility, and resilience unknown to the specialist.”<sup>104</sup>

Certainly over-specialization is a large problem with damaging effects both to individuals and society. Yet, it seems to me that perhaps in this area Orr expects too much from people. The mind described above sounds an awful lot like the perfect and thus unattainable mind. Perhaps some people possess the combination of capacity and desire to be able to do “many things well,” but in my forty-five years (of course, the following is contingent on the meaning of “many” and “well”) I am not sure I have met any. As we have seen, Orr makes much of the fact that humans learn slowly and suggests that this trait was selected for by evolution. In that case, given the great complexity of planetary history and physical processes and of human history, psychology, and culture, and as people are often strongly drawn to focus on things of particular interest to them, and keeping in mind that life is short, perhaps it is enough to expect students to learn to do a good number of, rather than many, things well? (And we might defensibly wonder here whether, perhaps, some significant degree of specialization was selected for as well?) Moreover, Orr holds that “the best thing we can do for students is to help open them to the world

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<sup>103</sup> Orr, “*Earth in Mind*,” pp. 131, 148-49. See also pp. 138-39.

<sup>104</sup> Orr, “Re-ruralizing Education,” pp. 228-29.



of ideas, the ‘Great Conversation.’”<sup>105</sup> For Orr this conversation presumably means, and I wholeheartedly agree, that students ought to read a lot (recall Orr’s list of authors one must read in order to be considered ecologically literate and his lengthy syllabus for ecological literacy: indeed, even though few people would read all of the works on these lists, an adequate reading list for people seeking both ecological literacy and a deep grounding in the liberal arts is actually far longer, as the reading of a great many other works would be necessary for a deep and broad education in the liberal arts).<sup>106</sup> But reading is hugely time-consuming and thus another of the many impediments to achieving the full spectrum competence that Orr calls for.

Lastly, concerning the question of whether education can effect cultural transformation, or alternatively if significant cultural shifts occur first and then drag education along for the ride, in chapter one (pp. 28- 29) I defend the latter view. The school, Orr writes “is only an accomplice in a larger process of cultural decline. But no other institution is better able to reverse that decline.”<sup>107</sup> Chet Bowers, I think, sees the matter more realistically. Bowers acknowledges the powerful role that education plays in perpetuating the anti-ecological mindset, but after many years of failed attempts to convince his departmental academic colleagues to make culture and ecology central to their pedagogy he came to believe that only strong cultural currents will be able to move educators downstream toward the sea of ecological enlightenment. He views the current situation as analogous to education’s history on gender discrimination. Instead of constituting the vanguard providing the main impetus for a reorientation of social attitudes, educators became mindful of gender biases in the curriculum only *after* they “became

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<sup>105</sup> Orr, “Recollection,” p. 106.

<sup>106</sup> I am mindful here of Orr’s observation that “the only people who have lived sustainably on the earth without damaging it could not read.” However I do not believe, and it seems clear that Orr does not either, that a “print” culture cannot be ecologically sustainable. And, arguably, on balance it seems to me that written texts add much more to a culture than they take away. The preceding quotation is in Orr, “Environmental Literacy,” p. 241.

<sup>107</sup> Orr, “The Dangers of Education,” p. 34.

widely recognized in the larger society.”<sup>108</sup> Of course, the matter is not as simple as that, for changes in social attitudes and values often happen concurrently in schools and in society. In the case of the environmental crisis it is likely that when educational institutions respond to cultural pressures to become more ecology minded, to a considerable extent those pressures have their roots in the ecology-related classes that many citizens attended when they were in school. Culture may change education more than the other way around, but each affects, and is inextricably bound up with, the other.

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<sup>108</sup> C.A. Bowers, *Educating for an Ecologically Sustainable Culture: Rethinking Moral Education, Creativity, Intelligence and Other Modern Orthodoxies* (Albany: State University of New York Press, 1995), pp. 19-20.

## CHAPTER 4

### C. A. BOWERS ON EDUCATION AND NON-ANTHROPOCENTRIC CONSERVATISM

Like Gregory Smith and David Orr, C. A. Bowers believes we are rapidly headed toward ecological disaster, that our educational institutions have played a significant role in fostering our environmental shortsightedness, and that our educational system needs to be radically altered. We can hardly end the ecological crisis, he argues, if educational institutions are steeped in the same anti-ecological conventions of thought that produced it.<sup>1</sup> Those patterns of thought, which constitute a veritable form of stupidity, have led us to the ridiculous (were the remainder of the world to rise, as it were, to North America's degree of consumerism, two more planets would be needed to provide the resources and take in the waste) and the tragic (during the past half-century, synthetic chemicals have become so ubiquitous in the environment that [Bowers quotes the authors of *Our Stolen Future* as follows] "it is no longer possible to define a normal, unaltered human physiology").<sup>2</sup> For Bowers, ecologically destructive trends in pollution and population patterns and the fact that (quoting David Orr) "all education is environmental education" make "radical reform" of education at all levels among the most pressing needs confronting mankind, especially in the West.<sup>3</sup>

Because education comes out of culture, and given his view that "cultures that do not evolve a land ethic will perish," Bowers emphasizes the need for sweeping cultural change.<sup>4</sup> He

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<sup>1</sup> C.A. Bowers, *Education, Cultural Myths, and the Ecological Crisis: Toward Deep Changes* (Albany: State University of New York Press, 1993), pp. 1-2, 9, 32.

<sup>2</sup> C. A. Bowers, *Educating for Eco-Justice and Community* (Athens: The University of Georgia Press, 2001), pp. 161, 172; C. A. Bowers, *Educating for an Ecologically Sustainable Culture: Rethinking Moral Education, Creativity, Intelligence, and Other Modern Orthodoxies* (Albany: State University of New York Press, 1995), p. 115.

<sup>3</sup> Bowers, *Education, Cultural Myths, and the Ecological Crisis*, pp. 189-190; C.A. Bowers, *Mindful Conservatism: Rethinking the Ideological and Educational Basis of an Ecologically Sustainable Future* (Lanham, Md.: Rowman and Littlefield Publishers, 2003), p. 166; Bowers, *Educating for an Ecologically Sustainable Culture*, p. 23.

<sup>4</sup> Bowers, *Educating for an Ecologically Sustainable Culture*, p. 23. For a succinct moral expression of this point, Bowers likes Alan Durning's formulation of a "new Golden Rule: 'each generation must meet its needs without

notes that being a radical as an educational philosopher requires going back to the word's "original meaning": to contemplate all the deepest fundamentals of our cultural life.<sup>5</sup> In elaborating on these themes he frequently employs, in my view confusingly, the word *metaphor*, by which he more or less seems to mean "myth," as a central explanatory concept. At all levels of education, he writes, the curriculum mainly "reinforces the underlying metaphors of the dominant culture."<sup>6</sup> One wonders here why Bowers did not just use the word *belief*. Inscrutably, this word often appears in, and Bowers' writing is generally characterized by, opaque prose such as "In American culture our way of thinking about individualism and technology are examples of two deep metaphors that frame the process of analogic thinking, and give us the taken-for-granted schema encoded in our iconic metaphors."<sup>7</sup>

I will return later to the problems in Bowers' works, but first let us identify their motifs and acknowledge their notable virtues. Like Smith and Orr, Bowers wisely condemns the evils that naturally spring from truncated rationality. He agrees with philosopher of science Paul Feyerabend's opinion that in addition to science there exist other valid pathways to knowledge. Feyerabend's admonition is, Bowers holds

particularly germane today, as we observe the special irony in our scientifically and technologically based culture being threatened by its environmentally ruinous successes over a mere couple of hundred years while the Hopi and its predecessor cultures, based on "prerational" forms of understanding (e.g. myth and superstition) has survived in a more spartan habitat for several thousand years.<sup>8</sup> Bowers also agrees with Feyerabend's contention that students will not benefit from other avenues of knowledge if, in Bowers' words, "they accept the limited view of knowledge

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jeopardizing the prospects of future generations to meet their own needs" (p. 24).

<sup>5</sup> Bowers, Education, *Cultural Myths, and the Ecological Crisis*, p. 88; C. A. Bowers, *Elements of a Post-Liberal Theory of Education* (New York: Teachers College Press, 1987), pp. 158-59.

<sup>6</sup> Bowers, Education, *Cultural Myths, and the Ecological Crisis*, pp. 188, 209.

<sup>7</sup> Ibid., p. 188.

<sup>8</sup> Ibid., p. 142.

mandated by the rigid empiricism of textbook science.”<sup>9</sup> In the West, textbook accounts of science foster among students both an attitude of detachment and an instrumental mindset concerning the environment.<sup>10</sup>

For Bowers, because it comes with too much inherent anti-ecological baggage, the scientific method and the epistemological assumptions that go with it ought not to be used as a template for reforming education.<sup>11</sup> Science is afflicted with the “Achilles’ heel” of having a limited capacity to speak to cultural issues “without imposing an evolutionary interpretive framework on them.”<sup>12</sup> It has abetted the sabotaging of traditional ecofriendly knowledge systems and the epistemologically valuable languages that go with them.<sup>13</sup> Because it leaves people ignorant of their own cultural traditions, science-based educational reform has produced “a generation of rootless individuals easily” molded by corporate advertising.<sup>14</sup> Moreover as “an increasingly influential metanarrative” it undermines traditional moral codes and militates against the rise of an environmental justice pedagogy.<sup>15</sup> Bowers acknowledges the authoritative and valuable function that scientists perform in measuring environmental changes but sensibly recommends the start of “a critical dialogue among themselves and with members of the nonscientific disciplines about the appropriate limits of scientific authority.”<sup>16</sup>

Concerning the closely related topic of technology, which among other things now

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<sup>9</sup> Ibid.

<sup>10</sup> Ibid., p. 141. See also pp. 14-15, 20, 185, 195, 203-04.

<sup>11</sup> Bowers, *Educating for Eco-Justice and Community*, pp. 78-79.

<sup>12</sup> Bowers, *Mindful Conservatism*, p. 160; C. A. Bowers, *The Culture of Denial: Why the Environmental Movement Needs a Strategy for Reforming Universities and Public Schools* (Albany: State University of New York Press, 1997), pp. 47-50.

<sup>13</sup> Bowers, *Mindful Conservatism*, p. 160; Bowers, *The Culture of Denial*, pp. 50-52.

<sup>14</sup> Bowers, *Educating for Eco-Justice and Community*, p. 81.

<sup>15</sup> Ibid., p. 78. See also pp. 77, 79-125; Bowers, *The Culture of Denial*, pp. 43-47.

<sup>16</sup> Bowers, *Mindful Conservatism*, p. 160.

constitutes the biggest obstruction to ecologically sustainable economies in the Southern hemisphere, Bowers makes three crucially important points. First, he notes the quite troubling fact that in the academy the subject has rarely been studied philosophically. The foundational suppositions and long-range effects of technology, he writes, “have seldom been studied directly in American universities; and its treatment in the public schools seldom goes beyond a listing of the latest technological marvels.”<sup>17</sup> Second, Bowers points out what ought to be obvious but seldom captures the attention of most people: that the creation and use of each new technology veritably constitutes a “cultural experiment,” the long-term consequences of which are unpredictable and often deleterious.<sup>18</sup> Third, like David Orr, he insists that technologies are not culturally neutral. Because they mediate “nearly every aspect of modern life,” they shape modern consciousness into something quite different from that of traditional cultures.<sup>19</sup>

The technological effects with which Bowers is most interested are those of the computer, which, as with any technology, are not culturally neutral.<sup>20</sup> Indeed, in a chapter titled “Educational Computing,” Bowers argues that in the case of the computer its effects are inevitably anti-communal and anti-ecological.<sup>21</sup> However, the cultural non-neutrality of computers has been missed due to the near universal belief that technological advances are inherently socially progressive and “that it is the user rather than the technology that determines

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<sup>17</sup> Bowers, *Education, Cultural Myths, and the Ecological Crisis*, p. 172; Bowers, *Educating for Eco-Justice and Community*, p. 168.

<sup>18</sup> Bowers, *Education, Cultural Myths, and the Ecological Crisis*, pp. 139-40; Bowers, *The Culture of Denial*, pp. 39-43.

<sup>19</sup> Bowers, *Mindful Conservatism*, p. 169.

<sup>20</sup> Bowers, *Educating for an Ecologically Sustainable Culture*, pp. 75-91; C. A. Bowers, *Critical Essays on Education, Modernity, and the Recovery of the Ecological Imperative* (New York: Teachers College Press, 1993), pp. 67-75; Bowers, *The Culture of Denial*, pp. 52-60; C. A. Bowers, *Let Them Eat Data: How Computers Affect Education, Cultural Diversity, and the Prospects of Ecological Sustainability* (Athens: University of Georgia Press, 2000).

<sup>21</sup> Bowers, *Educating for Eco-Justice and Community*, pp. 126-48; Bowers, *Critical Essays*, pp. 76-81.

its impact.”<sup>22</sup> Because they are both well paid and highly reliant on computers, Bowers thinks that academics are in a poor position to see the damaging impacts of computer technology.<sup>23</sup>

But the misplaced enthusiasm with which educators have embraced the computer is only one of organized education’s many problems. Bowers rejects the misguided assumption, generally accepted both within and without the schools, that change is inherently progressive.<sup>24</sup> He deplores the lack of attention given to curricular content in the professional development of teachers, points to the anthropocentric nature of textbooks’ discussions of environmental issues, and insists that teachers have a duty to present content in a critical rather than a mindless fashion.<sup>25</sup> He argues that shallow pluralism is no panacea for curricular deficiencies (e.g., such as when a university, seeking to demonstrate its bona fides as environmentally progressive, provides resources for a little environmental studies program but gives far greater support to a college of business).<sup>26</sup> And the life of the mind is not even the main point of education, for in conventional schools, “even those with an interesting and challenging curriculum,” the “covert” but actual curriculum is “Learning who has the right to exercise certain forms of power, and adapting one’s intersubjective self to the prescribed patterns.”<sup>27</sup>

While Bowers believes that nearly all of education needs to be radically transformed, he is particularly concerned with certain areas of the curriculum.<sup>28</sup> Because they operate from an anthropocentric orientation and reflexively equate change with progress, he finds the humanities

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<sup>22</sup> Bowers, *Educating for Eco-Justice and Community*, pp. 126-27; Bowers, *Critical Essays*, pp. 82-98.

<sup>23</sup> Bowers, *The Culture of Denial*, p. 60.

<sup>24</sup> Bowers, *Education, Cultural Myths, and the Ecological Crisis*, p. 139.

<sup>25</sup> *Ibid.*, pp. 87, 148, 215-16.

<sup>26</sup> *Ibid.*, p. 203.

<sup>27</sup> Bowers, *Educating for an Ecologically Sustainable Culture*, p. 209.

<sup>28</sup> Apparently, Bowers see anthropology and some specializations of linguistics as exceptions. See Bowers, *The Culture of Denial*, pp. 221-22.

and social sciences “in special need of radical reform.”<sup>29</sup> Bowers is particularly critical of Western academic philosophy, which he finds to be characterized by “extreme anthropocentrism.” “Like academic psychologists,” he asserts “recent philosophers have made remarkably few contributions” to bettering the human condition, “or even to understanding it in ways that would make sense to an intelligent person.”<sup>30</sup>

Professional schools are highly problematic as well. Because their graduates fail to get at the cultural foundations of the environmental crisis, journalism schools “are in need of radical reform.”<sup>31</sup> However, due to their success “in perpetuating an uncritical acceptance of the culture of modernity” and their “important influence on other countries,” the professional schools meriting “the most careful and immediate scrutiny by environmentalists” are the colleges of education and business administration.<sup>32</sup>

Also problematic is the fact that the way science is taught effectively works against the promotion of environmental justice. Part of the trouble, Bowers argues, lies in the fact that science education tends to show “only the positive contributions.” Contradistinctively, the way Western science, as a culturally particular and favored epistemology “contributes to the delegitimation of the mythopoetic narratives of non-Western cultures while promoting the metanarrative of evolution” is absent from the curriculum. Also missing is any critical exploration of the moral issues involved when scientists participate in the development of technologies that enable corporations to commit environmentally unjust acts against the poor.<sup>33</sup>

To my mind, the most interesting part of Bowers’ work is his useful discussion of the

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<sup>29</sup> Ibid., pp. 61-69, 74.

<sup>30</sup> Ibid., p. 65.

<sup>31</sup> Ibid., p. 77.

<sup>32</sup> Ibid., pp. 78-87.

<sup>33</sup> Bowers, *Educating for Eco-Justice and Community*, p. 172.



term *conservatism*. As he rightly points out, the way the political labels “conservative” and “liberal” are used is in large part nonsensical. “Every time a television commentator or journalist refers to the ‘conservatives’ in Congress,” he writes “the environmental movement suffers another minor setback.” The misidentification of politicians as conservatives, when in fact they are extremists, reactionaries, or corporate liberals generates misunderstanding about just what it is that people and groups advocate. Bowers continues: “Politicians who support the WTO, who grant large subsidies to corporations, and who resist legislation that addresses health care and the systemic basis of poverty should not be labeled ‘conservatives’.... These politicians are clearly in the liberal tradition where unrestrained economic activity overrides other concerns.”<sup>34</sup> The misuse of political labels has resulted in the current bizarre state of affairs in which people interested in promoting social justice, “with rebuilding the networks of mutual support within communities, and with environmental restoration projects are reluctant to identify themselves as conservatives.”<sup>35</sup> Bowers elaborates:

The double bind is that in identifying themselves as liberal, which most of them do, they align themselves with the assumptions that are taken for granted by corporations working to eliminate local, state, and federal restrictions on their right to place profits over public health and the environment. These environmentalists thus exist in a schizophrenic state where the anthropocentrism, the linear view of progress, the autonomous individual, and the other assumptions of liberalism must be ignored, while at the same time they work to restore what these assumptions have wreaked havoc upon.<sup>36</sup>

He recommends replacing the political/economic ideology of liberalism with what he variously calls “mindful conservatism,” “cultural/bioconservatism,” and “eco-conservatism.” This “non-anthropocentric” type of conservatism, embodied by hundreds of premodern indigenous societies, denotes a cultural orientation marked by ecologically sustainable patterns

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<sup>34</sup> Bowers, *Mindful Conservatism*, p. 115. See also p. 140.

<sup>35</sup> Ibid., pp. 115-16.

<sup>36</sup> Ibid., p. 116.

of living.<sup>37</sup> Its guiding principle could be expressed in the words of Aldo Leopold's declaration that "a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."<sup>38</sup> Bowers suggests that public school and university educators use the shared features of traditional cultures as a basis for reforming the curriculum.<sup>39</sup>

Bowers' observations on the problematic state of contemporary political labels are useful to his assessment of some of the most visible schools of thought in contemporary mainstream educational philosophy. He devotes a great deal of attention to what he sees as the many deficiencies, in terms of their capacity for contributing to the greening of education, of the conservative, process, progressive, and critical pedagogy critiques of Western school systems.<sup>40</sup> None of these orientations are centrally or for that matter even significantly concerned with ecological and cultural sustainability, but Bowers is particularly interested in criticizing the emancipatory educational philosophies of progressive John Dewey and critical pedagogue Paulo Freire and their followers.<sup>41</sup> Bowers argues that because both of these liberal traditions of educational thought perpetuate the ecologically unconscious assumptions that underlie the quest to conquer nature, foster North-South cultural colonization, and, like the ideas inspired by process philosophy, absurdly push for attaining equality in ecologically unsustainable societies,

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<sup>37</sup> Bowers, *Educating for an Ecologically Sustainable Culture*, pp. 39, 165-69; Bowers, *The Culture of Denial*, p. 135; Bowers, *Mindful Conservatism*, p. 123.

<sup>38</sup> Bowers, *The Culture of Denial*, p. 136.

<sup>39</sup> Ibid., pp. 136-42; Bowers, *Critical Essays*, pp. 179-201.

<sup>40</sup> Bowers, *Mindful Conservatism*, pp. 142-59; Bowers, *Educating for an Ecologically Sustainable Culture*, pp. 137-64; Bowers, *Education, Cultural Myths, and the Ecological Crisis*, pp. 35-116; C. A. Bowers, *The False Promises of Constructivist Theories of Learning: A Global and Ecological Critique* (New York: Peter Lang, 2005), pp. 1-101.

<sup>41</sup> Bowers, *Educating for Eco-Justice and Community*, pp. 31-76; C. A. Bowers, "How the Ideas of Paulo Freire Contribute to the Cultural Roots of the Ecological Crisis," in *Rethinking Freire: Globalization and the Environmental Crisis*, ed. C. A. Bowers and Frederique Apffel Marglin (Mahwah, N.J.: Lawrence Erlbaum Associates, Publishers, 2005), pp. 133-50; Bowers, *Mindful Conservatism*, pp. 147-59; Bowers, *Critical Essays*, pp. 34-52, 134-46.

they are insufficiently radical.<sup>42</sup>

To be adequately radical, an educational philosophy must embrace conservatism, properly understood. But conservatism, according to Bowers, is not the ideology, as today's emancipatory theorists would have it, of "everyone who thinks in terms of competitive individualism, freedom to expand and exploit markets, and the progressive nature of technology and science." Such thinking actually belongs to "classical liberalism," which provides the underlying assumptions for a "business ethos that is so indifferent to the viability of communities and to marginalized individuals and cultural groups."<sup>43</sup> Misapplication of the word *conservative* counteracts the efforts of those working toward sustainability and community "to use the political language that best describes their efforts."<sup>44</sup> As Bowers reminds us, and this point can hardly be overemphasized, by a correct use of language people such as restoration ecologists and those seeking to preserve wilderness are in fact conservatives.<sup>45</sup>

Without question, the main theme of Bowers' writings is the idea that in order to sustain natural systems it is necessary to conserve cultural diversity. Because traditional peoples can teach us much about ecologically sustainable living and as an ecologically centered curriculum would recognize and promote social and environmental justice, teachers in the industrialized countries "must" endeavor to learn from them.<sup>46</sup> "The task for educational theorists," Bowers opines, "will be to reconcile Black Elk with John Dewey, Confucius with Skinner. This will involve a far more radical discourse than the one now driven by the variant forms of educational

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<sup>42</sup> Bowers, *Educating for Eco-Justice and Community*, pp. vii, 32, 34, 66-67, 71, 76.

<sup>43</sup> *Ibid.*, p. 59.

<sup>44</sup> *Ibid.*, pp. 59-60.

<sup>45</sup> *Ibid.*, p. 60. See also pp. 55-56.

<sup>46</sup> *Ibid.*, p. 206.

emancipation.”<sup>47</sup>

On several topics concerning culture, Bowers presents his views at great length and then reiterates them frequently in subsequent writings. He is especially concerned with intelligence, creativity, intergenerational communication, and language. Creativity and intelligence have both been mistakenly interpreted in individualistic and “anthropocentric terms” when in fact they should be viewed ecologically, as arising not from the solitary person but rather from the relationship between the individual and her cultural and biotic community.<sup>48</sup> Under the pre-ecological paradigm, creativity, “one of the most overused” terms in the educator’s lexicon,

along with all the other cultural promises that accompany its use, leads to the forms of hubris that either ignores or damages the environment. Indeed, as one of the highest human values in recent Western thought, creativity in the areas of technology and even the visual arts has a visible history of contributing to a spectator and manipulating relationship with the environment.<sup>49</sup>

Concerning an important subject relating to creativity, Bowers provides an interesting commentary on the relevance to ecologically based education of Ellen Dissanayake’s fascinating ideas about the nature and function of art.<sup>50</sup> Because the intelligence characteristic of a given people is as embedded in a cultural and natural context as are the people themselves, Bowers believes that among the world’s cultures “we find nearly as many forms of intelligence, and ways of expressing it, as we find cultural languages.”<sup>51</sup> Scattered within Bowers’ writings are discussions of Gregory Bateson’s fascinating theory of mental ecology, which holds in part that ““mental characteristics of the system are immanent, not in some part, but in the system as a

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<sup>47</sup> Bowers, *Elements of a Post-Liberal Theory of Education*, p. 172.

<sup>48</sup> Bowers, *Educating for an Ecologically Sustainable Culture*, p. 50.

<sup>49</sup> Ibid., pp. 41, 50.

<sup>50</sup> Bowers, *Education, Cultural Myths, and the Ecological Crisis*, p. 213.

<sup>51</sup> Bowers, *Educating for an Ecologically Sustainable Culture*, p. 116. See also pp. 126-34.

whole.”<sup>52</sup> Bowers emphasizes the importance of intergenerational communication, particularly between elders and those who stand to benefit from their knowledge and wisdom.<sup>53</sup> He writes: “...no culture that has met the challenge of long-term sustainability carried on its primary educational processes by instilling in its young a bias against the knowledge of the older generation.”<sup>54</sup>

Bowers indisputably has an *idée fixe*, namely, the important role played by language as a component and transmitter of culture. Language, he insists, “is not a conduit” for the transfer of information but rather a kind of dynamic system carrying: the mental constructs (“root metaphors”) that frame the categories by which community members interpret the world, the myths that largely shape their thinking, and, for traditional societies anyway, “the moral norms accumulated over generations of living within a specific bioregion.”<sup>55</sup> A culture’s language, Bowers writes, is a “storehouse ... of knowledge” about local flora and fauna and weather patterns. Students, he wisely thinks, should learn about the expected extinction over the long run of most of the world’s 6,000 extant languages, and the consequent extreme contraction of cultural diversity and by extension the loss of critical knowledge about how to live sustainably in various bioregions.<sup>56</sup> While our Information Age generates enormous amounts of knowledge, as Bowers notes (paraphrasing Wes Jackson), “we cannot know the real value of the new knowledge ... until we fully take stock of the forms of knowledge that are being displaced.”<sup>57</sup>

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<sup>52</sup> Bowers, *Education, Cultural Myths, and the Ecological Crisis*, p. 161. See also pp. 157-64; Bowers, *The Culture of Denial*, 147-54; Bowers, *Critical Essays*, pp. 103-33.

<sup>53</sup> Bowers, *Educating for an Ecologically Sustainable Culture*, pp. 166-177.

<sup>54</sup> *Ibid.*, p. 17.

<sup>55</sup> *Ibid.*, pp. 23, 31-35, 118-19; Bowers, *Educating for Eco-Justice and Community*, pp. 177-79; Bowers, *Critical Essays*, pp. 14-33, 103-22; C. A. Bowers and David J. Flinders, *Responsive Teaching: An Ecological Approach to Classroom Patterns of Language, Culture, and Thought* (New York: Teachers College Press, 1990), pp. 30-60.

<sup>56</sup> Bowers, *Educating for Eco-Justice and Community*, pp. 176-77.

<sup>57</sup> Bowers, *Educating for an Ecologically Sustainable Culture*, p. 193.

Given Bowers' strong concern for nature preservation and the heavy emphasis he places on cultural diversity, it is not surprising to find him a proponent of bioregionalism, which, as Mike Carr remarks, is "in great part, a profoundly cultural approach to social transformation."<sup>58</sup>

Finding other educational theories sorely lacking, Bowers argues for a radical new culture and ecology-based kind of teaching or "eco-justice pedagogy."<sup>59</sup> An eco-justice pedagogy would be community oriented and rooted in local traditions, emphasize the study of environmental racism, focus on the ways in which science and technology undermine cultural and ecological sustainability, and cultivate students' personal talents without regard for their commercial potential.<sup>60</sup> In doing all these things, Bowers sensibly argues, it would have to "balance critical reflection" with the regeneration of community-based ecologically sustainable traditions.<sup>61</sup> Above all, it aims to promote lifestyle practices that foster the protection of nature now and for future generations.<sup>62</sup>

Bowers offers a number of thoughtful and sensible suggestions for how to reform education so as to make it responsive to the imperatives of environmental protection, sustainable living, and environmental justice. They include replacing anthropocentric history with an

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<sup>58</sup> Bowers, *Elements of a Post-Liberal Theory of Education*, pp. 158-72; Chet A. Bowers, "The Role of Education and Ideology in the Transition From a Modern to a More Bioregionally-Oriented Culture," in *Bioregionalism*, ed. Michael Vincent McGinnis (London: Routledge, 1999), pp. 191-204; Mike Carr, *Bioregionalism and Civil Society: Democratic Challenges to Corporate Globalism* (Vancouver: UBC Press, 2004), p. 77. Bowers agrees with the guiding principles of Deep Ecology, to which bioregionalism is closely related, although he disapproves of both the rational manner in which the principles are expressed and the expectation that individuals will interpret them subjectively. See Bowers, *Educating for Eco-Justice and Community*, pp. 67, 71; Bowers, *Educating for an Ecologically Sustainable Culture*, p. 190; Bowers, *The Culture of Denial*, pp. 27-31. On the relationship between bioregionalism and Deep Ecology see Mathew Humphrey, "Ontological Determinism and Deep Ecology: Evading the Moral Questions?" in *Beneath the Surface: Critical Essays in the Philosophy of Deep Ecology*, ed. Eric Katz, Andrew Light, and David Rothenberg (Cambridge: The MIT Press, 2000), pp. 90-91; Bron Taylor, "Deep Ecology and Its Social Philosophy: A Critique," in *Beneath the Surface*, pp. 273-77, 281-87.

<sup>59</sup> Bowers, *Educating for Eco-Justice and Community*, pp. 26, 187, 205; Bowers, *The False Promises of Constructivist Theories of Learning*, pp. 103-33.

<sup>60</sup> Bowers, *Educating for Eco-Justice and Community*, pp. 77-78, 161, 167-75.

<sup>61</sup> *Ibid.*, p. 183.

<sup>62</sup> *Ibid.*, p. 15.

ecologically centered account of the past, teaching ecologically sustainable folk customs and technologies, teaching the history of ideas and the intellectual history of the human-environment relationship, studying the history and philosophy of science and technology, having students explore the ways television and other electronic media affect consciousness, expecting science teachers to be aware of both the constructive and damaging features of science, providing education about the local bio-region, introducing students to instructive etymologies, and giving the arts a more central place in the curriculum.<sup>63</sup> The role and cultural affects of technology should be explored in every subject in the curriculum, including the humanities.<sup>64</sup> In a particularly interesting and helpful discussion Bowers recommends that environmental foundations hold retreats and seminars, featuring speakers from the sciences and social sciences, for college faculty (aimed especially at academic trend setters) and administrators to educate them about the intersection between the environmental crisis and culture.<sup>65</sup> Impressive is Bowers' idea that an eco-justice curriculum "should ... provide for the critical study of the nature of the antitradition traditions at the core of modern societies—and who gains and loses from promoting them."<sup>66</sup>

In his book *The Culture of Denial*, Bowers offers a number of ideas for improving colleges of education. In philosophy of education courses, readings by "anthropocentric educational philosophers" such as Dewey and Freire should be replaced with works by "authors

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<sup>63</sup> Bowers, *Education, Cultural Myths, and the Ecological Crisis*, pp. 170-76; Bowers, *Educating for Eco-Justice and Community*, pp. 159, 172, 174-75, 179, 198; Bowers, *Educating for an Ecologically Sustainable Culture*, p. 133; Bowers, *Elements of a Post-Liberal Theory of Education*, p. 169. Parenthetically, Bowers' historical discussion of the non-ecofriendly Western mindset in *Education, Cultural Myths, and the Ecological Crisis*, pp. 46-50, could have benefited from a reading of Eugene C. Hargrove, *Foundations of Environmental Ethics* (Denton, Texas: Environmental Ethics Books, 1989), pp. 14-47.

<sup>64</sup> Bowers, *Educating for Eco-Justice and Community*, p. 169.

<sup>65</sup> Bowers, *The Culture of Denial*, pp. 227-34.

<sup>66</sup> Bowers, *Educating for Eco-Justice and Community*, p. 166.

such as Gregory Bateson, Charlene Spretnak, Delores LaChapelle, Wendell Berry, and Ivan Illich.”<sup>67</sup> History of education courses should cover the ways in which modern economic elites have shaped education in order to advance their interests.<sup>68</sup> Bowers hopes to see the development of a course titled “Educational Computing, Ideology, and the Ecological Crisis” that would explore the cultural implications of the use of computers in schools and show that the computer ought to continue to be seen as “a Cartesian technology.”<sup>69</sup> He recommends the establishment of a scholarly journal focusing on the educational and cultural aspects of the environmental crisis and he proposes the formation of model graduate programs characterized by an interdisciplinary approach to examining the cultural and ecological aspects of educational issues.<sup>70</sup>

Even the current contours of academic freedom ought to be reconsidered. Here Bowers’ insight is more penetrating, and his thought more nuanced, than on any other subject. He argues that most academic disciplines “are based on an anthropocentric view of the universe,” that for the most part the work that professors do under the umbrella of academic freedom is ultimately destructive of the environment (in fact the employment of academic freedom to advance environmentally damaging types of knowledge is currently “its most dominant characteristic”), and that the university is “one of the most highly politicized institutions in society.”<sup>71</sup> Bowers thinks it absurd that professors take the highly individualistic “cowboy attitude” that nobody should be able to interfere with their choices concerning topics of research and teaching while, at

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<sup>67</sup> Bowers, *The Culture of Denial*, p. 255.

<sup>68</sup> Ibid., pp. 255-56.

<sup>69</sup> Ibid., p. 256.

<sup>70</sup> Ibid., pp. 260-61.

<sup>71</sup> Bowers, *Education, Cultural Myths, and the Ecological Crisis*, pp. 200-03; Bowers, *The Culture of Denial*, p. 218.



the same time, they are often possessed of a “herd mentality” leading them to a ready acceptance of orthodoxy or to a seat aboard the latest intellectual bandwagon.<sup>72</sup> Moreover, as he points out, in practice pure academic freedom has never existed in the American university, as it has always been the case that “moral norms and intellectual biases,” including long-standing prejudice against the knowledge claims of traditional peoples, “have marked the boundaries within which academic freedom has been exercised.” Drawing on Alvin Gouldner’s research on intellectuals, Bowers notes that “the ground rules of critical discourse ensure that academic freedom serves the interests of the intellectual and technological elites who view the deauthorization of tradition as clearing the way for a more progressive and often culturally experimental development.”<sup>73</sup> For all these reasons, he believes that academic freedom “should no longer be treated as sacrosanct.”<sup>74</sup>

Bowers is careful to state that his critical discussion of academic freedom is not meant as a call to give up “this valuable tradition.” Instead, he advocates a recasting of “the moral and intellectual parameters within which it is exercised.”<sup>75</sup> Academic freedom ought not to be defended based on its ostensible role in furthering social progress or in liberating people from ignorance, but rather “on the grounds that it provides the protection needed for questioning ecologically destructive cultural patterns, and for passing on to the next generation the forms of knowledge, values, and practices that contribute to a sustainable future.”<sup>76</sup>

I agree with much of what Bowers has to say about academic freedom, but it seems to me he is entering dangerous territory here. One problem is that he does not tell us who will define

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<sup>72</sup> Bowers, *The Culture of Denial*, pp. 223-24.

<sup>73</sup> *Ibid.*, pp. 212-15.

<sup>74</sup> Bowers, *Education, Cultural Myths, and the Ecological Crisis*, pp. 200-03.

<sup>75</sup> Bowers, *The Culture of Denial*, p. 211.

<sup>76</sup> *Ibid.*, p. 216.

the parameters of academic freedom or how they will be adjusted as needed over time. The reason this is a huge problem can be illustrated using a hypothetical example based on a real historical episode. Let us imagine that a tenure-track assistant professor of history wants to publish a book about, say, the national convention of the People's Party held in 1896, in St. Louis. She wants to make a revisionist argument, based on previously neglected sources, that the dominant fusionist faction of the party acted in the true spirit of agrarian radicalism when it succeeded in granting the party's presidential nomination to Democrat William Jennings Bryan. Would Bowers approve of such a project?

To answer this question we must consult his criterion for assessing the value of academic work and ask whether the proposed study furnishes “the protection needed for questioning ecologically destructive cultural patterns, and for passing on to the next generation the forms of knowledge, values, and practices that contribute to a sustainable future.” While the project would not militate against such protection, presumably Bowers would not approve of our assistant professor's study, for it suffers the flaw of not providing such protection and thus fails to meet the aforementioned criterion for what constitutes morally acceptable scholarship. And for Bowers the problem does not stop there, for the study will assume the form of print rather than oral knowledge. Oral communication, he believes, is inherently more ecofriendly and culturally conservative than print technology, which diverts attention from what is primary (direct sensory and mental perception) to what is secondary (symbolic representations of reality). “The reversal,” Bowers argues “makes the abstract more real than what is experienced, which exceeds in richness, complexity, and depth what can be communicated through the technology of language—especially the printed word.”<sup>77</sup>

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<sup>77</sup> Bowers, *Elements of a Post-Liberal Theory of Education*, p. 168. See also Bowers, *Educating for an Ecologically Sustainable Culture*, p. 32.

In fact, Bowers takes it for granted that both the epistemology and morality characteristic of indigenous cultures is superior to our own in virtually every respect. He may be correct, but it would have been well if Bowers had provided some detailed historical evidence to back up this view. Despite Bowers' many suggestions, plain enough if not explicitly stated, that knowledge coming from oral traditions is superior to print-based knowledge, in fact there is nothing inherently good or trustworthy about folk knowledge. If Bowers wants to persuade us that for pre-industrial cultures morality was a privileged concern, he needs to do far more than reproduce Robert Redfield's assessment that such cultures had "a moral order to which the technological order was subordinate."<sup>78</sup> If Bowers were correct about the superiority of oral transgenerational communication to the technology of print, it seems to me he would have to defend the view that, say, a given descendant of Americans who lived during the American Civil War, would acquire a much richer and more authentic conception of that period by listening to the accounts handed down over the generations to his parents and grandparents than he would by reading from the copious historical literature on the period. I fail to see how anyone familiar with the richness of American historiography could hold such a view.

We return, then, to our example of the assistant history professor. Bowers apparently would not approve of her work. Another scholar, let us say, does approve of it and can back up his views with solid moral and intellectual arguments (which need not be explicated here). Under Bowers' new ecology-based framework for delimiting academic freedom, who decides the matter? Examples like this one could be given ad infinitum. A scholar wants to teach and write about nineteenth-century Russian literature, or the philosophy of mathematics, or European fascist political movements, or the dynamics of race in American sports, to suggest just a few

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<sup>78</sup> Bowers, *Education, Cultural Myths, and the Ecological Crisis*, pp. 67, 141.

more instructive examples. All of these things and countless others are worthy of our attention for numerous reasons, not the least of which is the role they can play in stimulating our imaginations and expanding our sense of possibilities in the world. To cite such examples leads one to wonder whether David Orr's claim, shared by Bowers, that "all education is environmental education" is too hyperbolic to be useful.

There is another, equally serious problem, with Bowers' position on academic freedom. If freedom is in effect taken from academics for one reason, however laudable it may be, it will become easier for the forces of ignorance, intolerance, and moral bluntedness, marching under the banner of university improvement, to chip away at freedom of expression, and especially of dissent, on college campuses. Giving such a gift to the theocrats, reactionaries, and plutocrats who want to further bend higher education to their purposes would be most unwise.

There are many other problems with Bowers' writings. One is his tendency to ascribe a deterministic nature to things that do not warrant it. The thought patterns "associated with the privileging of written discourse as the source of knowledge," he writes, "are also the essential characteristics of an anthropocentric universe."<sup>79</sup> A mainly writing-based curriculum and "the pervasive influence of Cartesianism in the education of teachers," he maintains, have *resulted* in much of the "'knowledge' presented to students being represented as 'factual' and 'objective.'"<sup>80</sup> History, although praiseworthy because it furthers our understanding of the present, nevertheless "can also reproduce ... misconceptions—like the hubris of the anthropocentric view of the world."<sup>81</sup>

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<sup>79</sup> Ibid., p. 125.

<sup>80</sup> Ibid., p. 187 (emphasis added).

<sup>81</sup> Ibid., p. 68. See also pp. 170, 188. Because the series of historical questions Bowers poses on p. 57 (first paragraph) bear directly on human ecology, the emergence of social hierarchy, and the connection between social justice and the state of the environment, one wonders why Bowers makes no use of Murray Bookchin's *Ecology of Freedom: The Emergence and Dissolution of Hierarchy* (Palo Alto: Cheshire Books, 1982).

Such deterministic thinking is especially evident in Bowers' discussions of science and technology. These two human endeavors, he professes to believe "are not inherently destructive." Yet, two sentences later, he writes about the degree to which they have assumed control over people's lives.<sup>82</sup> Elsewhere, Bowers cautions that science is possibly strengthening biocidal tendencies within the culture.<sup>83</sup> In still another place he tells us that "the rapid pace of technological innovation ... requires a high level of consumerism."<sup>84</sup>

Consider the last claim above. It is obviously true that, currently, technological advances follow one after another with great speed and that the level of consumerism is high indeed. But does the former *really* necessitate the latter? Could it not be the case, were humans to want it so, that rapid technology changes would coincide with a modest and ecologically sustainable level of consumerism? Is it not possible that, were we to embrace a radically different set of values, scientific breakthroughs could be consistently biofriendly? The problem with Bowers' language is not merely that he too often crosses the line between acceptable economizing on words and committing the logical *fallacy of hypostatization* (a rather odd thing, given Bowers' continual emphasis on the importance of language). A core element of his worldview seems to be a philosophical binary opposition between modern and environmentally destructive technological instrumental rationality, and what we might call the ecocommunitarian thought of traditional cultures.

But such a conception is overly simplistic, for while the pursuit of science and the development of technologies surely shape human consciousness (Bowers and Orr are certainly correct about the non-neutrality of science and technology), and in ways not altogether salutary,

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<sup>82</sup> Bowers, *Educating for Eco-Justice and Community*, p. 160.

<sup>83</sup> Bowers, *Education, Cultural Myths, and the Ecological Crisis*, p. 138.

<sup>84</sup> Bowers, *The Culture of Denial*, p. 221.

it is also true that the uses to which science and technology are put, and how we intellectually and ethically view them and their effects, are in large part the results of human choices. From the fact that, in the modern period, science and technology have been pursued in ways that are hugely destructive both ecologically and culturally, it does not follow that we cannot pursue science and develop technology on a proper scale and in ways that both enrich human lives and are ecofriendly. We literally can limit our use of technology to things that are unarguably good, like, say, removing ruptured appendixes and forecasting the weather. Or, we can use it to build factory farms and to attack other human beings with laser guided missiles. In other words, the directions in which non-neutral techno-science will take us are largely up to ... us. What we must solve is the problem of technological fundamentalism, the reflexive and enthusiastic embrace of technological advances along with a mindless disregard for their damaging cultural and ecological consequences—the privileging of technology over reason. This is far less a problem of science than of human character.

Moreover, Bowers mostly ignores the fact that premodern science and technology are not neutral either. As anti-environmentalists are fond of pointing out, and as is well-documented, many traditional peoples have badly damaged the ecosystems of which they were a part.<sup>85</sup>

Bowers notes that critics have charged him with romanticizing traditional cultures. His response is a poor rebuttal. Their complaint, he writes

is really an ideologically based criticism [by critical pedagogists] that ignores that I continually refer to specific indigenous cultures. The criticism that my romanticizing [of them] ... takes the form of representing them in only a positive way is the Freirean way of dismissing the need to take actual cultural difference into account—particularly differences that relate to their ability to live within the limits of their commons. Peter McLaren and Donna Houston even suggested that my discussion of indigenous cultures

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<sup>85</sup> Recent works related to this subject include Shepard Krech, III, *The Ecological Indian: Myth and History* (New York: W.W. Norton and Company, 1999); Thomas Vale, *Fire, Native Peoples, and the Natural Landscape* (Washington, D.C.: Island Press, 2002); and Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed* (New York: Penguin Books, 2005).

amounts to an attempt to revive the romantic image of the Noble Savage.<sup>86</sup>

Nothing in this passage lends any evidence to Bowers' claim that his critics' charge is false. Nor does he help his case when he writes:

... my ethnocentric critics ... are ... in deep denial about the nature and extent of the ecological crisis. And since these critics support their state of denial by claiming that indigenous cultures have also altered and degraded their environment, I need to restate what I have written before. Yes, many indigenous cultures have altered their environments in ways that Western scientists are just now beginning to understand as examples of good ecological management techniques. And yes, some indigenous cultures have undermined the life sustaining characteristics of their bioregions or faced environmental changes they could not successfully adapt to.<sup>87</sup>

Regarding the second sentence above, Bowers does not tell us where he has previously written about the point in question. In fact, his books contain only the occasional and always perfunctory acknowledgement that traditional cultures have not always been ecofriendly.

Bowers is so reluctant to acknowledge that fact at all that, in the above passage, after leading the reader to believe he is going to immediately acknowledge it again, he follows with a sentence that is contextually awkward and logically obfuscatory.

Bowers notes that he has also been criticized for being a cultural relativist. In response, he defends cultural relativism on the grounds that within the various cultures "knowledge and values (or the assumptions they are based upon) are taken for granted and are thus not experienced as relative" and that universal standards for knowing and judging reflect "a colonizing mentality." Bowers often insists that there are as many ways of knowing and valuing as there are cultures, and he deplores the idea of "imposing universal prescriptions on other cultures such as the need for ... universal human rights [and] individual freedom."<sup>88</sup> Although I find cultural relativism to be ethically unacceptable as a guiding theory of morality, I do not take

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<sup>86</sup> Bowers, *The False Promises of Constructivist Theories of Learning*, p. 109.

<sup>87</sup> *Ibid.*, p. 110.

<sup>88</sup> Bowers, *Ibid.*, p. 108; Bowers, *Educating for Eco-Justice and Community*, pp. 22, 75.

issue here with Bowers' acceptance of it.

However, it needs to be noted that Bowers' views on the matter are apparently inconsistent and contradictory. In various places he criticizes or implicitly rejects relativistic thinking.<sup>89</sup> In a statement about human rights published prior to the one above, Bowers writes that he “does not want to see a doctrine of cultural relativism substituted for basic human rights that must be universally respected.”<sup>90</sup> He makes another objective moral judgment when he asserts that “any definition of social justice that does not take account” of how the environmental crisis is “affecting the lives of future generations is fundamentally flawed.”<sup>91</sup> Also interesting along this line is Bowers' view that with our emerging awareness of the ecological effects “of cultural patterns based on a mythical understanding of the environment as a cornucopia for meeting an expanding set of human wants, the content of the curriculum can no longer be viewed in ... relativistic terms.”<sup>92</sup>

Another problem is Bowers' understanding of individuality. It is one thing to suggest, as he does in various places, that atomistic individualism is a pernicious and undesirable thing: on that, presumably, most thinking people will agree. But Bowers goes further, claiming that pre-industrial cultures were conducive to the emergence of “more fully realized” individuality than that coming out of today's cultures.<sup>93</sup> This is a rather dubious assertion and one for which he offers no evidence.

Worse, though, is Bowers' approval of the situation in primal cultures where, in contrast

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<sup>89</sup> Bowers, *Mindful Conservatism*, p. 141; Bowers, *The Culture of Denial*, pp. 69-74; Bowers, *Educating for an Ecologically Sustainable Culture*, pp. 108-109; Bowers, *Educating for Eco-Justice and Community*, pp. 21-23, 165, 183-86.

<sup>90</sup> Bowers, *Educating for Eco-Justice and Community*, p. 33.

<sup>91</sup> *Ibid.*, p. 3.

<sup>92</sup> Bowers, *Educating for an Ecologically Sustainable Culture*, p. 133.

<sup>93</sup> Bowers, *Education, Cultural Myths, and the Ecological Crisis*, p. 210.



to modern cultures, “more areas of social and psychic life are regulated by norms that have either a taken-for-granted sense of authority (like taboos) where the punishment” for violation is foreknown “and both feared and understood as a condition of group survival.”<sup>94</sup> In other words, Bowers would have us increase the number of human actions that are conducted mindlessly. He would do so because he believes that critical thought “strengthens the modern form of subjective judgment and leads to politicizing the symbolic basis of relationships within a culture.”<sup>95</sup> But Bowers’ explanations of why it is that these things are bad are far too abstract to be persuasive.

Also troubling is Bowers’ disparagement of politics. Efforts to protect the environment that rely on political action, he argues, militate against the ability of educators to alter the culture toward an ecofriendly orientation.<sup>96</sup> This is an odd assertion, since it is hard to imagine any thoughtful environmentalist arguing that we should or even can rely on politics alone. Whatever we do to advance the environmentalist cause, it is going to have to be part of a multifaceted movement for change.

To my mind, the most unpalatable element of Bowers’ thought is his antipathy to secularism. Sounding somewhat like one of the semi-intellectual Protestant authors who easily impress the uninformed and the gullible, Bowers suggests that an increase of secularism in the culture would be a bad development, for secularism is characterized by “a materially reductionist” manner of thinking about both culture and nature, the use of instrumental methodologies to resolve difficulties, and “the relativizing of traditional forms of authority.”<sup>97</sup>

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<sup>94</sup> Ibid., pp. 209-10.

<sup>95</sup> Bowers, *Educating for Eco-Justice and Community*, p. 184.

<sup>96</sup> Bowers, *Education, Cultural Myths, and the Ecological Crisis*, p. 19.

<sup>97</sup> Ibid., p. 56. See also Bowers, *Educating for Eco-Justice and Community*, pp. 66, 71; and Bowers, *Mindful Conservatism*, pp. 81, 85.

In response to these claims, it should be enough for our purposes to note that none of these things are inherent in secularism and Bowers presents no evidence that they are.

Finally, Bowers' writings are much more difficult to read than those of Orr and Smith. His prose is dry, verbose, and often borders on the unintelligible. The bulk of a typical sentence reads as follows: "If students are to understand how languaging processes can undermine the development of morally coherent and ecologically sustainable communities, they must first understand (and recognize) the root metaphors that influence the process of analogic thinking and know how the prevailing analogues are reproduced in iconic metaphors such as..."<sup>98</sup> I did not keep track of all the badly constructed and unclear sentences and clauses in his books, but there are many more of them than the following three, taken from *Education, Cultural Myths, and the Ecological Crisis*. It will be enough for me to reproduce them here without further comment: (1) "...the metaphorical nature of language involves, as can be seen in the process of analogic thinking—which may have been carried out by earlier generations, encoding a schema of understanding that, in turn, influences current thought processes."<sup>99</sup> (2) "The arts are also metaphorical languages, sources of challenge for reflecting on the kinds of experiences that could become the analogues upon which collective experiences are to be based."<sup>100</sup> (3) "I' is an iconic metaphor that encodes earlier ways of understanding what it means to be an individual."<sup>101</sup> Bowers' writings are also almost unbelievably repetitive. This is true to such a great extent that the ideas, information, and arguments contained in his nine authored books on ecological education, it seems to me, could have been presented in four without losing anything

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<sup>98</sup> Bowers, *Educating for Eco-Justice and Community*, p. 178.

<sup>99</sup> Bowers, *Education, Cultural Myths, and the Ecological Crisis*, p. 121.

<sup>100</sup> *Ibid.*, p. 174.

<sup>101</sup> *Ibid.*, p. 150.

of importance.<sup>102</sup> Added to the fact that his discussions are usually quite abstract and bereft of historical or other kinds of examples, the foregoing problems make reading Bowers' books an often wearisome endeavor.

Thus it is hard to imagine many people plodding their way through Bowers' writings. It seems to me unlikely, in fact, that his books will be much read even among educators. In a way that is unfortunate, for he does have some valuable things to say about ecological education.

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<sup>102</sup> The books I have in mind in terms of the topics they would cover: (1) culture, language, intelligence, creativity, traditional morality, trans-generational communication and education, ecological sustainability; (2) science, computers, technology, industrialism (a subject Bowers says little about), and how they relate to modern thought and education; (3) liberalism and conservatism, anthropocentric educational theories (emancipatory, conservative, constructivist), eco-justice pedagogy; (4) issues in primary, secondary, and higher education and strategies for reform.

## CHAPTER 5

### CONCLUSION: TOWARD WIDER ECOLOGICAL EDUCATION

As we have seen in this localized study of North American theorists, between them Gregory Smith, David Orr, and C. A. Bowers address a wide range of issues bearing on ecological education.<sup>1</sup> Although naturally there are differences in their interests and emphases, there seem to be no major disagreements between the three writers. Interestingly, there are many important subjects on which they are in broad agreement.

Looking at the “problems” side of ecological education, Smith, Orr, and Bowers each understand the seriousness of the environmental crisis. They blame organized education for much of the staying power within modern societies of ecologically unfriendly ideas and values. Each writer deplores the prevalence and perniciousness of instrumental rationality.

On the “solutions” side, Smith, Orr, and Bowers each call for radically changing formal education. They also believe in the need for extensive transformations of human thought patterns, values, and culture. They seek to advance social justice and promote community building. All three writers emphasize the importance of moral improvement. While going into this study there was no reason *not* to expect the following commonality, as there was no particular reason to anticipate it either, I was somewhat surprised to find that each of them believes that, as David W. Orr puts it, bioregionalism “is an idea whose time has arrived.”<sup>2</sup>

That Smith, Orr, and Bowers are in considerable agreement, at least in general, on many

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<sup>1</sup> For an interesting philosophical work on ecological education that considers a variety of issues either not emphasized or not addressed by the three writers covered here, see Michael Bonnett, *Retrieving Nature: Education for a Post-Humanist Age* (Malden, Mass.: Blackwell Publishing, 2004).

<sup>2</sup> Quoted in Michael Vincent McGinnis, ed., *Bioregionalism* (London: Routledge, 1999), back cover. For an accessible introduction to bioregionalism, see Kirkpatrick Sale, *Dwellers in the Land: The Bioregional Vision* (Athens: University of Georgia Press, 2000). For a new (partially David Orr-inspired) vision of learning and education from the perspective of one bioregionalist, see Robert L. Thayer, Jr., *LifePlace: Bioregional Thought and Practice* (Berkeley: University of California Press, 2003), pp. 231-55.

subjects is reflected in their references to and comments on each others' work. Smith relates that Orr (who "models ecological citizenship") and Bowers have been sources of "inspiration and guidance" for his own work.<sup>3</sup> Orr has contributed back-cover blurbs to the paperback editions of two of Bowers' books.<sup>4</sup> On occasion, Bowers cites Smith and Orr in his writings.<sup>5</sup> If there are any disagreements between any of them they are not apparent in the writings examined for this study.

This thesis opened with some observations concerning education and the environment by Aldo Leopold, formulator of the last century's most famous land ethic. Leopold notes that both organized education and economic arrangements are becoming less, rather than more, responsive to the health of the natural systems in which they are embedded and which they impact, and that ecological concepts are much in evidence neither in educational curricula nor on college campuses nor in academic philosophy. Of course, much has changed in the nearly sixty years since Leopold noted these realities. Environmental issues are topical elements of the curriculum at all levels of organized education and in universities there has been a proliferation of course offerings in environmental studies and environmental issues as well as the development of numerous undergraduate and graduate degree programs in environmental studies and ecology. Some colleges have made efforts to green themselves, and the burgeoning field of environmental

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<sup>3</sup> Gregory A. Smith and Dilafruz R. Williams, "Ecological Education: Extending the Definition of Environmental Education," in *Educating for Humanity: Rethinking the Purposes of Education*, ed. Mike Seymour (Boulder: Paradigm Publishers, 2004), pp. 162-63; Gregory A. Smith, review of *Earth in Mind: On Education, Environment, and the Human Prospect*, by David W. Orr, *Journal of Moral Education* 27 (March 1998): 111-13.

<sup>4</sup> C. A. Bowers, *Educating for an Ecologically Sustainable Culture: Rethinking Moral Education, Creativity, Intelligence, and Other Modern Orthodoxies* (Albany: State University of New York Press, 1995), back cover; C. A. Bowers, *The Culture of Denial: Why the Environmental Movement Needs a Strategy for Reforming Universities and Public Schools* (Albany: State University of New York Press, 1997), back cover.

<sup>5</sup> Bowers, *Educating for an Ecologically Sustainable Culture*, pp. 23, 36, 172, 181; Bowers, *The Culture of Denial*, pp. 15, 240; C. A. Bowers, *Educating for Eco-Justice and Community* (Athens: University of Georgia Press, 2001), p. 87; C. A. Bowers, *The False Promises of Constructivist Theories of Learning: A Global and Ecological Critique* (New York: Peter Lang, 2005), pp. 103-04; C. A. Bowers, *Critical Essays on Education, Modernity, and the Recovery of the Ecological Imperative* (New York: Teachers College Press, 1993), p. 180.

ethics has spawned a large literature and become a significant presence within academic philosophy.<sup>6</sup>

But many things have not changed or in fact have gotten worse. Smith, Orr, and Bowers each emphasize the ecologically destructive character of contemporary economic life and warn that damage to natural systems is reaching a critical point. Orr powerfully captures the urgency of our predicament when he relates that the random bits of information that only very recently came to his attention include: “Male sperm counts have fallen by 50% since 1938, and no one knows why. ... Human breast milk often contains more toxins than are permissible in milk sold by dairies. ... [and] At death, human bodies often contain enough toxins and heavy metals to be classified as hazardous waste.”<sup>7</sup> As all three writers indicate, education still functions for the most part as the training ground where children and then young adults are initially molded into consumers and technophiles for the most part disinclined to think deeply about the consequences of industrialism, the limitations of the techno-scientific worldview, or the morality of anthropogenic global environmental devastation. Each writer advocates, as Orr puts it, that ecological education “be woven throughout the entire curriculum and through all of the operations of the institution, and not confined to a few scattered courses.”<sup>8</sup>

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<sup>6</sup> On the emerging campus sustainability movement, see David J. Eagan and David W. Orr, eds., *The Campus and Environmental Responsibility* (San Francisco: Jossey-Bass Publishers, 1992); Peggy F. Barlett and Geoffrey W. Chase, eds., *Sustainability on Campus: Stories and Strategies for Change* (Cambridge: MIT Press, 2004); and David W. Orr, *Design on the Edge: The Making of a High-Performance Building* (Cambridge: MIT Press, 2006). For two good entry points into the literature of environmental ethics, see Anthony Weston, ed., *An Invitation to Environmental Philosophy* (New York: Oxford University Press, 1999), pp. 170-96; and Eugene C. Hargrove, ed., “Twenty-Five-Year Index,” *Environmental Ethics* 25 (Winter 2003): 436-79, updated listing available at <http://www.cep.unt.edu/index17.html>. For two recent anthologies that provide an overview of some of the interests and theoretical orientations of environmental philosophers, see Andrew Light and Holmes Rolston, III, eds., *Environmental Ethics: An Anthology* (Malden, Mass.: Blackwell Publishing, 2003); and Michael E. Zimmerman, ed., *Environmental Philosophy: From Animal Rights to Radical Ecology* 4<sup>th</sup> ed. (Upper Saddle River, N.J.: Prentice Hall, 2005).

<sup>7</sup> David W. Orr, *Earth in Mind: On Education, Environment, and the Human Prospect* (Washington, D.C.: Island Press, 1994), p. 1.

<sup>8</sup> David W. Orr, *Ecological Literacy: Education and the Transition to a Postmodern World* (Albany: State

We can now observe whether Smith, Orr, and Bowers share the views about education of their contemporaries discussed in the introduction above, and we can see the extent to which they have attempted to address those issues. The assertions of Holmes Rolston, III, Ronald Laura, Matthew Cotton, Peter Madsen, and John Lemons consist of two broad types. The first speaks to the problematic state of the human/nature relationship and how we got to this point. The second type asserts that humanity must alter course in some general way.

Concerning the first type, there are two claims. The first, articulated by Rolston, is that Western intellectual and moral education has taught students neither to properly value the natural world nor to understand their moral obligations as citizens of the biotic community, and has thus contributed substantially to the general disregard for nature that is reflected in our reckless and dangerous despoliation of the environment. The second claim, made by Laura and Cotton, is that modern education has been chiefly concerned with preparing students to fill the role of wage worker and consumer in an anti-ecological techno-scientific industrial system.

Although they differ in their approaches, Smith, Orr, and Bowers fully share these views. Smith, and to a greater extent Orr, focus on the role of organized education as a conduit through which the values and priorities of industrial society are transmitted to the young and the morally problematic nature of those values and priorities. Bowers would probably not disagree with anything that either Smith or Orr has written on this subject, but his critique focuses more on the role of the deeply rooted modern cultural ways of thinking, knowing, and communicating in warping (as he sees it ) the values, goals, and consciousness of educators and the wider public. Smith's and Orr's analysis of what ails education is mainly social and ethical, Bowers' mainly cultural and (rather abstractly) philosophical.

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University of New York Press, 1992), p. 152.

As to the second type of assertion found in the introduction, there are four recommendations. Laura and Cotton want education to instill in students a heightened respect for and sense of connection with nature. Additionally, they call for substantially improving the moral education provided by the schools. Madsen believes that the public must be educated about ecology and that colleges and universities are duty bound to help ensure that that happens. Lemons argues that university educators should look for methods to advance environmental ethics and increase ecological literacy on their campuses.

As we have seen, Smith, Orr, and Bowers repeatedly make the same suggestions as Laura, Cotton, Madsen, and Lemons. The idea that students should be guided toward an increased sense of their connectedness with nature can be seen in Smith's emphasis both on providing students with opportunities to participate in educational projects in natural settings and place-based education, in Orr's emphasis on ecological literacy and the cultivation of local knowledge, and in Bowers' longing for the return of humans to a pre-modern form of ecological consciousness. Each writer emphasizes the need for the improvement of moral education, Smith through service learning, the care ethic, and the conscious search for meaning; Bowers through a rediscovery of the wisdom of elders; and Orr, for whom morality is of paramount concern, through the resurrection of the idea of virtue. Although Smith focuses on primary and secondary education, like Orr and Bowers, he seeks to enhance ecological literacy and the ecologicalization of all aspects of education from kindergarten through graduate school. Neither Smith nor Bowers emphasize the potential capacity of universities to educate non-students from the wider public. This is not surprising, given Smith's focus on pre-college education and Bowers' view that cultural pressures will move education to become greener rather than the other way around. Orr waxes Jeffersonian when he argues that meeting the civilizational challenge of ecological



sustainability requires that we “inform the public’s discretion through greatly improved education” at all levels of organized schooling.<sup>9</sup>

It is also evident that ecological education is an inherently interdisciplinary enterprise. This is inevitable, as the study of environmental issues, and the fields of environmental ethics and educational philosophy—the areas that compose ecological education—themselves traverse disciplinary boundaries. So Smith and Bowers, professors of education, and Orr, a professor of environmental studies, are not only practitioners but also veritable if not systematic philosophers of education. By extension that makes them, I would argue, philosophers of ethics, an assertion supported by their concern with moral education. Each writer seems to believe Orr’s dictum that “all education is environmental education,” and therefore wants ecology to have a conspicuous presence throughout the school curriculum. Each writer supports and probably considers himself part of the political/economic/social/environmental reform movement called bioregionalism, the recent origins of which can be found in the thought of and collaborations between Gary Snyder, a Buddhist and poet, and Peter Berg, an actor and playwright, and which has been influenced by a variety of writers and activists.<sup>10</sup>

That the quest to ecologize education inherently calls for a very broad intellectual scope can also be seen in other aspects of Smith’s, Orr’s, and Bowers’ work. It is evident in Smith’s promotion of peace studies, his emphasis on the need for political activism in ecological education, his belief that written studies should be complemented by practical experience in nature and the community, and his forays into social criticism. Orr—who believes that the ideal product of education should be the ecologically conscious Renaissance person—earned his

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<sup>9</sup> David W. Orr, *The Last Refuge: Patriotism, Politics, and Environment in an Age of Terror* (Washington, D.C.: Island Press, 2005), p. 86.

<sup>10</sup> Doug Aberley, “Interpreting Bioregionalism: A Story from Many Voices,” in McGinnis, *Bioregionalism*, pp. 15-42.

doctorate in international relations, chairs an environmental studies department, writes the education column for a conservation biology journal, and has been actively involved in the incipient movement to green the landscape, architecture, and operations of colleges and universities, and in trying to improve the environmental policies of the federal government. Bowers is a philosopher not only of education but also of technology, an apparently knowledgeable critic of cognitive psychology, and a student of cultural anthropology who has published books focusing on ecological justice and the implications for the environmental movement of the philosophical confusion associated with the term *conservatism*.

But interdisciplinary work poses challenges. Probably the most difficult one for most people is that of becoming competent enough in all the fields and topics that bear on a particular problem to be able, on the one hand, to fully understand it, and on the other to be able to assess it accurately so as to respond wisely to it. Take the case of Bowers' claim that Paulo Freire was an anthropocentric thinker. Recently, an accomplished scholar who knew Freire, and whom I trust as a source of information about the point in question, tells me that Bower's charge is erroneous. While I have some knowledge of Freire and his ideas, I have not read enough of his writings to enable me to judge the matter for myself. Within and across the hugely complex societies of our "Information Age," how does one find the time and (for many people, in varying degrees) the resources to acquire the necessary competencies? The difficulty suggested here probably goes far in explaining the seeming lack of familiarity on the part of Smith, Orr, and Bowers with the writing of academic environmental philosophers. Among the major positive influences on Smith (John Dewey, Mohandas Gandhi, Paulo Freire, Martin Deutsch, Nel Noddings, Fritjof Capra, Orr, Bowers), Orr (Wes Jackson, Herman Daly, Garrett Hardin, Henry David Thoreau, Petr Kropotkin, John Muir, Albert Howard, Alfred North Whitehead, Gandhi, Albert Schweitzer,

Aldo Leopold, Lewis Mumford, Rachel Carson, E.F. Schumacher, Wendell Berry, Edward O. Wilson), and Bowers (Gregory Bateson, Charlene Spretnak, Delores LaChapelle, Wendell Berry, Ellen Dissanayake, Ivan Illich, Gary Snyder), there are no academic environmental philosophers. While the names in the above lists reflect the interdisciplinary nature of Smith's, Orr's, and Bowers' philosophies of ecological education, they also point to a somewhat striking limitation, if not a shortcoming, of them.<sup>11</sup>

There are four subjects which the writers covered here do not discuss or emphasize that I want to suggest ought to be considered important matters of pedagogical and ethical concern to theorists and practitioners of ecological education. Making a detailed and persuasive case for the importance of each would not be difficult, but doing so would require covering enough intellectual and philosophical territory that four more chapters would be needed here. Therefore, I provide just a brief sketch of the significance of each for ecological education.

The first subject is animal welfare ethics. As we have seen, Orr believes that animal welfare ethics is an important matter. However, he does not discuss the subject within the context of ecological education and Smith and Bowers do not take up the issue at all. But as animals are part of the community of life, and since the fates of species and ecosystems are inextricably linked, and, as all three writers here are correct in arguing, intimate experience with the natural world should be seen as a crucial element of education, it seems reasonable that we accept two propositions. The first is that students ought to extensively study and have much personal contact with nonhuman animals. The second is that educators should seek to ensure that students become very familiar with the issues of and debates over animal welfare ethics,

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<sup>11</sup> The lack of engagement with environmental ethics is especially surprising in Bowers' case, as he is an educational *philosopher* and has twice published articles in the main journal in the field. See C. A. Bowers, "The Case against John Dewey as an Environmental and Eco-Justice Philosopher," *Environmental Ethics* 25 (2003): 25-42; C. A. Bowers, "The Conservative Misinterpretation of the Educational Ecological Crisis," *Environmental Ethics* 14 (1992): 101-27.

both past and present.<sup>12</sup>

The second subject is politics. While David Orr has written about some of his observations and ideas concerning ecological politics, and from Orr's, Smith's, and Bowers' attraction to bioregionalism we can infer the broad outlines of a new approach to governance they would support, we do not know as much as we might like about their political visions and how they would relate them to ecological pedagogy. But political conditions, constraints, and possibilities are hugely important matters for ecological education, for as all three writers would readily acknowledge, schools are largely political institutions. Ecological educators will have to discuss political history and contemporary political dynamics with their students. Consider the following passage by Orr: "Every high school graduate," he writes "ought to understand the connections between the dead zone in the Gulf of Mexico, farm practices in the corn-soybean belt, the depletion of the Ogallala aquifer, oil wars, the rising tide of obesity, dying rural towns, urban sprawl, and antibiotic resistance."<sup>13</sup> An examination of political history and culture would necessarily be as central a part of fostering such understanding as awareness of the relevant environmental issues would be. Because in large measure politics is about who gets what, political education must include an ethical assessment of economic arrangements and who most benefits from them. Special attention must be given to the role of the corporation, the strongest

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<sup>12</sup> The relevant literature is extensive and the following list only a small sampling of it. The two classic books defending the expansion of human concern for animals are Peter Singer, *Animal Liberation: A New Ethics For Our Treatment of Animals* (New York: Avon Books, 1975); and Tom Regan, *The Case for Animal Rights* (Berkeley: University of California Press, 1983). An important collection of papers by environmental ethicists of various theoretical stripes is Eugene C. Hargrove, ed., *The Animal Rights/Environmental Ethics Debate: The Environmental Perspective* (Albany: State University of New York Press, 1992). Two important recent collections, the first an anthology, the second consisting mostly of new essays, are Susan J. Armstrong and Richard G. Botzler, eds., *The Animal Ethics Reader* (London: Routledge, 2003); and Cass R. Sunstein and Martha C. Nussbaum, eds., *Animal Rights: Current Debates and New Directions* (Oxford: Oxford University Press, 2004). For a group of essays that bridge two of the four subjects I have recommended for closer attention, see Josephine Donovan and Carol J. Adams, eds., *Beyond Animal Rights: A Feminist Caring Ethic for the Treatment of Animals* (New York: Continuum, 1996).

<sup>13</sup> Orr, *The Last Refuge*, p. 132.

institutional force for environmental degradation and, via its undue influence over governments and political processes around the world one of the biggest impediments to the realization of democracy. This problem is for the most part ignored in American colleges and universities, even by ecological educators. Smith and Bowers seek the radical reform of the political entities we call schools, but say very little about the mostly unaccountable institutions whose executives and large investors dictate much of our public policy. If ecological educators want radical change, they will not hasten its arrival by relating to this issue in a manner fairly resembling that of, say, the status quo-guarding American Political Science Association, which at its 2000 annual conference saw members deliver more than a thousand papers, less than five percent of which made any mention of corporate power.<sup>14</sup> If, upon some future announcement that we have finally entered a period of ecological enlightenment, any serious and thinking person believes that the phrase, articulated by some contemporary critics of higher education, “military-industrial-education-complex” still applies, the announcement will have been made in error. Moreover, in helping students to explore the long range options for alternative and ecofriendly political and economic arrangements (ecosocialism and ecoanarchism are just two of many possibilities) ecological educators will need to become political theorists, or at least students of political theory.<sup>15</sup>

The third subject is leisure. To my knowledge this topic has never been discussed philosophically in the literature on ecological education or environmental ethics, but I suspect

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<sup>14</sup> “Searching for Intellectual Leadership: Undergrads Grapple with Corporate Power, But Their Professors Don't,” *TomPaine.com*, 28 September 2000, retrieved Dec 2006 <http://www.tompaine.com/Archive/scontent/3644.html>

<sup>15</sup> Useful works include Bob Pepperman Taylor, *Our Limits Transgressed: Environmental Political Thought in America* (Lawrence: University Press of Kansas, 1992); Andrew Dobson and Paul Lucardie, eds., *The Politics of Nature: Explorations in Green Political Theory* (London: Routledge, 1993); Brian Doherty and Marius de Geus, eds., *Democracy and Green Political Thought: Sustainability, Rights, and Citizenship* (London: Routledge, 1996); Saral Sarkar, *Eco-socialism or Eco-capitalism? A Critical Analysis of Humanity's Fundamental Choices* (London: Zed Books, 1999); Ben A. Minteer and Bob Pepperman Taylor, eds., *Democracy and the Claims of Nature: Critical Perspectives for a New Century* (Lanham, Md.: Rowman and Littlefield Publishers, 2002).

that eventually it will come to be seen as an important consideration in both fields. In his book *The Last Refuge*, Orr writes that with the coming of a sustainable society one of the changes for which education will need to prepare students is “less time for leisure but more good work to do.”<sup>16</sup> The coming generation, Orr writes, will need to rejuvenate the “natural capital of soils, forests, watersheds, and wild areas; clean up the toxic messes from the expansionist phase; restore sustainably habitable cities; relearn the practices of good farming; and learn the arts of powering civilization on efficiency and sunlight.”<sup>17</sup> As presumably this generation will also have much else going on, its members will indeed be busy. But I would argue that busyness has been a large part of our problem, and that the most important things Smith, Orr, and Bowers write about, such as moral improvement, the cultivation of virtue, biocentric thinking, and the search for meaning, require considerable amounts of time for quiet reflection and repose. Commenting on Josef Pieper’s fascinating essay on leisure, philosopher Roger Scruton remarks that “the frenzied need to work, to plan, and to change things is nothing but idleness under other names—moral, intellectual, and emotional idleness. In order to defend itself from self-knowledge, this agitated idleness is busy smashing all the mirrors in the house.”<sup>18</sup> Pieper reminds us that the ancient Greek word *skole* is the root of the English word *school*, and that in fact it meant, interestingly, *leisure*.<sup>19</sup> For Pieper, *leisure* is “a condition of the soul” and “a form of that stillness that is necessary preparation for accepting reality.”<sup>20</sup> This conception of leisure derives in large part from Pieper’s interpretation of Catholic natural theology, but one need

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<sup>16</sup> Orr, *The Last Refuge*, p. 87.

<sup>17</sup> Ibid.

<sup>18</sup> Roger Scruton, “Introduction,” in Josef Pieper, *Leisure: The Basis of Culture* (1948; reprint, South Bend, Ind.: St. Augustine’s Press, 1998), p. xi.

<sup>19</sup> Pieper, *Leisure*, pp. 3-4.

<sup>20</sup> Ibid., pp. 30-31.

accept neither the religious aspects of his thinking nor the existence of a personal soul to agree with him about the necessity of “stillness” to realistic thought. If it is essential there, can it be doubted that a sense of wonder about nature, and clear thinking about our place in, and duties toward, the natural world, also require a fair measure of stillness?

Finally, it seems to me that ecological educators, and environmentalists in general, need to think a lot more about the problem of environmental concern.<sup>21</sup> As N. J. Smith-Sebasto notes, “far too many people, educators and learners alike, don’t really care enough about the ‘environment’ to learn the basics of environmental literacy.”<sup>22</sup> As Stephen Kellert argues, this situation is no longer tolerable. He writes eloquently about the reasons:

The fabric of planetary life is under siege as vast expressions of creation are ripped from their evolutionary moorings by varying combinations of greed, arrogance, and apathy. Thousands of singularly distinctive species, each a unique expression of millions of years of adaptational travail, oblige us to devote whatever wisdom and ethics we can to the task of slowing and then reversing this tide of ultimately self-defeating destruction. We need to alter what, in our collective insanity, we have come to regard as normal.<sup>23</sup>

Kellert correctly calculates that healing what ails the biosphere will require “[w]inning the hearts and minds of the people.”<sup>24</sup> As he has written, we must find a way to cultivate within the public “an ethic of care and compassion for the diversity of life.”<sup>25</sup> Kellert’s points cannot be overemphasized. Smith, Orr, and Bowers do address the problem of environmental concern to

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<sup>21</sup> For two useful attempts to understand people’s current apathy about the environmental crisis, see Peter Seidel, *Invisible Walls: Why We Ignore the Damage We Inflict on the Planet ... and Ourselves* (Amherst, N.Y.: Prometheus Books, 2001); and Shierry Weber Nicholsen, *The Love of Nature and the End of the World: The Unspoken Dimensions of Environmental Concern* (Cambridge: MIT Press, 2002). On the history of indifference to environmental problems on the part of Western philosophers, see Eugene C. Hargrove, *Foundations of Environmental Ethics* (Denton, Tex.: Environmental Ethics Books, 1989), pp. 14-75.

<sup>22</sup> N. J. Smith-Sebasto, “Education for Ecological Literacy,” in *Environmental Education for the 21<sup>st</sup> Century: International and Interdisciplinary Perspectives*, ed. Patricia J. Thompson (New York: Peter Lang, 1997), p. 283.

<sup>23</sup> Stephen R. Kellert, *The Value of Life: Biological Diversity and Human Society* (Washington, D.C.: Island Press, 1996), p. 214.

<sup>24</sup> *Ibid.*, p. 209.

<sup>25</sup> *Ibid.*, p. 213.

varying degrees and through different commitments and emphases, including students' direct engagement with the natural world, care ethics, biophilia, cultural/bio-conservatism, the cultivation of virtue, and the search for meaning. Obviously, in order for the practices, ideas, and values associated with these things to become dominant elements of human culture, people must be willing to embrace them.

Unfortunately, currently most people are not interested. Most of us are unwilling to radically alter our lifestyles in order to bring them into line with the imperatives of sustainability. Many among us are comfortable being shallow. In my experience, most people are unwilling to think deeply about ethics.<sup>26</sup> Gaea's health will not recover without our making great progress in solving these and similar problems. Nor, it is worth mentioning, will we. Rather, we will continue our steady march toward the day when, as sociologist Philip Slater has colorfully remarked, all the "mangled impulses" stemming from our depravity have been given physical form and "we will be unable to see the sky or the trees or any living thing, so inundated will we be by the machinery we have vomited up from our ulcerated insides."<sup>27</sup> If we save ourselves and the biosphere and avert eco-catastrophe, doubtless the development of ecological education will have proven to be one of the reasons. It will first need seriously and militantly to confront not only instrumental rationality but also both industrial and finance capitalism. In other words, it must become at least as radical as the ideologies that have propelled the industrial juggernaut. That is to say, a good deal more radical than it is now.

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<sup>26</sup> For an interesting and informative discussion of the current problematic state of morality, see Lawrence Busch *The Eclipse of Morality: Science, State, and Market* (New York: Aldine de Gruyter, 2000).

<sup>27</sup> Philip Slater, *Earthwalk* (Garden City, N.Y.: Anchor Books, 1974), p. 212.



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