A Foucauldian Analysis of Environmental Education: Toward the Socioecological Challenge of the Earth Charter*

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ABSTRACT

This article examines recent trends in environmental education (EE) and argues that its institutionalization within general education works against its own socially and ecologically transformative goals. EE emerged as a cultural response to international awareness that human beings were negatively impacting their environments and causing ecological and social crises. Yet the institutionalization of EE within general education has diluted it of its political purpose of acknowledging and transforming these crises. A Foucauldian lens is employed to explore how EE, seeking legitimacy within general education, constitutes itself as "disciplinary practice." Disciplinary practices discussed include the EE trends of claiming content-area integration, supporting academic standards and testing, and developing disciplinary standards specific to EE. As disciplinary practice, EE becomes absorbed by general education; consequently, its value as a political project is undermined. The absorption of EE as disciplinary practice is further analyzed as an expression of the root metaphors of modernism. A Foucauldian analysis is then extended to examine how critical ecological discourse often neglects a related critical social discourse. Dissenting ecological traditions that unite social and ecological perspectives are briefly introduced. Finally, the Earth Charter is offered as a socioecological, visionary text that might help shape educational theory and practice in ways that avoid the cooptation and neglect suffered by environmental education.

INTRODUCTION

Environmental educators, no more a monolithic community than special educators, bilingual educators, or any other marginalized group, have for

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some time been questioning the purpose and the effectiveness of environmental education as it is constituted in and around general education.[1] Such questioning goes much deeper than identifying "best practices" in the field and is concerned with the scope of environmental education, with the landscape it claims, and the landscape it avoids. Increasingly, I agree with Martin, who writes:

having become institutionalized, environmental education is a lost cause and should be phased out as soon as possible . . . the ultimate challenge is to remove all adjectival adjuncts . . . to education and develop the conventional notion that the education system must . . . prepare all people for their role as well-informed, skilled and experienced participators in determining the quality and structure of the world. (1996, p. 51)

Perhaps Martin is too hasty in his call to abolish environmental education altogether, but he captures the issue succinctly: the institutionalization of environmental education has muted its potential as a transformative educational discourse practice. The ultimate challenge for education, environmental or otherwise, is to prepare people with the skills and knowledge needed to identify and shape the quality of the world we share with others—human and nonhuman; in a multicultural and political world, this means education for cultural competence and political participation. Within the field of environmental education, both in and outside of schools, there is currently too much complacency toward problematizing the homogenizing standard practices of general education and too much caution around taking the political stands that will be needed to reform it.

In this article I use Michel Foucault's notion of "disciplinary practice" to examine the institutionalization—and resulting depolitization and cooptation—of environmental education. As it emerges from my own experience trying to do environmental education as a general educator in public schools and universities, this analysis is largely limited to a U.S. context and focuses on the relationship between environmental education and the larger landscape of general education. However, because education is linked to the globalization of economic markets in the United States and in other market-driven societies (Burbules & Torres, 2000; Spring, 1998), and because our educational institutions are expressions of deeper cultural patterns common to Western development (Bowers, 1993, 1995, 1997, 2001a, 2001b, 2001c), this discussion presents a case that is relevant to all educators interested in exploring the relationships between education, economics, culture, and environment. The article's concluding focus on the Earth Charter explicitly recognizes the global context of these relationships and provides direction for a continuing international conversation.

Although I recognize that environmental education takes place in many venues apart from the formal school curriculum (i.e., nonformal education with children, youth, and adults), its institutionalization vis-à-vis formal

schooling shapes the practice of environmental education both in and outside of schools. In brief, I argue that environmental education will be ineffective in advancing its own goal of creating an environmentally or ecologically literate (Orr, 1992) citizenry as long as it continues to discipline itself within the norms of general education. When it consorts with schools as an "adjectival" educational discourse (Martin, 1996), environmental education works to legitimize and reinforce problematic trends in general education; especially as environmental education is disciplined by science and conventional environmentalism, it tends to neglect the social, economic, political, and deeper cultural aspects of the ecological problem.

Of course, since its widespread appearance in the 1970s, the goals of environmental education have been continuously contested. From the right, environmental education is currently being attacked, among other reasons, as a form of indoctrination, advocacy, and mis-education (EPA, 2002; Sanera, 1998; Sanera & Shaw, 1999). Perhaps more quietly, environmental education is also criticized from the left for a narrow focus on individualistic skills and outcomes, and for its failure to make explicit and develop a critical agenda for deep social transformation (Huckle, 1993; Huckle & Sterling, 1996; Robottom & Hart, 1995; Wals & van der Leij, 1997). Still others are concerned that the politicization of environmental education, whether radical or conservative, limits opportunities for people to develop the empathetic and spiritual connections with the natural world on which political action may depend (Miller, 1990; Sobel, 1996). Though each of these critiques has merit, some researchers question whether examining differences in the purposes of environmental education is worthwhile at all and claim that "we are long past the intense debate about the definition of environmental education" (Roth, 1997). No doubt, the rich and diverse history of environmental education theory and practice has produced some convergences over purposes and goals. Most would agree, for example, that the purpose of environmental education is to provide people with the experience and knowledge needed to care for our environments. However, what counts as knowledge and experience, what constitutes care, and even the meaning of environment can differ widely among those with diverse political and personal commitments.

Because of these differences, many professionals in the field of environmental education continue to be interested in defining it. Resulting definitions have origins in the Tbilisi Declaration, a 1977 report given at the International Conference on Environmental Education, in Tbilisi, the Republic of Georgia. This report stated:

Environmental education, properly understood, should constitute a comprehensive lifelong education, one responsive to changes in a rapidly changing world. It should prepare the individual for life through an understanding of the major problems of the contemporary world, and the provision of skills and attributes needed to play a productive role towards improving life and protecting the environment with due regard given to ethical values. (UNESCO, 1997, p. 24)

The Tbilisi Declaration led to subsequent international efforts to define and give direction to environmental education (e.g., World Commission on Environment and Development, 1987; UNCED, 1992; UNESCO, 1997); this international backdrop has provided environmental education practitioners with a global context for their work and with direction for developing specific regional and local practices. However, environmental education programs and activities, both in and outside of schools, are incredibly diverse. Many practices and activities, especially as they are constituted within the general education curriculum, do not connect with the larger purposes articulated at international conferences and some are inconsistent with them.

This lack of coordination has led some researchers to continue to develop frameworks and goals for environmental education in the spirit of the guiding principles established at Tbilisi. Hungerford, Peyton, and Wilke's formulation of the goal of environmental education is now classic and often revisited by professionals in the field:

to aid citizens in becoming environmentally knowledgeable and, above all, skilled and dedicated citizens who are willing to work, individually and collectively, toward achieving and/or maintaining a dynamic equilibrium between quality of life and quality of the environment. (Hungerford, Peyton, & Wilke, 1980, p. 44)

One unintended result of these carefully crafted, albeit vague, definitions of environmental education is that any practice that can be loosely connected with these goals can be, and often is, called environmental education. Within the schools, for example, one could make the claim that one is "doing" environmental education even if only a small fraction of the curriculum is devoted to studying the environment and people's relationship to it. Classic examples of this at the school-district level are the "nature retreat" where all sixth graders spend one overnight at an environmental camp, or the "outdoor experience" where all fifth graders are taken for a day to an environmental field station. At the classroom level, teachers and students can be said to "do" environmental education if they plant a garden, write a poem about nature, measure pollution, or research the extinction of species. In other words, most environmental education in schools gets translated into isolated activities where depth is sacrificed and there is little opportunity for students and teachers to make meaning of their experiences with the environment (Sobel, 1996). Further, the general school curriculum, with its emphasis on discipline-based standards and preparation for college or work, remains geared for purposes that are often at odds with the lofty goals of environmental education. My argument is that efforts to integrate environmental education activities into schools, though noble and not insignificant, are dwarfed by the power of the dominant educational discourse, which serves different, arguably anti-environmental, ends. This troubling paradox remains largely unexamined.

For the purposes of this article, it may be helpful to distinguish between Environmental Education (upper-case EE) as it becomes institutionalized and disciplined within general education, and environmental (or ecological) education as a transformative educational discourse practice that aims at meeting the broader goals formulated at international conferences such as Tbilisi. As I use the term, EE signifies environmental education discourse that is subject to, and that subjects itself to, the disciplinary power of the dominant educational discourse. Ecological or environmental education (lower-case), on the other hand, signifies an educational discourse that implies a direct challenge to the ways the dominant educational discourse, and many of its critics, operate under assumptions that contribute to a deepening socioecological crisis (e.g., Bowers, 2001a; Fien, 1993; Huckle & Sterling, 1996; Orr, 1992). My objective is to advocate a continuing discussion over the definition, purposes, and practices of EE, as well as its overall effectiveness, and to argue against its cooptation by a discourse to which it is fundamentally opposed. Sympathetic with all attempts to foster more environmental education, I claim that the conversations over the meanings of EE must shift to a focus on the meanings of education generally in a larger cultural context. In many ways, the recent institutionalization of EE presents us with a productive place to focus the dialogue. Fundamentally then, this article is less about environmental education as a subfield than it is about the way that EE, or any other adjectival discourse, becomes constructed by general education. It is here that Foucault can be most helpful.

APPROPRIATING FOUCAULT'S LENS ON POWER, KNOWLEDGE, AND DISCOURSE

Foucault has been widely appropriated to discuss the state of various fields of educational practice. Popkewitz and Brennan capture his relevance to EE when they write: "Through Foucault's work, educators are asked about the conditions of construction of their field, and the power/knowledge nexus represented by that construction, including that of political projects, such as reform movements in education" (1998, p. xiii). Especially pertinent to my position on EE is Skrtic's (1991, 1995) use of Foucault in *Behind Special Education* and *Disability and Democracy*. Skrtic shows how special education has been constructed within general education with the effect that it legitimizes, rather than challenges, the discourses of normalization that create the need for special education. In essence, Foucault argues that "the most insightful way to understand society is to consider it from the perspective of the professions that have emerged to contain its failures" (Skrtic, 1991, p. 24). Certainly this is partly how special education and environmental education have been conceived: to contain general education's failure to serve people who are constructed as disabled, and to contain

society's failure to care for its increasingly degraded environments. Indeed, EE emerged in the late 20th century as more people became aware of the negative impact our technoindustrial societies were having on the health of human and nonhuman communities. Over the last 30 years, numerous international conferences and documents have called on EE to help ameliorate worsening environmental conditions; each of these initiatives identifies a global "environmental crisis" and calls on EE to help create an environmentally literate and politically engaged citizenry in local communities worldwide.[2] My approach to EE parallels Skrtic's (1991, 1995) work because of his conclusion that the institutionalization of special education legitimizes irrational and immoral general education practices. Likewise, current practices of institutionalized EE serve to legitimize, rather than challenge, educational practices that are problematic, that in fact create the need for environmental education.

Before continuing, I wish to emphasize that EE is a vast field of practice with a rich multicultural and international history. Fully describing its emergence and varied forms of institutionalization in formal and nonormal settings would require sweeping historical treatments that, to my knowledge, have not yet been attempted. For the present, following Anderson and Grinberg's (1998) analysis of educational administration, and Grinberg and Saavedra's (2000) discussion of bilingual/ESL as disciplinary practices, I will appropriate a Foucauldian lens as an analytical device to explore my position on the current state of EE. I appropriate Foucault purposefully in order to place my analysis of EE within a tradition of educational theorizing that is concerned with how culture, power, and language construct educational discourse. It is my hope that locating my analysis in this arena of cultural studies will (1) prompt environmental educators to broaden their perspective to include a larger cultural landscape, and (2) prompt educational theorists concerned with culture to take more notice of environmental education and its struggle to exist.

Foucault (1977) calls his studies of institutions and their discourses *histories of the present*, that is, studies of how people come to believe that their present actions and beliefs are rational and legitimate. Donnelly (1986) points out that in order to examine this process, Foucault analyzes the political environment surrounding the emergence of institutions and their practices. This analysis of the institutionalization and practice of EE, therefore, will focus first on what I call the dominant educational discourse and the ways in which it constitutes EE as disciplinary practice.

THE DOMINANT EDUCATIONAL DISCOURSE[3]

Currently in the United States and elsewhere, educational policy and practice have very little to do with the dilemmas and challenges suggested by environmental education, no matter how you define it. The absence of

ecological and related social issues from the public educational agenda is almost complete. When it appears at all it is on the fringe: as an add-on to an already crowded disciplinary field (e.g., a course or unit in ecology or environment), as vague and unrealistic standards lost in a sea of other standards, (e.g., analyze how the environment and environmental changes affect people), or as a novel way to approach interdisciplinary learning (e.g., a thematic unit on rivers, deserts, or poverty). On the educational scene, as in the culture at large—and this is equally the case in conservative, progressive, and radical camps—ignorance of ecological principles and their inseparability from social realities remains widespread and deep (Bowers, 1993, 1995, 1997, 2001a; Orr, 1992, 1994; O'Sullivan, 1999). In its place is an equally deep and widespread commitment to preparing youth for successful participation in economic life.

Today the connection between education and economics is expressed in the often-repeated and seldom-questioned commitment to prepare students for employment in the competitive, high-tech world of the 21st century. In *Education and the Rise of the Global Economy*, Spring puts it plainly: "In the 1980s and 1990s businesses and their legion of economists and accountants completed their takeover of educational rhetoric. Now the common call is to educate students 'to meet the needs of the global economy' " (1998, p. 151). Corporations, government, and the media constantly reinforce the connection between education and successful competition in the global, capitalist economy. This message is then directed at and adopted by educational institutions, sometimes with militant urgency. *A Nation at Risk*, the 1983 landmark publication spurring educational reform in the United States, bemoans the loss of "Our once unchallenged preeminence in commerce. . . . If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might have viewed it as an act of war" (National Commission on Excellence in Education, 1994, p. 5).

In the United States, public discourse about education flows from corporate leaders and their policy-making counterparts as they jockey for position in the global market. A striking example of this reality was the 1999 National Education Summit held at the IBM headquarters. President Clinton was there, as were governors, state superintendents, and business leaders (the keynote speech came from IBM's CEO), but "no principals or teachers were allowed in, no students participated, and the only representative of a non-white advocacy organization was Hugh Price of the National Urban league" (Miner, 2000, p. 3). The purpose of this summit was to set the stage for the next wave of standards-based educational reform. Many have commented on the top-down nature of standards-based schooling, its general concern with business-like accountability over the needs of children and communities, and its failure to engage children in the process of critical thinking and in-depth understanding (Apple, 2001; Kohn, 1999; Luke, 2000; Meier, 2000; Ohanian, 1999; Popkewitz, 1991; Sacks, 1999).

Far from addressing these problems, the current wave of education reform intensifies them by calling for tougher, more uniform standards, "high-stakes tests," and, following a business model, "rewards and consequences" for compliance. In their zeal for quantitative measures of accountability, promoters of standards and tests—the current Bush Administration epitomizes the trend—take for granted that educational quality can be standardized and measured in classroom routines and that the chief purpose of education is to prepare for global economic competition.

There is, of course, a broad tradition critiquing the instrumentality of education as it serves to reproduce relationships of power in the contemporary political economy (e.g., Apple, 2001; Burbules & Torres, 2000; Freire, 1970; Giroux, 1999; McLaren, 1989; Labaree, 1997; Popkewitz, 1991; Spring, 1998). Such critiques are significant here for two key reasons. First, these analyses show how the discourses of economism and governmentality narrow the purposes of education to the creation of a docile, if sometimes competitive, workforce—human capital for market gain. Critics argue that the economic assumptions underlying state educational policy have always been problematic and may be leading us deeper into political problems; Spring worries: "If there are economic problems in the global economy, people should be prepared to solve them. There is nothing in present proposals for education for the global economy that would provide the general population with the knowledge and skills to exercise political power" (1998, p. 226). Here, Spring echoes others who are concerned that the economic purposes of education have completely subsumed other traditional aims such as democracy and humanistic development (Apple, 2001; Burbules & Torres, 2000; Giroux, 1999; Labaree, 1997; Popkewitz, 1991).

Second, although many critiques of the dominant educational discourse problematize the intense, nationalistic commitment to global, growth economics, most are silent about the relationship of these economics to the ecological concerns that are the purview of environmental educators. From the perspective of environment, this silence is double jeopardy: not only does the dominant educational discourse mainly ignore environment but, often, so do the critics of the dominant discourse. The effect of this double silence is to push concerns about the environment to the margins where it is called environmentalism, a fringe position banished by many critical educators from serious talk about sociopolitical concerns. The dominant educational discourse, and many of its critics, remain what Orr (1994) and Bowers (1997) call "preecological." That is, ecological discourse, as low-status, marginalized knowledge, is generally not permitted to influence how social and educational issues are framed.

However, many ecological educators and theorists warn that unless our educational and social systems can enact a paradigm shift from an industrial to an ecological worldview, these systems will continue to contribute to a mounting socioecological crisis (e.g., Bowers, 2001a; Huckle &

Sterling, 1996; O'Sullivan, 1999). Such a shift will require deep changes in our social practices as well as new metaphors for organizing our thoughts, language, and action. This will be explored below. First I will present examples of how environmental education has constituted itself, and has been constituted, within general education, with the effect that its transformational power has been muffled. This weakening of a potentially transformative discourse can be described as disciplinary practice.

THE DISCIPLINARY POWER OF THE DOMINANT EDUCATIONAL DISCOURSE

Foucault insists on bringing to light what he calls subjugated and neglected knowledges. He defines these knowledges as "a whole set of knowledges that have been disqualified as inadequate to their task or insufficiently elaborated: naive knowledges, located low down on the hierarchy, beneath the required level of cognition or *scientificity*" (1980, p. 82, italics added). As environmental education (EE) has been constituted within the dominant educational discourse, much ecological knowledge has been subjugated and neglected. First, it cannot be overemphasized that EE hardly impacts the preecological thrust of general education. When students (or teachers) are exposed to fundamental ecological concepts—such as interdependence, systems thinking, and the importance of where one lives—there is rarely the time, commitment, or knowledge necessary to explore the ways these concepts relate to every aspect of educational practice and every aspect of social experience. Second, EE practice often neglects the fundamental social and ecological conflicts inherent in the economic system promoted by general education. Chief among these conflicts is that general education continues to give uncritical support to an individualistic, inequitable, and unsustainable growth economy. "High-stakes" testing and "world-class" standards, explicitly promoted to meet the needs of the global economy, neglect knowledge of the truly high-stakes social and ecological gambles inherent in global economic practices.[4]

If ecological discourse actually offers a damning critique of our political economy and the systems of education designed to support it, how is it that the practice of EE does not make this critique more explicit? Foucault's notion of disciplinary practice helps explain how certain perspectives become disqualified. Anderson and Grinberg describe disciplinary practices as

a set of discourses, norms and routines that shape the ways in which a field of study . . . and its related practices . . . constitute themselves. This process of self-constitution entails the establishment of conventions, agreements and rules that regulate and legitimize current ways of distinguishing among "best practices," desired outcomes, academic rigor, and valid knowledge claims. (1998, p. 330)

EE has emerged as a disciplinary practice in a variety of ways that silence its inherent critique of culture and education. Currently, in order to legitimize itself, EE is (1) claiming to enhance standards-based achievement in traditional disciplines, and (2) developing its own standards and conventions. Each of these developments can be described as disciplinary practice.

The standards movement now dominating general education demonstrates how content areas such as math, science, and social studies *discipline themselves* into a narrow set of routines. This is an important point for Foucault. The discipline or control over institutional practices tends to come from *within* the field. Aligning EE with the official, high-status content-area standards of general education has become a trendy means of legitimization, one that may work against transforming the ecologically problematic thrust of general education. In 1999, the North American Association for Environmental Education (NAAEE) published *Excellence in EE—Guidlines for Learning (K–12)*. The language of this volume's title, "Excellence" leading the charge, signals how the largest EE organization in North America aligns itself with a standards movement obsessed with "excellence." Further, in *Excellence in EE*, the NAAEE, though purportedly trying to avoid the rigidity of strict standardization (Simmons, 1997) adopts language and concepts associated with conventional standards: grade-level performance, achievement, and effectiveness. Rather than emphasizing that EE calls for a new (or ancient) ecological way of knowing, the guidelines explicitly aim to meet the standards set by the traditional disciplines, though EE would help students "synthesize" this knowledge. Seeking legitimacy, the authors even link their project to the standard-setting prescriptions promoted in *A Nation at Risk* and *Goals 2000* (NAAEE, 1999, p. 75). Of course, both these political documents begin by celebrating the educational goals of individualistic competition and nationalistic success in the global economy. I would agree with the many who have argued that this reform is rooted in assumptions that contribute to anti-ecological ways of being (e.g., Bowers, 1997; O'Sullivan, 1999; Orr, 1992). Paradoxically, whenever EE is approached instrumentally as a tool to serve standard practices, that is, whenever EE is enacted as disciplinary practice, it risks both legitimizing the problematic practices of general education and neglecting the more radical elements of EE that might be used to problematize these practices.

Before the publication of *Excellence in EE*, concerns over the trend toward standardization in the NAAEE were voiced in the *Canadian Journal of Environmental Education*. Jickling (1997) and Wals and van der Liej (1997) argued for more attention toward the role of education in society generally and for process-based approaches to EE rather than the product-based performances associated with standardization. Since the appearance of *Excellence in EE*, Hart, Jickling, and Kool (1999) have argued that "rather than establish normative criteria [for EE], it may be more fruitful to find ways to engage teachers in critical reflection about their own practice and

thinking"; to that end they have developed an extensive set of questions aimed at encouraging a continual evolution of environmental education thought and practice. Such critiques aim to help teachers in schools develop environmental education curricula that meet their needs as developing practitioners, to change students' experience of learning in a way that honors their learning process, and to promote social change through environmental education. Thus, critiques of the institutionalization of environmental education through standards mirror historical critiques of schooling as an institution. Borrowing from Illich and Holt, Weston (1996) advocates "deschooling" environmental education and, like many environmental educators, argues that the educational processes needed to gain environmental awareness are much larger than what schools can provide. Such processes, according to Weston (1996), must involve citizens at all levels becoming more consistently engaged with the more-than-human world. In short, many environmental educators, regardless of whether they choose to claim this mantle, worry that what Tyack and Cuban (1995) call the "grammar of schooling" too severely restricts the possibilities for environmental education by forcing it to conform to the norms, codes, and routines of schools.

These important critiques, however, have not been taken seriously by many EE professionals who seek to impact schooling, and the trend toward standardization as legitimization continues apace. Of course, the NAAEE does not act alone to create a discourse of standardization and legitimization, but as a symbol of the EE establishment, its actions have set a standard that other EE organizations follow.[5] Increasingly, EE initiatives, whether national or local in scope, whether formal or nonformal, include attempts to align EE objectives with formalized general education standards. This is not a phenomenon that is limited to environmental education, but one that can be observed in nearly every aspect of curriculum reform. However, as environmental educators often characterize their field as inter-, multi-, and trans-disciplinary, they have taken pains to show how EE can incorporate the standards from all other disciplines. Project Learning Tree (PLT), Project Wet, and Project Wild are three of the best organized and most influential EE organizations in the United States to have an impact on the K–12 curriculum. Each of these organizations has made a major commitment to align their EE activities and lessons with existing standards at all levels. At the national level, PLT, for example, correlates its curriculum with the NAAEE's (1999) *Excellence in EE* (see <http://www.plt.org/>). And at the PLT's Washington State website, one is quickly assured that "PLT activities have been correlated to the Washington State Essential Academic Learning Requirements (EALRs). Click on one of the following activity guides to view the modules for each activity and their correlated EALRs" (see <http://www.wfpa.org/ee/>). Following this pattern, local EE initiatives everywhere perform the laborious ritual of connecting EE curriculum with local scope and sequence, as

well as with state and national standards and other codes that govern general education.[6]

From a Foucauldian perspective, this ritual of alignment (that is, aligning EE curriculum with general education standards) is a perfect example of what Foucault calls panopticonism (1977, pp. 195–228). Borrowing from Bentham's description of the Panopticon prison design, Foucault argues that the norms, rules, and routines directed by external power (in this case the dominant educational discourse) are most effectively assimilated through a regime of unverifiable surveillance. Foucault writes that the purpose and function of the panopticon is "so to arrange things that the surveillance is permanent in its effects, even if it is discontinuous in its action; that the perfection of power should tend to render its actual exercise unnecessary" (1977, p. 201). The environmental educator involved in the act of curricular alignment with state-mandated standards has internalized the panopticon and is engaged in the act of self-discipline; Foucault writes, "he becomes the principle of his own subjection" (1977, p. 203). In other words, it is not necessary for state and school officials to enforce a regime of curricular alignment; environmental educators have chosen to discipline themselves in advance.

It should be noted that the results of aligning EE curricula with general education standards produce endless and confusing matrices where the description of EE lessons are linked, in an "everything-but-the-kitchen-sink" approach, to whatever standards across the disciplines might possibly apply (e.g., PLT alignment with the EALRs at <http://www.wfpa.org/ee/>). Extremely unhelpful in the process of teaching, these matrices serve no other ostensible purpose than to legitimate EE practice. Moreover, the act of alignment operates to undermine the transformative goals of environmental education: the purpose of EE becomes to satisfy problematic state learning goals.

Claiming to be the ideal context for integrated or interdisciplinary learning in a standardized curriculum, EE often takes for granted, and fails to problematize, the value and purpose of the knowledges it is integrating. An example from EE research comes from the highly touted publication, *Closing the Achievement Gap: Using the Environment as an Integrated Context for Learning*. In this study, researchers Lieberman and Hoody write that using the environment as an integrating context for learning (EIC) "is not primarily focused on learning about the environment, nor is it limited to developing environmental awareness" (1998, p. 1). The authors go on to claim:

The observed benefits of EIC programs are both broad-ranging and encouraging. They include: better performance on standardized measures of academic achievement in reading, writing, math, science, and social studies; reduced discipline and classroom management problems; increased engagement and enthusiasm for learning; and, greater pride and ownership in accomplishments. (Lieberman & Hoody, 1998, p. 1)

A little reflection here allows that under the guise of integrating the accepted disciplines, the chief flaunt of EIC is better scores on the very standardized tests that legitimate and sustain these disciplines as fragmented knowledge or skill areas. Certainly the claim that EIC is beneficial because it reduces discipline and classroom management problems is appealing to a different set of educational goals than those to which EE might aspire. Lost in the effort to legitimize EE by conforming to the rules and norms of the dominant educational discourse is even the slightest suggestion that EE offers a transformative educational and social vision. To its credit, perhaps the results reported in *Closing the Achievement Gap* will invite more general educators into an ecologically literate conversation. This is the hope of many environmental educators: that integrating EE into general educational standards is the means to legitimizing the field. Some argue that general educators would be willing to embrace EE if it were "presented as a way to meet current requirements" (Gabriel, 1996, p. 14). However, acts of legitimization may have the effect that they distract environmental educators from the goals of transforming education and culture. This unfortunate development is epitomized in a recent article in the EE publication *Clearing* titled plainly, "Better Test Scores Through Environmental Education" (Ferguson, Angell, & Tudor, 2001). Here, the authors, all environmental educators, cite *Closing the Achievement Gap* as "an ongoing source of inspiration" (Ferguson, Angell, & Tudor, 2001, p. 21).

Another way EE is constituting itself as disciplinary practice is by falling in line with the march toward its own content-area standardization. Not only does EE claim to help students on standardized tests in all disciplines, it promotes its own status as a discipline right alongside math, science, English, and the rest. The NAAEE is an example of an EE organization setting its own standards and linking them to national standards set by professional organizations in other academic disciplines (see NAAEE, 1999, p. 8). Again, the first problem with this development is that EE is legitimizing the practice of organizing education around standards in discrete subject areas, rather than constituting itself as a lens through which all content areas—and the purpose of education itself—might be viewed. This is why Martin (1996) wants to shed all "adjectival adjuncts" to education: to abolish EE completely may be the only way to save it from being coopted and weakened by the dominant discourse as merely another fragmented content area to be covered and assessed—if there is time.

THE DISCIPLINARY POWER OF SCIENCE

Though EE, seeking legitimacy, disciplines *itself* into problematic conventions, it also responds to pressure from outside the field. Specifically, the field of science education challenges EE's legitimacy and shapes its practice in several ways. The National Science Teachers Association (NSTA), a

high-status professional organization that promotes its own disciplinary practices, has since the mid-1980s argued for science-based standards for environmental educators. From a Foucauldian perspective, this development mirrors how science has often been used as a form of social discipline and control. In a 1985 position statement on EE, the NSTA asserts that "science educators have a responsibility to help students establish a firm knowledge of fundamental scientific principles in order that they might better comprehend, explain, and predict the consequences of human actions on natural systems" (NSTA, 1985). In this statement, the ability to predict and explain the consequences of human action on natural systems is fully assumed, when in fact the complexity of natural systems makes such understanding and predictions enormously uncertain. Worse, there is no mention of the need to understand the politics that guide and legitimate human actions. This is not surprising, since the discipline of science, though often used as a political weapon, often pretends to be unencumbered by politics (Wilkinson, 1998).

Countless environmental education resources and organizations, always rife with political assumptions and motivations, work to discipline EE by privileging scientific inquiry and condemning any contamination with messy social and political issues. A notorious contemporary example comes from Sanera and Shaw's (1999) *Facts Not Fear: Teaching Children about the Environment.*[7] Though Sanera and Shaw attack EE for a host of reasons, their chief assertion is that EE too often lacks a scientific basis, and that it often succumbs to emotionalism and political activism. Questioning the role of science, human experience, and political action in EE is, of course, legitimate. Sanera, however, has become a spokesperson for an approach to EE that seeks to embrace "good science" (and more recently "good economics") while pretending to be free of political and personal motivations. Champions of the scientific method, Sanera and Shaw claim: "Ultimately, science, not politics, will answer the scientific questions surrounding global warming, species extinction, and other environmental issues" (1999, p. 19). In this formulation, the only important questions around species extinction and global warming, for example, are scientific; politics and science are strategically placed in opposition to one another and science is favored as the only acceptable approach to EE.

Though Sanera's work has long been supported by conservative, politically motivated think tanks such as the Competitive Enterprise Institute, the disciplinary power of science crosses political boundaries. An EE guidebook published under the Clinton Administration insists: "Environment education must be based in science. Unfortunately, in the past some instructors have not adhered to this principle" (President's Committee of Advisors on Science and Technology, Biodiversity and Ecosystems Panel, 1998, p. 85). Assuming that this "scientific principle" is valid and then regretting that people do not follow it is a familiar rhetorical device in scientifically disciplined EE. Of course, from the perspective of a politically engaged EE, the

principle is problematic. Centering EE in science, which has been historically cast as objective, correct, and progressive (e.g., Foucault, 1972, 1977, 1980), dilutes and disqualifies its political content. This can be seen as an attempt to limit the scope of EE discourse and neutralize the political perspectives that might even problematize the very existence of science as a (political) discipline that often serves a problematic global economy and its own privileged status. As recently as February 2002, the Bush Administration has made another science-based political attack on EE, calling it simply "ineffective," and proposing to eliminate all of its funding through the Environmental Protection Agency (EPA). The reason: EE "has supported environmental advocacy rather than environmental education" (EPA, 2002). The Bush budget, therefore, plans to transfer all EE funding to math and science programs under the National Science Foundation. As with other Bush proposals on the environment—from drilling in the Arctic National Wildlife Refuge to pulling out of the Kyoto Accords—Bush defends his politics by deferring to the best available science. Claiming the scientific upper hand has become a familiar refrain in politics.

Such a critique does not mean to diminish the importance of science as *a* discourse, but to emphasize the political world within which science, and EE, are often disciplined. In *Science Under Siege: The Politician's War on Nature and Truth*, Wilkinson (1998) documents how corporate America and its supporting government have a history of undermining environmental science in the service of other political and corporate interests. Wilkinson writes: "A campaign of stifling attacks on the essence of scientific truth is present and thriving both within the ranks of the nation's largest employer, the federal government, and among natural resource agencies in most of the fifty states" (1998, p. 4). His book begins by honoring Rachel Carson's courage to publish her findings in *Silent Spring* against the hostile opposition of chemical companies, members of Congress, and her employer, the U.S. Fish and Wildlife Service. Reported with language that echoes Foucault, Wilkinson's research is a tribute to all the "combat scientists" of yesterday and today who are "under fire by political forces that have conspired to ensure that their knowledge never sees the light of day" (1998, p. 2). Environmental education requires a science that is neither politically naive nor disciplined by powerful political forces. Environmental science standards espoused by a political committee, and purposefully designed to eliminate politics, represent a bizarre irony and a macabre political and environmental future.

ROOT METAPHORS AND THE SUSTAINING POWER OF DISCOURSE

To understand how the dominant educational discourse and the discourse of science have established panopticon-like surveillance over EE, in order

to grasp how the power of these discourses have grown so great as "to render its actual exercise unnecessary" (Foucault, 1977, p. 201), it is helpful to consider how particular disciplinary practices are rooted in the assumptions, language, and metaphors of industrial culture and consciousness. According to Bowers (1993, 1995, 1997, 2001a, 2001b, 2001c), cultural practices are perpetuated and stem from "root metaphors" or "meta-schema" encoded in the thought and language of a cultural group. Bowers has repeatedly asserted that core expressions of culture in Western, industrialized countries are based on the root metaphors of anthropocentrism, individualism, and progress (as well as derivations of these). As they are manifested in thought, language, and action through several generations, these metaphors work to create a natural attitude toward cultural practices that disqualify the significance of nonhuman nature, take for granted the individual as the basic social unit, and assume that historical change is on a linear path of constant progress.

Take, for example, the disciplinary power of science to construct a politically sanitized environmental education. The power of Western science is in many ways connected to all three root metaphors, but rests especially on the assumption of the progressive nature of change. The assumption that science and its application through technology are leading human beings on a journey of constant progress is central to policies and attitudes that deny ecological crises as well as their social, political, and economic causes.[8] One outcome of this assumption is EE curriculum that might measure water quality, but fails to examine the cultural practices that cause and tolerate multiple forms of pollution as well as deny the seriousness of this ecological problem. As Sanera and Shaw insist in their science-based attack on EE: "Good science takes time" (1999, p. 19)—an attitude that has been exploited by our political leaders to *advocate* endlessly for further *scientific* research before acknowledging that an ecological problem is real. The disciplinary power of science, therefore, depends in part on its embeddedness in the pervasive root metaphor of progress.

Other theorists have identified other metaphors and images that are closely related to those Bowers names. Ecofeminists, for example, often point to patriarchy, with its multiple forms of domination, as the central metaphor of modern consciousness (e.g., Salleh, 1997; Mies & Shiva, 1993). Writings in the tradition of ecopsychology frequently explore how images of violence and aggression in human consciousness are acted out on human and nonhuman nature (e.g., Jensen, 2000; Roszak, Gomes, & Kanner, 1995; Shepard, 1982). Additionally, the metaphor of mechanism, the anthropocentric reduction of reality to a kind of machine, is frequently critiqued as an underlying cause of social and ecological problems (e.g., O'Sullivan, 1999). From a Foucauldian perspective, these metaphors and images persist because the discourses that perpetuate them circulate everywhere in culture and are embedded in material products of our thoughts

and actions. Indeed, as members of the culture, we more or less participate in their maintenance.[9]

Nowhere is this more true than in the social practices and patterns of thought and language that conflate the metaphor of economism with the metaphor of rationality. The "rationality of the market" is currently the driving force behind social policy and educational reform. When political, business, and educational leaders claim that educational reforms (such as national testing) will enhance an individual's or a nation's position in the global economic competition, they reinforce a cultural assumption that this competition is rational and that it promotes progress. However, from an ecological perspective, this modernist assumption is deeply flawed. In the modern era, economic growth and development have always depended on exploiting natural and human resources for the sake of economic production and the creation of wealth. Such is the history of nation building: imperialism, colonization, cultural violence, and ecological rape. Growth, development, resources, production, wealth—all of these metaphors have taken on a positive value in modern culture, yet each is linked to destructive and oppressive relationships with human and nonhuman others (Esteva & Prakash, 1998; Salleh, 1997). Further, the virtue of economic competition is often championed with militaristic language (e.g., *A Nation at Risk*), so that the rhetoric of violence is deployed in the service of the common economic good. The reasoning behind such bizarre tropes of language is called economic rationality.

In the field of education, economic rationality has long been the target of critique for its role in reproducing and sustaining systems of human oppression and inequality. However, in his provocative analyses of culture and education, Bowers (e.g., 1993, 1997, 2001a) has long argued that even those critical of our political economy often take for granted the same ecologically problematic metaphors that form the foundation of this discourse. He is especially hard on the emancipatory tradition of critical pedagogy and accuses Freire, Giroux, and McLaren of reinforcing anthropocentrism, assumptions about progress, and especially "a subjectively centered individualism required by the consumer, technologically dependent society" (Bowers, 2001c, p. 404). Though claiming to agree with the critical pedagogues on most social justice issues (Bowers, 2001a, p. 33), Bowers challenges emancipatory educators to broaden their analyses beyond their "fixations" on the "god words" of class, race, and gender. Because of the long-term and continuing neglect of ecological issues in critical theory and critical pedagogy, these traditions can also be described as disciplinary practices. In this case, the rules, norms, and "god words" of critical perspectives privilege a social analysis and neglect a related ecological analysis.[10] Expressing the wonderment of many who care about both people and the planet, Bowers reflects: "Indeed, it seems incomprehensible to write about social justice for women, minorities, and the economic underclass

without considering the ways in which the Earth's ecosystems are being rapidly degraded" (2001a, p. 3). Bowers insists that a truly transformative pedagogy, what he calls a pedagogy for eco-justice and community, can emerge only if educators acknowledge the tensions in the root metaphors of the industrial mindset, root them out, and work to replace them with the new metaphor of ecology (Bowers, 2001a, 2001c).

Such cultural metaphors, however, are not just bad ideas. They are enmeshed in systems of power, knowledge, and discourse that are sustained through our very participation in them. The rationality or truth of the market, in other words, is supported by all who, for better or worse, participate in it. The rationality of anthropocentrism is sustained by those who benefit from anthropocentric assumptions about progress while species go extinct and ecosystems unravel. The problem, therefore, according to Foucault, "is not changing people's consciousness—or what's in their heads—but the political, economic, institutional regime of the production of truth" (1980, p. 133). The problem, that is, is not simply to replace old metaphors so much as it is to interrupt the way our institutions construct and sustain these metaphors through their discourses. At the level of economic policy, this means challenging the assumptions behind economic growth as the sole measure of progress and the economic development policies of the World Bank, the International Monetary Fund, the World Trade Organization, the North American Free Trade Organization, and other institutions that formalize and promulgate the logic of the market. At the level of educational policy, this means uncovering and challenging all assumptions that equate the purpose of education with preparation for economic competition in the global market. At the level of environmental education, this means challenging the constitution of this discourse as a disciplinary practice that conforms to the conventional standards of general education. Such constant challenges, Foucault writes, are a necessary component to establishing "a new politics of truth" (1980, p. 133).

ENVIRONMENTALISM AS DISCIPLINARY PRACTICE

One of the central problems with environmental education is the widespread lack of connection between social analysis (analysis of human systems) and ecological analysis (analysis of ecosystems). In previous sections I showed how EE has been constructed as disciplinary practice in ways that marginalize its inherent critique of dominant culture, support the problematic practices of general education, and disqualify political perspectives. I argued that because of its marginal relationship to mainstream educational practice, the transformative potential of EE has been subjugated, neglected, and disciplined in ways that both strengthen the dominant discourse and dilute environmental discourse of its political content. I also indicated how other transformative educational discourses, such as

critical pedagogy, can be seen as disciplinary practice in the sense that their codes and norms often neglect ecological themes altogether. Below I use similar Foucauldian constructs to analyze how environmental discourse neglects a radical social discourse, and can thus be viewed as a disciplinary practice of its own.

Historically, mainstream environmentalism has been concerned mainly with the earth's "green parts" and has shown less interest in understanding the relationship between "green" environmental issues (e.g., wilderness preservation, green space, clean air, endangered species) and the domination of oppressed groups (Bookchin, 1990; Bullard, 1993). This lack of connection is obvious in any example of environmentalism or EE that focuses mainly on the concerns of nonhuman nature. In addition, the well-warranted seriousness with which some thinkers frame ecological crises often produces a discourse that fails to explore adequately the connections between ecological and cultural problems. Simply put, even some of those ecological educators committed to deep cultural change have established a discourse that seriously underplays the connection between human social (cultural, economic, political) experience and ecological concerns. A closer look at one prominent contemporary ecological educator and one seminal ecological thinker will develop this point further. These examples are chosen because of their frequent use as exemplars in environmental education. However, the analysis could be applied to any ecological discourse that neglects the intimate connection between social and ecological problems.

Orr's (1994) book *Earth in Mind*, already an EE classic, begins with a random sampling of ecological horrors (the tactic represents a typical convention in mainstream environmental literature).

If today is a typical day on planet earth, we will lose 116 square miles of rain forest, or about an acre a second. We will lose another 27 square miles to encroaching deserts, the results of human mismanagement and overpopulation. We will lose 40 to 250 species, and no one knows whether the number is 40 or 250. Today the human population will increase by 250,000. And today we will add 2,700 tons of chlorofluorocarbons and 15 million tons of carbon dioxide to the atmosphere. (1994, p. 7)

This impressive list goes on and includes the shocking fact that each year the earth loses 24 billion tons of top soil. Orr asks his readers to "think of the war being waged against nature" and is rightly enraged that "we are still educating the young as if there were no planetary emergency" (1994, pp. 16, 27). Orr is an acclaimed ecological educator, and deservedly so. In no way do I wish to discredit his valuable work or to suggest that this single passage represents the sum of his thinking. I merely wish to point out that if one looks at the way he frames the ecological crisis, one sees that concerns about *future* human, ecosystem, or planetary survival far outweigh, and are abstracted from, concerns about *current* social, political, and eco-

nomic relationships. Take as another example Orr's essay titled "Economics." Essentially, the essay can be summarized with the hope suggested in its penultimate sentence: "However, we may learn someday to value nature beyond the wildest dreams of present-day economists" (1994, p. 77). The essay draws on ecological economist Herman Daly's work to demonstrate how traditional economics abstracts itself from natural systems and threatens the planet's carrying capacity (see Daly, 1996 for his most complete argument). This insight, and the ecological economics it suggests, are essential to a socially transformative environmental education. Yet in Orr's essays on economics, politics, and education, one finds that ecological crises are described in a way that overshadows social conflict. Perhaps foregrounding a mainly ecological crisis is a strategy to wake preecological readers to the shocking ecological facts. However, Foucault constantly asks: What is not foregrounded? What remains in the margins? What remains neglected in much ecological discourse is an effort to draw connections between ecological thinking and the politics and economics that maintain and reproduce privilege and oppression—as well as ecological mayhem. This is not to say that Orr and others are unaware of these connections, but to point out a pattern in ecological discourse even among those thinkers committed to deep, systemic change. Perhaps Orr says it best himself.

In a real sense we do not have environmental problems, we have perceptual problems, and what we have failed to perceive is that the human enterprise and our little enterprises are connected in space and time in more ways and at more levels than we could ever count. Once we've fully absorbed the reality of our interdependence in space and time, the rest will be a great deal easier. (2001, p. 1482)

Part of the reason for unevenness in recognizing social and ecological interdependence may stem from the way ecological thinking has evolved, at least in the United States. Aldo Leopold (whom Orr cites more than he does any other writer) is often considered the font of modern ecological wisdom. His 1949 essay, "The Land Ethic," stands up today as one of the great achievements of ecological experience, thinking, and writing. In an essay honoring Leopold's contribution to ethics and aesthetics, Callicott writes that Leopold's land ethic "is the first self-conscious, sustained, and systematic attempt in modern Western literature to develop an ethical theory which would include the whole of terrestrial nature and terrestrial nature as a whole within the purview of morals" (1987, p. 157). The importance of this contribution cannot be overstated. And, because Leopold's land ethic is regarded as a seminal formulation of ecological ethics, because so much ecological thinking springs from the ecological tradition he founded, analyzing Leopold's assumptions helps explain the neglect of social analysis in much ecological discourse.

In "The Land Ethic," Leopold (1949) outlines his version of the development of ethics in human societies. He posits an "ethical sequence"

beginning with understanding appropriate conduct between individuals, moving to relationships between an individual and his or her society, and finally reaching the end of the sequence where individuals develop sustainable (though Leopold did not use the word) relationships with the land. The problem in Leopold's ethical sequence is that its linear model implies that one level of development is attained before moving on to the next. In other words, in Leopold's efforts to educate for "ecological conscience" he seems to assume that the challenges of the first two stages in the ethical sequence, which may be described as social conscience, have already been met, at least to his satisfaction. Without irony, Leopold observes in 1949: "Land-use ethics are still governed wholly by economic self-interest, just as social ethics were a century ago" (1949, p. 209). Such a statement betrays either an unjustified optimism in the state of human relationships or detachment from and ignorance of the ways human beings, through economic relationships or other relationships of power, dominate other human beings out of self-interest.

Leopold and most of his modern followers want humans to transcend their anthropocentric view of reality, leap to the end of the ethical sequence, and become citizens of the biotic community. As Leopold puts it, "a land ethic changes the role of *Homo sapiens* from conqueror of the land-community to plain member and citizen of it. . . . 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" (1949, pp. 204, 224). Under this ecocentric ethical equation, the only judge of right and wrong is the integrity, stability, and beauty of the biota. Although Leopold rightly broadens the meaning of citizenship and community to include the land, he does not attend to defining the biotic community in a way that appreciates the conflicts inherent in human relationships, conflicts that are directly connected to destroying the integrity of the biota. Like in much American environmentalism, his ecological ethic assumes an individual whose responsibilities to other people are already in order (Bookchin, 1990; Bullard, 1993). Thus, Leopold's land ethic is highly problematic in that it fails to explore the connections between the social and ecological problems associated with human economic development, and the metaphors of progress, individualism, and rationality on which this development is premised. The effect of his ethics is that Leopold promotes biotic citizenship (care for environment or land) separate from human citizenship (care for others).

DISSENTING SOCIOECOLOGICAL TRADITIONS

Foucault calls research that brings "subjugated knowledges" to light "a painstaking rediscovery of struggles together with the rude memory of their conflicts" (1980, p. 83). Such a "rude memory" is an apt description

of the cultural conflicts simmering beneath the surface of mainstream environmentalism and Leopold's land ethic. Over the last few decades, several dissenting theoretical and political traditions have emerged that seriously challenge mainstream environmentalism's neglect of social conflict. Social ecology, human ecology, environmental justice, ecofeminism, and writings associated with indigenous experience have all contributed to a growing body of literature in which the relationship between ecological and social conscience cannot be ignored.

Bullard, a leading figure in the environmental justice movement, contends:

The crux of the problem is that the mainstream environmental movement has not sufficiently addressed the fact that social inequality and imbalances of power are at the heart of environmental degradation, resource depletion, pollution and even overpopulation. The environmental crisis can simply not be solved effectively without social justice. (1993, p. 23)

Bullard and others demonstrate that communities of color are disproportionately forced to bear the costs of environmental degradation. Conversely, many environmentalists have been able to maintain or improve comfortable, middle-class lifestyles without being troubled by a neighborhood incinerator, pesticide poisoning, or contaminated drinking water. Consequently, mainstream environmentalism has not had to confront how maintaining its own class privilege contributes to and maintains environmental and social problems. Social ecologists (e.g., Biehl & Bookchin, 1998; Luke, 1999; Zimmerman, 1994) and ecofeminsts (e.g., Mies & Shiva, 1993; Salleh, 1997; Warren, 2000) likewise understand that patterns of domination and privilege maintained by hierarchical, patriarchal, authoritarian, and militaristic social structures have interconnected impacts on social and ecological systems. Together these insights suggest a socioecological ethic, which is absent from both mainstream environmentalism and conventional EE discourse. Combining class analysis with feminist theory and care for the integrity of ecosystems, social ecologists and ecofeminsts critique current patterns of economic development and the metaphors on which they are based, and advocate for new, less hierarchical, more local, and more communal forms of affiliation and governance (Biehl & Bookchin, 1998; Salleh, 1997).

Dissenting ecological traditions that blend social and ecological perspectives also show that the problem with Leopold's land ethic, and mainstream environmentalism more generally, is that they do not take into account the experience and knowledge systems of diverse cultural groups. Bowers (2001a) shows that this marginalization of cultural knowledge and experience needs to be remedied, especially in the case of indigenous and traditional knowledge. Bowers points out that indigenous people have not only suffered the worst environmental and social injustices (i.e., genocide), but they have also developed knowledge systems based on intimate con-

nections with the land and moral reciprocity between humans and the environment. Taking care not to idealize or essentialize indigenous experience, Bowers contends that we must learn to revalue traditional knowledges—"elder knowledge, patterns of mutual aid, and solidarity that links together extended families and community networks, ceremonies, narratives, and other traditions essential to . . . self-identity and moral codes" (2001c, p. 413). Not only have these knowledges been neglected by both the modern mindset and its critical traditions, but not always sharing the same problematic assumptions of modernism (e.g., anthropocentrism, individualism, and the view of change as progressive), indigenous and traditional knowledge can contribute to the formulation of a new ethic for ecojustice (Bowers, 2001a). To return to Leopold's (1949) phrasing, becoming a member of the biotic community may depend less on evolving a "new" ethic, and more on learning from cultures and traditions that have not so completely abstracted themselves from the biota (see also Basso, 1996; Cajete, 1994; Deloria & Wildcat, 2001).

However powerful and convincing these socioecological analyses may be, mainstream environmentalism and conventional EE continue to neglect them. And with few exceptions (e.g., Bowers, 2001a; O'Sullivan, 1999), comprehensive socioecological analyses have not yet impacted educational theory. Mainstream environmentalism's tendency to privilege a biocentric perspective, and the constitution of EE as disciplinary practice, help to explain why a socioecological educational framework is only beginning to emerge.

THE LIMITS OF FOUCAULDIAN CRITIQUE

Foucault reminds us that all discourses, practices, and traditions, especially as they are embedded in institutions, must constantly be open to critique. He writes:

A critique is not a matter of saying that things are not right as they are. It is a matter of pointing out on what kinds of assumptions, what kinds of familiar, unchallenged, unconsidered modes of thought the practices that we accept rest. . . . I think the work of deep transformation can only be carried out in a free atmosphere, one constantly agitated by a permanent criticism. (Foucault, 1988, pp. 154–55)

It is possible to demonstrate, for example, that particular expressions of environmental justice are limited to addressing the problems of human economy and that such perspectives often succumb to perpetuating the problematic metaphors of anthropocentrism, individualism, and progress. Such a critique would serve as a reminder to continually deepen one's analysis of the complex relationships between culture and environment. Foucault's central contribution to my analysis, then, and a contribution of

the post-modern perspective generally, is that one should never assume that one's thoughts and actions are complete, that one has discovered *the* truth. For as Foucault shows: "'Truth' is linked in a circular relation with systems of power which it induces and which extend it. A 'regime' of truth" (1980, p. 133).

This is why Foucault is so appropriate to an analysis of EE: it has adopted and institutionalized its own regimes of norms, truth claims, and standards that severely limit its scope and that promote problematic purposes and assumptions. Specifically, EE neglects the political, economic, and cultural dimensions of environment, and it reinforces problematic assumptions about science, progress, and the purposes of general education. As a result, it also contributes to a troubling phenomenon in social theory more generally: that is, social and educational theorists with socially transformative agendas generally dismiss EE and disregard ecological analyses. Such a dismissal is problematic because it represents a missed opportunity to connect socially transformative projects with ecologically transformative projects. Indeed, Foucault, like most social theorists, can easily be critiqued for not sufficiently noticing ecosystem and biospheric decay. However, such "permanent criticism," though necessary and productive, runs the risk of avoiding the difficult challenge of articulating a philosophical framework that can bridge social and ecological perspectives and help guide educational practice.

THE EARTH CHARTER'S SOCIOECOLOGICAL CHALLENGE

I began this article by suggesting that EE should be abolished because its institutionalization has muted its potential as a transformative educational discourse practice. Through professional self-regulation, what Foucault (1977, pp. 170–94) calls "the means of correct training," EE adopts disciplinary practices that—perhaps unwittingly—help reproduce the kind training that has led us toward social and ecological problems. The problem, in other words, is not simply that our EE is inadequate. The problem is that general education, and the cultural practices it supports, makes EE somewhat irrelevant. If indeed there is something about our educational and social systems that is leading us deeper into a variety of local and global crises, we will need an educational framework that is able to negotiate the complex ecological interactions between science, politics, and culture, between social and ecological systems, and their impact on human and nonhuman life.

Since the 1970s something like this kind of integration has been attempted by international commissions, conferences, and summits and has resulted in several documents advocating more environmental education for all the world's citizens (e.g., Brundtland, 1989; UNESCO, 1978, 1997; UNESCO-UNEP, 1976; UNCED, 1992). This period has witnessed a

gradual balancing of traditional environmental concerns with concerns associated with economic development, social and political equity, human oppression, and cultural diversity.[11] However, it is my position that these efforts to integrate social and ecological concerns have been undermined by specifically calling for more *environmental* education. By constructing an adjectival educational discourse, these initiatives are doomed from the start to a fate of marginalization and neglect. As I have shown, in the context of the dominant educational discourse, environmental education is easily ignored and can be stripped of its revolutionary political content as it becomes constituted as disciplinary practice. It is my contention that further refinement of the purposes and practices of *environmental* education will only result in its continued marginalization. The real significance of the field is the challenge it might pose to the purposes and practices of education generally and to the problematic social practices that general education supports. If one is to confront these problematic practices, one needs to articulate an alternative vision for education and society (and not just an alternative vision of *environmental* education). The Earth Charter (2001) represents such a vision and can serve as a challenge to all educators, environmental or otherwise, to reexamine the purpose, context, and scope of their work (read the complete Charter in 17 languages at <http://www.earthcharter.org>).

The Earth Charter is not the only visionary text that challenges citizens to consider the social, political, economic, historical, ecological, ethical, cultural, local, and global dimensions of our lives; it is part of a growing literature that critically engages the nexus between culture and environment. In the field of education, environmental or otherwise, conceptual frameworks that integrate cultural and ecological analyses have just begun to emerge in the last decade. Bowers's (2001a) vision of education for "eco-justice" and O'Sullivan's (1999) vision of transformative education in the "ecozoic" era are two recent theoretical educational texts that accomplish this kind of socioecological integration. Models of this integrated approach can also be found in the writings of social ecology, ecofeminism, and indigenous peoples. All these approaches can serve as productive complements to the vision of the Earth Charter.

In many respects, the Earth Charter embodies themes from dissident socioecological traditions as it embraces a strong ecological ethic within a larger context of cultural conflict. It succinctly expresses the interrelated social and ecological crises facing humanity in four principal areas—respect and care for the community of life, social and economic justice, ecological integrity, and democracy, nonviolence, and peace—and outlines a response to these crises that has theoretical and practical relevance. Further, the Charter has current political significance as its many multicultural and international citizen-authors and supporters hope to win its adoption by the United Nations at the World Congress on Sustainable Development in Johannesburg in September 2002.[12] The

Charter is also relevant to this discussion of environmental education because it emerges from the same tradition of agenda setting that has produced international calls for more environmental education, and that have legitimized this field.[13] Of particular interest here is the fact that the Earth Charter's calls for education have dropped the adjective "environmental." According to Brendan Mackey, director of the Earth Charter Education Program, "an explicit decision was made not to describe the Earth Charter as an educational tool just for environmental education per se. This was done on the understanding that it encompasses what is currently taught within environmental education" (Mackey, 2002, personal communication).

Launched in 1994 by Michael Gorbachev and Maurice Strong (Secretary General of the 1992 Earth Summit in Rio de Janeiro), the vision of the Earth Charter was to work toward a document that, like the U.N.'s Declaration of Human Rights, could be adopted internationally, nationally, and locally as an ethical standard for human conduct and decision making.[14] Between 1994 and 2000, thousands of individuals and hundreds of organizations from 51 nations and six continents participated in drafting the Charter. Since the final draft was released, the Charter has become even more widely discussed throughout the world, though few Americans have yet to hear of it (Corcoran & Tchen, 2002; Ferrero & Holland, 2002; Sauer, 2002). Its preamble states the global situation.

The dominant patterns of production and consumption are causing environmental devastation, the depletion of resources, and a massive extinction of species. Communities are being undermined. The benefits of development are not shared equitably and the gap between rich and poor is widening. Injustice, poverty, ignorance, and violent conflict are widespread and the cause of great suffering. An unprecedented rise in human population has overburdened ecological and social systems. The foundations of global security are threatened. These trends are perilous—but not inevitable. (Earth Charter, 2001, Preamble)

The relative obscurity of the Earth Charter in the United States is testament to its neglect by dominant culture and its institutions of media, education, and government. Of course, this neglect can be expected as the Charter challenges the "rationality of the market" and questions the progress of economic globalization by pointing out the costs to people and planet. Though it is possible to claim that the adjective "Earth" contributes to this neglect by evoking a traditional environmentalist perspective, the Earth Charter is founded on the principle that caring for the earth and caring for people are two dimensions of the same task. Further, the Charter views ecological problems as the result of local and global economic development patterns that are also at the root of injustice, poverty, violence, and oppression. Thus, though it is subject to the same sort of marginalization as earlier global initiatives that called for more environmental education,

the Charter represents a comprehensive, integrated vision for a culture of peace and socioecological justice.

The politics surrounding the potential adoption of the Charter by the U.N. at the World Council for Sustainable Development are fascinating in themselves. Yet even if the Charter is endorsed by countries such as the United States (which is doubtful), its unenforceability means that its significance will remain largely symbolic. However, as we have seen in the root metaphors of modernism, the significance of metaphor and symbol should not be underestimated. Despite legitimate doubts over the significance of the Charter as a policy tool, it remains a statement of specific, if symbolic, *standards* against which social, environmental, and educational policy can be evaluated. Its 16 principles (which also include more descriptive subheadings) quickly convey the Charter's comprehensive socioecological vision.

I. Respect and care for the community of life
  1. Respect Earth and life in all its diversity.
  2. Care for the community of life with understanding, compassion, and love.
  3. Build democratic societies that are just, participatory, sustainable, and peaceful.
  4. Secure Earth's bounty and beauty for present and future generations.
II. Ecological integrity
  5. Protect and restore the integrity of Earth's ecological systems, with special concern for biological diversity and the natural processes that sustain life.
  6. Prevent harm as the best method of environmental protection and, when knowledge is limited, apply a precautionary approach.
  7. Adopt patterns of production, consumption, and reproduction that safeguard Earth's regenerative capacities, human rights, and community well-being.
  8. Advance the study of ecological sustainability and promote the open exchange and wide application of the knowledge acquired.
III. Social and economic justice
  9. Eradicate poverty as an ethical, social, and environmental imperative.
  10. Ensure that economic activities and institutions at all levels promote human development in an equitable and sustainable manner.
  11. Affirm gender equality and equity as prerequisites to sustainable development and ensure universal access to education, health care, and economic opportunity.

12. Uphold the right of all, without discrimination, to a natural and social environment supportive of human dignity, bodily health, and spiritual well-being, with special attention to the rights of indigenous peoples and minorities.

IV. Democracy, nonviolence, and peace

13. Strengthen democratic institutions at all levels, and provide transparency and accountability in governance, inclusive participation in decision making, and access to justice.

14. Integrate into formal education and life-long learning the knowledge, values, and skills needed for a sustainable way of life.

15. Treat all living beings with respect and consideration.

16. Promote a culture of tolerance, nonviolence, and peace. (Earth Charter, 2001)

Beyond not specifically calling for more "environmental education" to work toward these principles, the difference between the Earth Charter and other similar ventures such as Agenda 21 (UNCED, 1992) is the relative brevity and succinctness of the current document. Supporters of the Charter hope that its straightforward expression of goals for people and nature can serve as a challenge to all people at all levels of public and private life. With regard to education, the Charter is a call to action for educators to examine their assumptions and practices within a socio-ecological ethical framework.

With a strong focus on equality, cultural diversity, peace, and social and economic justice, the Charter pays particular attention to the rights of women and oppressed groups. Principle 12b, for example, reads, "Affirm the right of indigenous peoples to their spirituality, knowledge, lands and resources and to their related livelihoods" (Earth Charter, 2001, Principle 12b). As noble as this affirmation may be, its articulation reveals one of the weaknesses of the Charter: that is, its lack of analysis of the issues it raises. As a charter, it merely raises issues and does not explore them in any depth. The Charter itself does not demonstrate how the cultural violence still practiced against indigenous peoples in the name of "development" epitomizes the disciplinary power of discourses (economic, scientific, educational) promoted by dominant Western culture and its normalizing systems of education (Esteva & Prakash, 1998; Spring, 1998). Nor does it show how the cultural traditions of indigenous peoples, as well as other traditional cultural groups, may be instructive in the development of less violent and less commodified relationships in human and nonhuman communities (Basso, 1996; Bowers, 2001a; Cajete, 1994; Deloria & Wildcat, 2001; O'Sullivan, 1999). However, this lack of analysis is not necessarily limiting, and suggests a process approach to education advocated by environmental educators such as Hart, Jickling, and Kool (1999) and Wals and van der Leij (1997). The Charter's purpose, that is, is to prompt reflection about

the network of issues it raises, to stimulate multiple avenues of inquiry and dialogue, and to inspire action on the interrelated themes of caring, justice, peace, and sustainability (Corcoran & Tchen, 2002; Ferrero & Holland, 2002; Sauer, 2002). Its intent is not to explain the way things are or should be, but to urge citizens toward this work by providing a comprehensive and challenging context for action and reflection.[15] As such, its impact is arguably greater than theoretical texts that focus mainly on analysis for an academic audience.

The Earth Charter Education Advisory Committee is currently synthesizing an international online discussion that took place in the summer of 2001, and will soon publish a statement of educational objectives, pedagogical principles, core themes, and institutional challenges involved in integrating the Charter into the process of education at all levels (Mackey, 2002, personal communication). This new work will extend an existing set of principles already formulated by the advisory committee. Instead of promoting more environmental education, the Earth Charter's Education Advisory Committee proposes the following.

1. *Action research*—material should be developed in collaboration with a network of educators representative of the target audience.
2. *Experiential learning*—wherever possible, use should be made of learning activities that involve action-orientated learning or "learning by doing."
3. *Transdisciplinarity*—the integrated ethical perspective presented by the Earth Charter requires inquiry unconstrained by conventional disciplinary boundaries.
4. *Collaboration*—it is essential that we find collaborative ways to join efforts with educators in all fields (see <http://www.earthcharter.org/education>).

Interestingly, these principles are not so different from those promoted by the NAAEE and other environmental education organizations. However, though Charter advocates promote incorporating or integrating Charter principles into all educational activities, so far there has been no suggestion that these principles be aligned to support existing national, state, and local educational standards. Indeed, the revolutionary character of the Charter itself, as well as its educational principles, clearly requires inquiry "unconstrained by conventional disciplinary boundaries."

In other words, the Earth Charter's educational proposals appear to recognize that the disciplinary boundaries, norms, routines, and standardizations that characterize conventional education *work against* the experiential, collaborative, interdisciplinary, action-oriented, and transformative goals of the Earth Charter. Returning to Foucault, attempting to align these transformative goals with the norms and standards of general education would be to willfully reenter Foucault and Bentham's panopti-

con, and to exercise a form of self-discipline that would only reinforce the power of the dominant educational discourse. What the Earth Charter offers instead is a set of shared if contested *counterstandards* "by which people may measure progress toward a just and sustainable society, standards enforced by the authority of moral judgement and the power of public opinion" (Sauer, 2002, pp. 26–27). And fittingly, as if responding to Foucault's call for "permanent criticism," the Charter upholds the right to freedom of opinion, expression, and dissent (see Earth Charter, 2001, Principle 13).

CONCLUSION

The difference between an educational discourse that has been coopted and one that remains potentially transformative is this: a coopted discourse can be claimed to be already sufficiently recognized, understood, and integrated into existing policies, programs, and standards. Such has been the fate of environmental education, a fate to which, to a certain extent, it has condemned itself. A transformative discourse, on the other hand, constantly challenges the assumptions and purposes behind existing practices and articulates a fundamentally different vision. Such is the vision of the Earth Charter.

Of course, it is one thing to articulate a comprehensive vision for people and the environment and something entirely different to impact teachers and students at the level of practice. Whether the Earth Charter can begin to influence moral judgement, public opinion, or education remains an open question. It has already been formally endorsed by numerous individuals and an impressive array of government and nongovernment organizations including: the Amazonian Parliament, the Inuit Circumpolar Conference, the World Congress for Local Environmental Initiatives, the South American Continental and the Asia-Pacific-Oceania Congresses, and the U.S. Conference of Mayors (see the growing list of international endorsees at <http://earthcharter.org>). These endorsements, and its potential adoption by the United Nations, are important. But as Sauer explains, "the Charter's real power is in the conversations it occasions, enabling civil society to understand itself and its power. For it is the petitioners, not the petitioned, who will ultimately make the charter work" (2002, p. 26). Thus from an educational perspective, the power of the Charter is in its potential to engender conversations, to interrupt our discourse, and to challenge our norms and routines with a comprehensive, socioecological vision for society and education. For if Bowers (2001a) is right and we need to replace the destructive metaphors of modernism with new, and old, ecological metaphors, we desperately need conversations out of which these metaphors can emerge and circulate. As a cross-cultural people's treaty for global interdependence and shared responsibility, the

Earth Charter is a text around which these conversations might begin. Advocating for the Charter, then, is to provoke others and oneself to develop discourses and practices capable of responding to its sweeping vision.

From my perspective as a general educator sympathetic to the transformative goals of environmental education, the Charter challenges me to resist and problematize the dominance of current educational standards in the process of schooling. Instead of trying to justify environmental education by linking it to conventional standards, I am encouraged by the Charter to articulate a counterset of standards that reflect a moral vision of a higher standard, a vision that is the product of decades of international conversations on environment, culture, and education. It is my hope that the Earth Charter, and other ambitious works of socioecological synthesis, can provide educators, both formal and nonformal, with a new way to view the significance of our work.

Finally, neither this article nor the Earth Charter suggest that all environmental education practices should be abandoned. The decades-long history of environmental education has yielded insights and abundant educational practices that are often commensurate with the educational goals of the Charter and other comprehensive socioecological educational visions (e.g., Bowers, 2001a; O'Sullivan, 1999). However, as it challenges everyone to rethink their routines in a larger, more complicated, and more politicized context, the Earth Charter suggests that *environmental* education should not be content with the self-inflicted narrowness that the adjective inevitably conveys.

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NOTES

1. By general education, I mean the state-governed structures, policies, and practices that shape the general K–12 school experience for most teachers and students.

2. The Belgrade Charter (UNESCO-UNEP, 1976), the Tiblisi Declaration (UNESCO, 1978), the Brundtland Commission (World Commission on Environment and Development, 1987), the United Nations Conference on Environment and Development in Rio (UNCED, 1992), and the Thessaloniki Declaration (UNESCO, 1997) are each examples of international agencies recognizing that the world's people (if not government itself) need to develop environmental literacy and responsibility (NAAEE, 1999). However, as Wals and van der Leij point out, these international statements "do not seriously

challenge the principles of economic growth or even the inequitable distribution of resources" (1997, p. 3).

3. Throughout this article I use the word "discourse" to refer to more than just language, but to "saying (writing)-doing-being-valuing-believing combinations" (Gee, 1996, p. 127). As Gee writes: "Discourses are ways of being in the world, or forms of life which integrate words, acts, values, beliefs, attitudes, and social identities. . . . A Discourse is a sort of identity kit which comes complete with the appropriate costume and instructions on how to act, talk, and often write, so as to take on a particular social role that others will recognize" (1996, p. 127).

4. There is a growing literature problematizing the assumptions of globalization and the growth economy. Daly (1996), an ecological economist, offers a comprehensive investigation into the material problems of growth. Korten (1995) explores the corporation as a kind of cancer on people and their environments. The *State of the World* series (1984–2002) provides quantitative evidence of mounting social and ecological problems.

5. Like environmental educators generally, the people who make up the NAAEE do not form a monolithic community. Not all discourse practices associated with the NAAEE are examples of disciplinary-practice-seeking legitimation. However, the NAAEE's frontline publications, such *Excellence in EE*, set a standard for the entire organization. This standard avoids the political inconsistencies of aligning the goals of EE with a general education system that is ecologically problematic (Bowers, 1997; Orr, 1992).

6. Over the last decade I have personally witnessed the ritual of alignment in at least a dozen EE projects hoping to impact K–12 schooling. Interestingly, the assumption that alignment was necessary comes from both nonformal and formal educators. In all cases, I have found colleagues who in one way or another regret the fact that the practice of alignment distracts attention from the transformative goals of environmental education.

7. The publication of *Facts Not Fear* prompted the *Canadian Journal of Environmental Education* to publish a fascinating debate that included Sanera in its Vol. 3, 1998 issue, much of which revolves around questions of "scientific facts" and the roles of "experts"—constructs that act to discipline acceptable knowledge about EE. All the responses to Sanera in this issue are critical of his limited and distorted view of EE. Still, Sanera's perspective continues to influence how EE is constructed and institutionalized.

8. It is central too to economic and educational discourses and practices based primarily on quantitative measurement. For an introduction to the problems of an economics based on measurement, see Daly (1996) and Korten (1995). For an introduction to the problems associated with educational testing, see Sacks (1999).

9. In other words, we are often, but not always, anthropocentric, individualistic, and optimistic about progress; we embrace mechanism, we enact the script of patriarchy, and we are complicit in acts of violence toward people and nature. It is difficult to escape these traps because all of them are embedded in the consumer economy in which all of us participate.

10. O'Sullivan (1999), Huckle and Sterling (1996), and Fien (1993) are three examples of educators working to locate the critical tradition within the larger context of the earth. From a Foucauldian perspective, it could be argued that Bowers's repeated rejection of critical pedagogy constitutes a disciplinary practice that subjugates and neglects elements of critical discourse that might be useful in working toward his ecojustice vision.

11. See note 2.

12. Though the Earth Charter was not officially adopted by the United Nations at the World Congress, the Earth Charter International Secretariat reports that the Charter exerted significant influence on the proceedings in Johannesburg. More recently, the Earth Charter has been endorsed by UNESCO as "an important ethical framework for sustainable development." See http://www.earthcharter.org/news/index.cfm?id_activity=563&actual=2003.

13. This tradition of agenda setting was severely critiqued at the Earth Summit in 1992, and this critique has been part of the stimulus behind the Earth Charter. The central issue at the time was that Agenda 21 was a "scripted sham" that did not sufficiently problematize the consequences of Western "development." Documentation of this earlier critique can be found in "The People's Earth Declaration: A Proactive Agenda for the Future" (1992), which, interestingly, called for both environment *and* development education. It should be noted that like the Earth Charter, current integrated approaches to education, culture, and environment do not call for more "environmental" education, for example, Bowers (2001a) and O'Sullivan (1999), but for education of a new variety altogether.

14. Though one could point to the failure of the Declaration of Human Rights to eliminate human rights abuses, it has been incorporated into 30 or more national constitutions and continues to exert moral authority and to provide civil society with language and vision that, arguably, works to transform its practices (Sauer, 2002).

15. Ferrero and Holland (2002) have written *The Earth Charter: A Study Book of Reflection for Action*, which has been made available online (<http://www.ECreflection4action.org>). This study book includes a history of the Charter's formation, commentary on each of the Charter's 16 principles, and a study guide for use in classrooms and by small groups.

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