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Critical perspectives in environmental values education

Paul M. Rosen
The University of Montana

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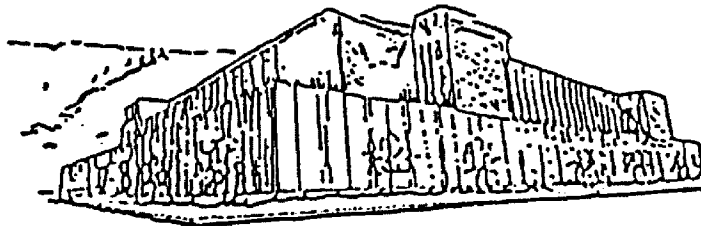
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CRITICAL PERSPECTIVES IN

ENVIRONMENTAL VALUES EDUCATION

by

Paul M. Rosen

B. A. The Pennsylvania State University, 1992

presented in partial fulfillment of of the requirements

for the degree of

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Approved by:

[signature: William Chalonple]

Chairperson

[signature]

Dean, Graduate School

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Environmental education will become an increasingly important subject of study for young people as environmental issues become more significant and more complex. Because our values play an important role in shaping our behaviors, it is often reasoned that different values ought to be inculcated in our children. According to its proponents, environmental education ought to promote values such as respect and care for the environment.

This paper examines the models of environmental education described by the Tbilisi Declaration, and by authors such as Steve VanMatre and Harold Hungerford. These theoretical models of environmental education generally fail to address the political nature of values. Moreover, these theories fail to address the nature of the public school and the distribution of educational resources in this country.

This paper attempts to illustrate the confusion over environmental values education by examining the literatures of environmental education and of social criticism of the school. First, it is argued that authors, such as C. A. Bowers, who advocate that the school promote deep changes in our values and culture, have ignored the political realities of the public school system. Some authors have suggested that the ethical beliefs of traditional cultures, such as the Native Americans, can be used to guide a reformulation of our own values. This paper raises questions about the applicability of one culture's beliefs to another's environmental problems.

Educational theorists such as Giroux, Illich, and Freire suggests that the school conditions students to accept the existing social and economic structures which are responsible for environmental degradation. It may be necessary to change the structure of education in order to change the values it imparts.

Insofar as environmental education is a challenge to the dominant material values of American society, it can only function in the school in a very compromised way. The values systems espoused by environmental educators are not appropriate to the institution of the school, which functions, in part, to reinforce the consumer economy which degrades the environment. We ought not assume that a reformist values agenda can succeed in the school.

ACKNOWLEDGEMENTS

This project is dedicated to
Sheehan Ednie
and to our child, who is expected any time now.

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I. INTRODUCTION

In a time of increasing awareness of environmental problems and of increasing political controversy over them, the field of environmental education has grown remarkably. Environmental education seeks to cultivate a populace sufficiently informed to decide the important environmental issues of our day. As the field of environmental education has matured, it has sought to define itself and clarify its mission. Such prominent authors as Steve VanMatre, Michael Caduto, C. A. Bowers, Harold Hungerford, and David Orr agree that some version of "values education" ought to play a prominent role in environmental education.

Environmental educators observe that our values play an important role in shaping those behaviors that so frequently harm the ecological balance. However, there is not much agreement concerning how values education works or how it ought to be integrated into the curricula of public schools. All too frequently, environmental educators have overlooked the political nature of values in their discussions. For example, many educators stress the importance of student experiences in advocacy or "action," without considering how school boards will receive these recommendations. More fundamentally, the literature of environmental education frequently ignores ways in which the school as an institution may inculcate values and behaviors opposed to environmentalism. Moreover, because so many young people today are not sympathetic

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to the environmentalist values agenda, educators have found themselves increasingly at odds with the values of their students and of the larger polity.

The prominent environmental educator C. A Bowers believes that education ought to challenge those accepted orthodoxies of Western culture which reinforce consumerist behavior and the excessive exploitation of natural resources. He is one of many educators who, in keeping with the educational fashion of multiculturalism, has recommended that the traditional cultures of Native Americans ought to guide a reformation of our own cultural values. However, there is limited utility in offering abstract praise to another culture's values. If we do attempt to learn from another cultural tradition, we must be careful to avoid misrepresenting and misappropriating that culture.

Even if we could define with accuracy the environmental values we wish our children to espouse, there is some question as to whether the main vehicle for formal education in this country, the public school, is at all equipped to impart those values. Authors such as Ivan Illich, Henry Giroux, and Paulo Freire suggest that the public school has a "hidden curriculum": the school is designed to reproduce the values of the dominant social and political structures. In other words, the school is the principal tool by which the democratic-capitalist state reproduces the values and behaviors that environmentalists critique. There is, therefore, an institutional barrier to genuine environmental values education.

Environmental educators have generally offered a shallow account of values education. While they have noticed that values are an important variable in human

interactions with nature, they have failed to address the political nature of values. They often do not bother to ask how we came to possess "anti-environmentalist" values in the first place. When an educator, as for example, C. A. Bowers, does approach this question, he concludes that we ought simply to dispense with the objectionable values, and adopt the values of traditional cultures. But how are the values of traditional societies to be grafted onto our own culture? If educators suggest this be done through the public school, it can only be that they have not paid sufficient attention to structure, function, and politics of the school.

This analysis suggests that education for genuine environmental values ought to be radically different from the kind of education available in public schools. If education is to promote ecological sustainability, democracy, social justice, and the appropriate use of technology, then schooling in this country must be fundamentally changed. It ought not be the compulsory subordination of the child's intellect to institutionally certified authority. Rather, education ought to develop and enhance the practical competencies of learners. Since values are implicit in the structure of the economy and the fabric of social life, education for environmentalist values ought to be training in the skills of the sustainable society: things such as organic gardening, energy efficient construction with recycled materials, and even bicycle repair.

This project will consist of a close reading of the authors mentioned above, and will unfold the above arguments in greater detail. It seeks to examine two literatures, one concerning environmental values education and the other concerning social criticism,

especially criticism of the school. While it might be assumed that there is congruence between the two, in fact, many difficulties arise when criticism of the school is applied to proposals for environmental education. As a matter of political strategy, environmentalists ought to recognize the limits of the school and seek other means of challenging the values of industrial society.

Thesis Statement: Insofar as environmental education is a challenge to the dominant material values of American society, it can only function in the public school in a very compromised way. The value systems espoused by environmental educators are not appropriate to the institution of the public school, which functions according to its own "institutional" values. We ought not assume that a reformist values agenda can succeed in the school.

II. THEORETICAL MODELS OF ENVIRONMENTAL EDUCATION

In 1977, the Tbilisi Intergovernmental Conference on Environmental Education developed a set of objectives for environmental education that covered a range of skills and knowledge. The assembled delegates determined that effective environmental education ought to teach *awareness* of and sensitivity toward the environment, *knowledge* of the environment, *attitudes* of concern and motivation to act on behalf of the environment, *skills* for identifying and solving environmental problems, and *participation* in working toward solving environmental problems. These goals endorsed by the Tbilisi Conference have been expressed and enumerated in slightly different forms by various educators. However, all environmental educators agree that ecological information and concepts are best understood when their relationship to our values and politics have been clarified. Environmental education explicitly seeks to create environmental citizen/ activists -- people who are equipped with the knowledge and motivation to effect political change.

Environmental educators have published a number of models describing the process of environmental education. All of them include "values" as an important component; in fact, it is the emphasis on values that distinguishes environmental education from the scientific study of ecology.

Steve VanMatre of the Institute for Earth Education has worked with youth for

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some years and developed his own approach to environmental education. He identifies

three key components of environmental education: understanding (i.e., ecological and

biological sciences), awareness (the processing of environmental values) and action

(conservation and restoration projects, recycling programs, etc...) (VanMatre, 1990).

VanMatre includes outdoor education and woodland retreats in his programs, where it is

easier to see how the personal lifestyle choices of the relatively affluent people of the

West negatively impact upon the environment. Other educators have developed more

formal programs for use in public schools.

Harold Hungerford of Southern Illinois University has been instrumental in

developing models of environmental value development and curriculum goals for

environmental education over the last decade. Hungerford, R. Ben Peyton, and Richard J.

Wilke (1980) formulated goals for environmental education curriculum development in

primary and secondary schools. They responded to a perception that environmental

education in the United States was designed, too often, according to the intuitions of

individual instructors, rather than according to any firm theoretical foundation or clear

and reliable organizing principles. The authors provide a curriculum plan that can assist

teachers in designing lesson plans for their classes. Hungerford, Peyton, and Wilke

propose the superordinate goal that environmental education "aid citizens in becoming

environmentally knowledgeable and, above all, skilled and dedicated citizens who are

willing to work ... toward achieving ... quality of life and quality of the environment"

(1980, p 43).

They divide environmental education into four levels: Ecological Foundations, Conceptual Awareness of Issues and Values, Investigation and Evaluation, and Environmental Action Skills. Each of these levels is further broken down into the components that would be minimally required for thorough environmental education. For example, Ecological Foundations would include discussions of individuals and populations, energy flow and material cycling, homeostasis, plant succession, and man's role as an ecosystem component. Issues and Values would include the impact of cultural activities on the ecosystem, the impact of individual behavior, the role played by human values in making decisions affecting the environment, and the need for citizen action.

Another environmental educator, Mike Weilbacher (1991) of the Pennsylvania Alliance of Environmental Educators, has put forward a general plan for schooling K-12, specifying which areas ought to be emphasized for each stage in the development of youngsters. For example, in elementary school the emphasis is on "nature study", in junior high on the sciences, and in high school on "action and advocacy." A similar approach is found in Andrew Slade's, "A Developmental Sequence for the Ecological Self", which extends the work of Piaget and Kohlberg from childhood development to environmental ethical development (Slade, 1992). The later stages of Slade's proposed sequence include everything from puberty rituals to "Intuitive Unity with Nature."

It is safe to say that these latter proposals depart from conventional wisdom concerning the nature and function of schools. While Weilbacher and Slade do admirably explain their theoretical sequences of environmental value development, the question of

the political nature of values remains unaddressed. Essentially, these theories take for granted connections between public school education and value formation on the one hand, and between scientific studies of ecology and environmentalist values on the other. Even VanMatre and Hungerford, et al., who recognize that values and politics are an important part of the environmental education puzzle, do not treat the question of values in sufficient depth. They erroneously assume that there is broad consensus concerning the definition and usefulness of environmentalist values.

The environmental educators have not given an adequate account of the school in these theoretical models. For example, it is unusual for a school board to encourage "environmental advocacy" on the part of students. School boards tend to be conservative and stress the importance of learning writing, mathematics, and "hard sciences", as preparation for competition in the "global marketplace"; they have done so at least since A Nation At Risk was published in 1982 (Carnoy and Levin, 1985). Any emphasis on environmentalist values may trouble conservative school board members who subscribe to the widely held view that such moral education is beyond the proper role of the school (Iozzi, 1989). On the other end of the political spectrum, the functionalists argue that because schools serve to reproduce the dominant values of society in their very structure, they cannot establish a new progressive values agenda. Ivan Illich (1971), for example, argues that the school represents the compulsory subordination of the child's intellect to institutionally certified authority. These structures of values implicit in the school system are inimical to environmental values.

Michael Caduto has tried to shed some light on the question of environmental

values education, but in the end his account reveals the general confusion and incomplete

reasoning prevalent in the field. Caduto observed in environmental values education a

lack of clear direction, conflict between proponents of competing theoretical frameworks,

and, frequently, a lack of either theoretical foundation or empirical study of different

methodologies (Caduto, 1983a). He helpfully enumerates seven types of environmental

values education strategies and compares the different approaches according to their

theory and application. Unfortunately, Caduto is not familiar with current philosophical

understandings of the nature of values. For example, he is unclear as to the difference

between "moral realism" (the belief that moral statements refer to *real qualities* of the

world, rather than *opinions* about the world) and the verifiability of what values

Americans hold. He writes:

> The United States has a moral foundation of firm belief in ideal,
> objectively verifiable values. These values are rooted in the thinking of
> values objectivists and in the religious beliefs of the founding fathers,
> which are in turn strongly influenced by the ideas of John Locke during
> the Enlightenment (Caduto, 1983b, p 13).

This is plainly confused. What is an objectively verifiable value? Normally,

philosophers make a basic distinction between (objectively verifiable) *facts*, and

(subjective) *values*. Liberty, justice, and equality are all values that Americans aspire to

uphold, but one cannot "verify" them except by appeal to our cultural and moral tradition,

which is hardly "objective" in the sense that is meant here. If these values are indeed

grounded in the "religious beliefs of the founding fathers" they cannot be defended as

"objective," i.e., free of special bias.

Later, Caduto writes, "Moral education *is* partly inculcation in the earlier years -- inculcation in the ideal values of American society -- not the personal values of a particular educator" (Caduto, 1983b, p 15). But Caduto misses an important problem here. Which version of American values is being taught? The values exhibited by the robber barons of the nineteenth century, child labor, slavery, and the extermination of the Natives and expropriation of their land; or the values enshrined in the Declaration of Independence, that *all* men are created equal, and have rights to life, liberty, and the pursuit of happines? Neither set of values is "objectively verifiable", and indeed, educators must follow some interpretation of the "facts" of American history in order to give an account of the values of American society.

We can perhaps agree with Caduto that values education consists of inculcating young children with the generally agreed upon values of society, putting aside the question of their objectivity for the moment. Teaching older "morally autonomous" learners requires a different strategy, since their moral and intellectual faculties have developed to the point that they can evaluate information and make judgments of their own. Predictably, Caduto argues that environmental values education at this stage requires some component of "action": "outdoor experiences... foster a strong sense of identity with the natural world. This experience provides a sharp contrast to the highly technologically dependent lives that many learners live" (Caduto, 1983b, p 16).

The problem of "environmental action" in the classroom was raised earlier with

regard to Weilbacher and Slade: given the political nature of school boards, it can be expected that "environmental action" will be met with strong resistance in many schools. Furthermore, while there is nothing wrong in principle with taking students outside, to the extent that outdoor education is an anomalous experience, and to the extent that learners are "technologically dependent", the experience will not be assimilated into their daily lives. That is, if learners interact with their world primarily through devices and hard technologies, and contact with nature is merely a "field trip", a temporary diversion, then outdoor experience may not carry the weight that Caduto and other environmental educators are hoping for.

The ultimate flaw in Caduto's account is that, while it directly addresses values, it avoids the political task of explaining which values ought to be taught and why. Caduto wants to teach *environmentalist* values, but struggles to keep up the appearance of neutrality by discussing at some length various models and strategies by which to teach values *in general.* Again, we are confronted with the political nature of values, yet Caduto simply does not address this important issue.

The models of environmental value development proposed by educators generally take for granted that the environmentalist values which *they* espouse ought to constitute the foundation of all public education. One research team set out to discover what factors contribute to "responsible environmental behavior," and work up a model for the interplay of these factors. Such a model, they reasoned, would provide educators with a rational basis for designing classroom activities and evaluating curriculum outcomes.

Jody M. Hines, Harold R. Hungerford, and Audrey Tomera (1986) performed a "meta-analysis" on existing research in environmental behavior. The authors compiled and investigated 128 studies in environmental behavior, and determined the relative strength of association between numerous variables and "responsible environmental behavior." While the meta-analysis does not account for interactions among variables, the model of behavior it suggests seems sound. (See Figure One)

The model shows that people are most likely to act in an environmentally responsible manner if they posses "action skills", "knowledge of action strategies", "knowledge of [environmental] issues", and certain "personality factors." Together, these factors inform the intention to act, which, when given expression in specific concrete situations ("situational factors"), results in responsible behavior. Interestingly, these factors match up well with the educational components endorsed by the Tbilisi conference and with the curriculum model proposed by Hungerford et. al. in 1980. Each model incorporates at least three fields which could be relabeled as follows; ecological/ science knowledge, citizenship action skills, and personal environmental values. In fact, the main flaw with the model of environmentally responsible behavior is that it merely confirms the obvious. As can be seen throughout the literature of environmental education, teachers agree that knowledge, citizenship, and values are indispensable and interconnected components.

However, in the Hines-Hungerford-Tomera model, as throughout the literature, there is little explanation of how one inculcates the appropriate "personality factors" in
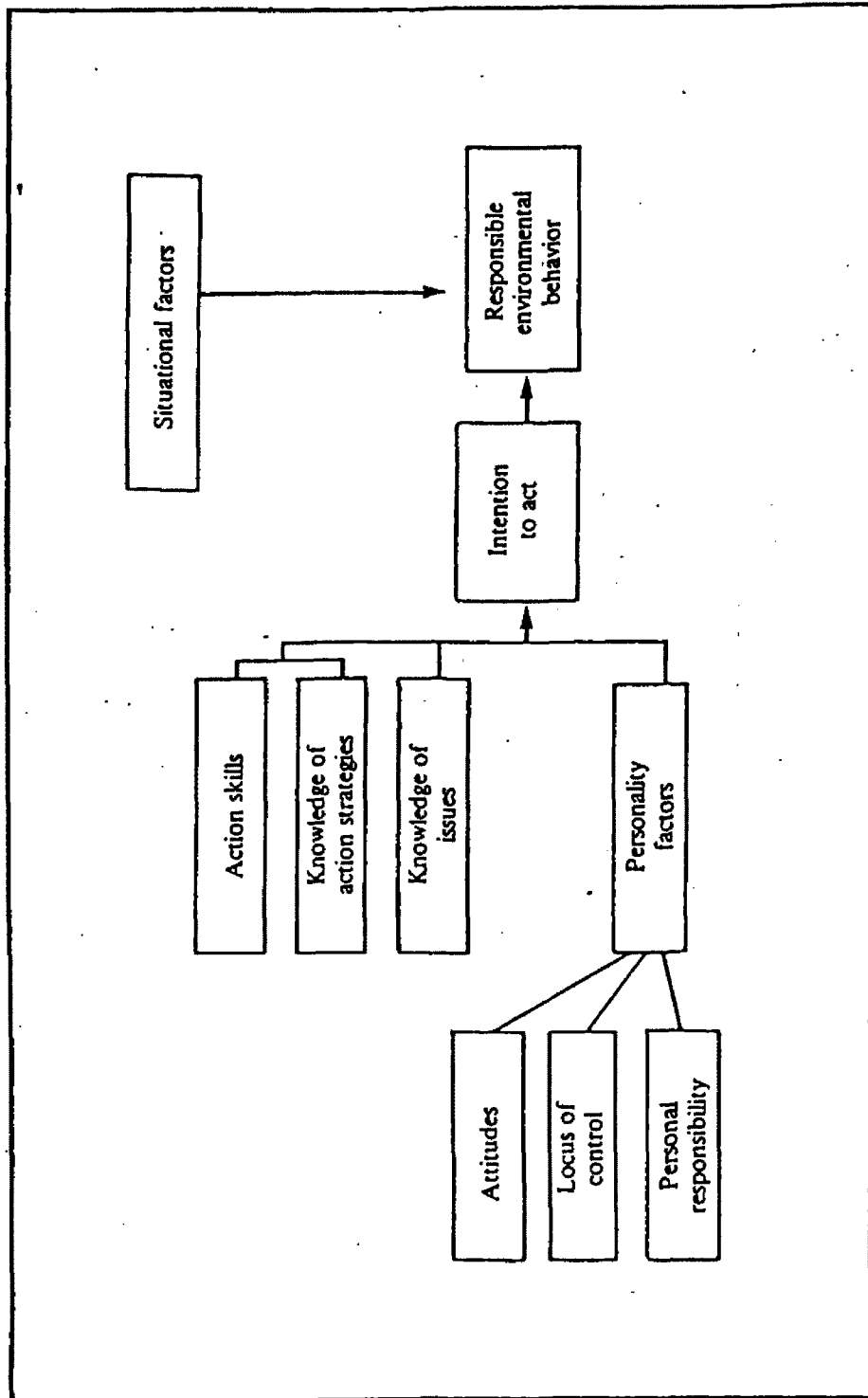
Figure One: Model of Responsible Environmental Behavior

(After Hines, Hungerford, and Tomera, 1986)

children. Granted that children's attitudes toward the environment, beliefs about the "locus of control", and sense of personal responsibility make up the personality factors, but the model does not help us to make decisions about how to teach these "factors." The authors of the study write:

> Curricular and instructional strategies which effectively lead to the development of environmentally responsible individuals have not been implemented in our school systems. One of the major impediments to the accomplishment of this goal stems from the lack of knowledge of those factors which have formative effects on the development of environmentally responsible behavior (Hines, Hungerford, and Tomera, 1986, p. 1).

In other words, the authors have a firm belief that the right curriculum will result in "the development of environmentally responsible individuals" (Hines et al, 1986, p. 2). But this is a fairly optimistic view of education, in which children and curriculum form the input and environmental responsibility is the output. (The view that the school can serve as an organ of environmental value development will be addressed further in a later chapter concerned with the functionalist critique of the school.)

In a later paper, published in 1990, Hungerford and Trudi L. Volk observe that "[e]nvironmental sensitivity is a particularly troublesome variable for many educators who understand its importance. The variables associated with sensitivity are often not associated with formal education" (Hungerford and Volk, 1990, p. 14). The research of Louis Iozzi (1989) confirms this. His work indicates that while the affective, or emotional, domain can be considered the gateway to developing environmental sensitivity, the connection between the affective and cognitive aspects of education

remains a mystery. In other words, while all educators can agree on the importance of values, *they fail to agree on a clear way to develop values* in accordance with a curriculum model. Research has shown that a learner's environmental sensitivity (i.e., their personal environmental values) are most often formed by outdoor experiences repeated over long periods of time such as hunting, fishing, camping, and the like. Hungerford and Volk state that in addition to such outdoor activities repeated throughout a lifetime,

> Numerous sensitive individuals reported that some experience with severe environmental degradation substantially increased their environmental sensitivity. Some sensitive individuals reported the importance of teachers who acted as sensitive role models for them. Others reported being raised in an environmentally sensitive social environment. *Only a few reported the importance of educational courses or books.*
>
> If these research studies are to help us make educational decisions about developing environmental sensitivity, it seems important that learners have environmentally positive experiences in nonformal outdoor settings over long periods of time. And in the formal classroom, we must look to teachers who are, themselves, sensitive and willing to act as positive role models for learners. *Both of these conditions, for millions of learners, are hard to meet* (Hungerford and Volk, 1990, p. 14, emphasis added).

In the final sentences of these two paragraphs we find reference to the main challenges to effective environmental education in this country, challenges about which the experts in environmental education are strangely silent: (1) the secondary importance of formal education, and (2) social and economic inequality. Hungerford and Volk admit that school course work and book learning are not the most effective ways of developing environmentally responsible behavior, yet, these environmental education experts must

advocate such curriculum and school centered approaches to education. Otherwise, the relevance of their own continued employment becomes questionable. Furthermore, they imply that unequal educational opportunities exist for our children. It can be assumed that only wealthier districts can afford the specialized education described so well in the models proposed by Hines, Hungerford, VanMatre and others. Indeed, "millions of learners" are left out of the picture by these models of environmental education which include neither a model of the distribution of educational resources in this country nor a model of the nature and function of the school in our society.

But before an attempt is made to develop such an alternative model of environmental education, the question of environmental values deserves further attention. Environmental values educators believe that they have an important role in shaping the values of the learners in their care; that has been clearly shown. Some propose "values clarification," an instructional method in which students are asked to consider how their actions and behaviors embody their beliefs and values (Knapp, 1983). Others believe a more radical approach is needed. There is good evidence that students today have *less* sympathy for environmentalist agendas than they did twenty-five years ago. For example, surveys of Cornell University students conducted in 1971, 1981, and again in 1990, found that students in 1990 were less willing to give up personal comforts and luxuries for a better environment, less likely to believe that resources in the United States are limited, and more likely to describe themselves as politically conservative, than were the students in either 1981 or 1971 (Gigliotti, 1992). Such trends have encouraged a

backlash of sorts among professional educators who believe education must serve as a challenge to the values expressed by young people.

C. A. Bowers argues that our children ought to be prepared for a future in which environmental conflict will be the dominant issue. This requires that our schools produce young "deep ecologists." Bowers does not acknowledge that convincing the rest of the population of the truth of deep ecology will be a problem. He provides a sweeping condemnation of those values of Western culture which, he claims, result in an ecological unsustainable society, and suggests that we reconstitute society with an admixture of values borrowed from "ecologically sustainable cultures." Bowers' virtue, compared with other environmental education theorists, is that he is willing to tackle the issue of values in some detail, and spell out the deep changes he feels are necessary. Unfortunately, his project is fraught with inconsistencies and difficulties endemic to utopian political visions.

Under the banner of multiculturalism, Native American environmental ethics have been touted as an alternative value framework available to us as we attempt to reform our environmental values. But there are limits to the applicability of the animistic beliefs of subsistence cultures to the lifeworld of students in a technologically advanced industrial society. We must strike a balance between honoring the traditions of native people and trying not to misappropriate their beliefs for criticism of the economics, politics and ethics of our own culture.

The next chapter introduces and examines these two challenges to the dominant

values of American culture and establishes the limits of their usefulness. It will further

prepare the ground for a model of environmental education which can incorporate a

critique of values with a model of the school as a functional institution of modern society.

III. CHALLENGING AMERICAN VALUES IN THE SCHOOL

In <u>Educating for an Ecologically Sustainable Culture</u>, C. A. Bowers explores the

implications of environmental values education in greater depth than any educational

theorist examined so far. He is not satisfied with the formulations and models offered,

for example, by Hungerford and Volk. It is not enough to examine which of several

consumer choices is most "environmentally responsible" and develop a model of how

people might decide among these choices. One must deconstruct consumerism itself.

According to Bowers' understanding, the myths and ideologies which undergird

modernity, such as the belief in the political and moral primacy of the individual and the

belief in the progressive nature of social and technological change, are responsible for the

environmental problems we face today. Consumerism, an artifact of Enlightenment

ideologies, fuels exploitation of resources and pollution of the environment; we have

reached the point that our economic growth far exceeds the level which the Earth's

ecosystems can sustain.

Because our fundamental cultural belief system underlies our unsustainable

lifestyle, we must, in Bowers' words, "reconstitute the deep foundations of culture." He

advocates an "eco-centric" approach to learning, in which the individual learner is

understood as nested within the cultural system, and the culture is understood as nested

within the natural system. This differs from the standard models of school psychology in

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which each student is thought to be an autonomous individual who must construct a new picture of the world for himself out of the raw data of the world. This standard approach is born out of the scientific-rational understanding of intelligence, and it reinforces the view that nature exists as a "natural resource" available for exploitation by man.

Bowers notes that the meta-narratives of aboriginal or traditional cultures are illuminated by a completely different understanding of the cosmos, and the place of humans within it, than is our modern ideology. He describes them as "bio-conservative." Unlike our restless modern culture, which values novelty and change, traditional cultures pass folk knowledge of how to live within the local ecology from the elders to the youth.

Bowers believes that educators have failed to see that the methods by which we teach students are responsible for reproducing behaviors and cultural practices which undercut and degrade the environment. There are latent anti-ecological messages throughout the curriculum. Bowers argues that these these must be clarified and challenged in order to rebuild education upon a new ecological epistemology.

> The irony now is that our own progress toward a land ethic is being obstructed by the cultural pattern of an individually-centered rational consciousness that helped to produce the forms of technology and consumer lifestyle that are now subverting the few remaining examples of ecologically sustainable cultures (p. 25).

The objectionable cultural pattern of individualism is the basis for our current understandings of intelligence and our epistemic models; that is, our models of how children learn. Bowers wishes to replace these understandings with his ecological model

of intelligence.

He similarly argues that there is a link between creativity, as conceptualized by the modern West, and environmental destruction. Creativity in our culture is anthropocentric self-assertion reinforced by dominant cultural themes of change, experimentation, and relativism. Bowers contrasts our modern notion that creativity is the self-expression *of autonomous individuals* with a more traditional notion that creativity is the symbolic expression of the sustainable lifeworld *of a culture*.

Bowers would like us to see intelligence as a linguistic and conceptual system that functions within the nested systems of culture and ecology. The three nested systems are "cognitive systems" -- they are composed of many bits of "data" organized in dauntingly complex interrelationships. The authority of the autonomous individual is a modern dogma that goes back to Descartes' <u>Meditations</u>. In the modern West, the authority and autonomy of the individual in matters intellectual, political, spiritual, and moral, is thought to be a social expression of progress and modernism. This modern orthodoxy is the main target of Bowers' critique. He shows that eductional psychologists, almost universally, adopt a modernist view of intelligence: the intellect is the organizing principle *of the individual learner* which arranges a chaotic mass of sensory data into a world. Bowers points out that, contrary to the cognitive models of educational psychologists, the student encounters "encoded cultural symbols" in the language he speaks and the very structure of his experiences as a modern person. The modernist metaphors of educational psychology -- in which the autonomous learner constructs

knowledge out of the data of experience in individually expressive and creative ways --

ignore the importance of culture and language and reinforce behavior which is

·"ecologically stupid."

Bowers' solution to this problem is to institute a curriculum which "foregrounds"

the dependency of humans on natural systems, and the cultural patterns which now

threaten these systems. The interpretive framework of our culture does not fit the

ecological truth, or "the map does not fit the territory". He writes:

> An ecological view of intelligence would use the long-term sustainability
> of the Earth's ecosystems as the primary criterion. Unintelligent behavior
> would then be seen as any behavior, way of thinking, and moral judgment
> that degrades the environment (p. 132).

In other words, the new criterion of intelligence will be, in essence, Aldo Leopold's Land

Ethic. Teachers of this reformulation of education, based on an ecologically centered

model of intelligence and culture, will have two basic responsibilities: (1) to provide

learners with a historical self-understanding, understood as a critique of modern

unsustainable practices, and (2) to identify and include in the curriculum any sustainable

practices of both the dominant and marginal cultural groups.

While he certainly seems to strike at the heart of the matter, it is not so clear that

any of Bowers' proposals will work, or even that his criticism of modernity is accurate.

In Crossing the Post-Modern Divide, philosopher Albert Borgmann also considers the

implications of the playing out of the dogmas of modernism. He, too, identifies the

threats of ambiguous individualism, and of aggressive (scientific) realism. But he

concludes that we must take up with our cultural traditions in a patient and vigorous way rather than attempt to reconstruct our culture from the ground up. We must recognize and cultivate what is of value within our culture, and, with courage and patience, attempt to remedy what is faulty or aberrant within it.

But Bowers would have us build a whole new culture whose values are apparently borrowed from primitive groups from around the world. There is a fundamental inconsistency that pervades his book. On the one hand, he condemns modernism and its restless experimentation, innovation, and change, while on the other hand, he advocates that we "reconstitute the deep foundations of culture" and adopt a "ecological" moral system which came into existence no more than sixty years ago. The idea that we must break with the past and reinvent the foundations of culture is the *sine qua non* hallmark of modernism! Even though Bowers may think that this change represents a return to ancient wisdom, would it not be experienced as the most radical cultural experiment in history? The utopian character of his thought is revealed in the fact that he does not concede the political difficulties of his ecological-moral-educational program until three pages from the end of the book. (At which point, we ought to note, he complains that he cannot find enough funding for his research.)

Bowers is mistaken to take the models of educational psychologists at face value. Because they claim that their curriculum programs successfully create independent autonomous individuals does not make it so. Our children are notorious for their lagging behind other children of the world in science, mathematics, and languages. Our problem

is obviously *not* a plethora of original creative minds; it is rather that our children are not adequately prepared for the challenges of modern life. Bowers, like most other educational theorists, does not include a model of the school in his analysis. He assumes that it operates as described by professors in schools of education.

Our environmental problems may be severe, but it cannot necessarily be concluded that they are "caused" by our inadequate cultural framework. One could as easily argue that they are "caused" by a deep and universal human tendency to attempt to manipulate the world in order to secure a living which, given our unique historical circumstances, may have gotten "out of control". Ultimately, Bowers, like other environmental educators, offers a shallow explanation of why we ought to embrace deep ecology as the basis of our values. He insists on the final truth of his philosophy, but *in principle* cannot show that his ecological value system will save either us or the environment. As an instance, he follows the general trend in environmental education in asserting that the long-term sustainability of the Earth's ecosystems must be the criterion of the moral validity of our culture. But no competent ecologist would attempt to give a complete description of what "sustainability" is. For example, an ecosystem could be sustained with the loss of some of its component species, or a rearrangement of their population distributions. Which losses or rearrangements would be acceptable to the new ecological morality as taught by Bowers? Ecosystems may be sustained over periods of time that appear long to us, but in "ecosystem time" are the blink of an eye. So the question becomes, sustain *which parts* of the system over *what period* of time and for

whose benefit. Shall we all adopt the "sustainable lifestyles" of aboriginal groups, or is some commercial scale resource extraction permissible? Will a large human die-off be necessary to preserve the dissappearing butterflies? Not enough is known about ecology to base a moral system on it. "Sustainability," however defined, does *not* represent a solution to the difficult political decisions we will inevitably face.

The value of Bowers' work is that it identifies some ingrained cultural patterns that work counter to environmental sustainability, but his solution is both too radical and not radical enough. It may be too much to ask that we revolutionize culture in the name of sustainability, given that Bowers never adequately defines it. On the other hand, the disproportionate control of the Earth's resources by a handful of wealthy corporations does not enter into Bowers' analysis of environmental problems. One would think that since corporations exercise considerable control over natural resource use, one would include them in a solution to the environmental problem, but Bowers mentions them only in passing.

David Orr, in his 1992 book <u>Ecological Literacy: Education and the Transition to a Postmodern World,</u> also describes an impending crisis of ecological unsustainability. His work evokes the challenges faced by environmental education but allows them to remain *dilemmas.* Because Orr does not claim to give prescription for "fixing" the problem, his work is able to remain both more speculative and more convincing. He outlines six steps necessary to developing "Land Ethic" which imply a very different notion of education than the one Bowers assumes. For example, Orr states that the

development of a Land Ethic requires experiences in the natural world and the development of practical skills related to agriculture, construction, economics, and humanistic studies. All these skills are woven into conception of a sustainable culture.

Bowers has instead settled on resolving the inadequacies of public school education for the solution to the environmental problem, but he does not show that the school *causes* the problem. Bowers does not include a complete or convincing model of the school; anti-environmental modern dogmas may exist in the curriculum, but that is an insufficient description of the school as a social institution. Two steps remain before such a description can be developed.

Bowers believes that aboriginal cultures can provide us with ecologically sustainable world views and behaviors. This belief, no doubt influenced by the popularity of multi-cultural education, ought to be examined in greater detail. Whatever else is said about it, multi-cultural education is certainly conceived as a challenge to the dominant values of American society. According to Christine E. Sleeter and Carl A. Grant (1988), "multi-cultural education is the popular term educators increasingly use to describe education policies and practices that recognize, accept, and affirm human differences and similarities related to gender, race, handicap and class" (p. 137). Such recognition and affirmation would not be necessary if the dominant culture were not ignorant of or hostile to these differences (Sleeter and Grant, 1988, p. 149). The storms of protest and vitriolic political rhetoric sparked by multi-cultural education are good evidence of this hostility. One of the important functions of multi-cultural education,

according to its proponents, is to provide knowledge of the many alternatives to our current social structure. A culture based on an ecological morality could be one such alternative. Many environmental educators, Bowers included, have suggested that we have a great deal to learn from the ethics and cultures of the Native Americans, the original inhabitants of this continent.

This raises the problem of determining what kind of ethics Natives have (or had). In examining the literature, it is found that there are some broad, general themes common to most Native American ethical traditions. However, ethical beliefs are tied up intimately with lifestyles, subsistence patterns, tools, and the material and social realities of a society generally. For this reason, we should be careful when abstracting isolated features from Native American societies. While some authors may wish to characterize Indian environmental ethics as "biocentric" or "bio-conservative" in contradistinction to "anthropocentric", we must also realize that Native Americans had no such categories. At some point, we may cross the line from describing and documenting the beliefs of traditional cultures to categorizing them in our own terms and misappropriating them.

Early in the environmental movement, people began to use the image of the American Indian as an illustration of a "better" way of living on the Earth. The Native American was dubbed the "First Ecologist" by former Secretary of the Interior Stewart Udall (1972), and perhaps worse, the "Child of Nature" by Fred Fertig (1970). Writing in the Sierra Club Bulletin, Fertig meant to say that Indigenous Americans had some knowledge which we lack, and so pay them a complement. But he also held that the "Red

Man" lived in a "perfect symbiosis" with nature and that changing things in the environment was a practice invented by Europeans. For all his credentials as an ecologist, the Native American is ultimately portrayed as a passive inhabitant of the "wilderness" (Fertig, 1970). Today we know that Native Americans were in fact responsible for the environmental conditions "discovered" by Europeans. For example, in New England, the colonists marvelled at the open, "park-like," stands of very large old trees; they did not recognize that the periodic burning of the forests by the natives directly caused this particular pattern of growth (Cronon, 1983). Indeed, the colonists thought it to be further evidence of their "savagery."

Leslie Sponsel (1988) claims that "cultural ecology provides a critique of the environmental ideas, actions, and consequences of disequilibrium societies (industrial nations) and a corresponding defense of equilibrium societies" (p. 36). That is, the study of traditional societies, thought to be in "equilibrium," shows us a better way of leading our lives, at least with regard to the environment. We are surprised to find that traditional cultures have "relatively negligible" impact on their environment (Sponsel, 1987, p 37). That this claim was made in the Journal of Environmental Education just eight years ago, illustrates the shallow understanding of native cultures -- and the role they took in shaping their environment -- prevalent among educators. To ignore the fact that environmental conditions throughout the Americas were frequently an artifact of human culture perpetuates the myth of the Noble Savage living in the "pristine wilderness." It is certainly not in the interests of native cultures to "defend" them by mischaracterizing

their environmental behaviors. Nor is it appropriate to criticize one culture by reference to another culture, as this defies the principle of cultural relativism, the indispensable foundation of anthropology. Just is it is inappropriate for an anthropologist to criticize an aboriginal culture for its lack of modern technology or European social institutions, it is inappropriate to criticize modern Europeans for a lack of stone-age technology or aboriginal social institutions.

The point here is to define, carefully and critically, the scope and purpose of our inquiry before we actually examine what environmental ethics Native Americans may have espoused. We wish to describe the actual beliefs of Native Americans, not of Mythic Americans, and to consider how these ethical traditions can deepen our understanding of the environmental values crisis. At the same time, we must understand that environmental history is linear, and that we cannot return to a life-style suited to environmental conditions which no longer exist.

J. Baird Callicot is the most prominent environmental philosopher who has explored the usefulness of the application of American Indian ethics to our own environmental situation in detail (Callicot, 1982). He outlined Native American and European attitudes toward the environment and characterized them as follows. The Western tradition imagines nature to be essentially mechanical and material: a substance without spirit. The Native tradition, on the other hand, imagines nature to be a society or group of societies, made up of intelligent living beings, each of whom has a spirit. "The former picture invites unrestrained exploitation of nonhuman nature, while the latter

provides the foundations for ethical restraint in relation to nonhuman nature" (Callicot, 1982, p. 293). The preponderance of ethnographic studies show that Native Americans envisioned themselves as living in a community of animals that were their very kin. To the indigenous understanding, it was necessary to maintain good social relationships with all the beings of the natural world in order to secure a good livelihood and to avoid sickness and other forms of bad luck. While natives certainly manipulated their environment, they also recognized that "[t]he world around ... is bound together by bonds of kinship, mutuality, and reciprocity" (Callicot, 1983, p. 306). Callicot (1983) points out that the American Indian "representation of nature is more animistic and symbolic than mechanical and functional" (p. 309). This interpretation is very significant, for it undercuts the description of the Native American as the "First Ecologists;" Native Americans did not practice ecology in any formal sense, because their detailed understanding of their landscape was imbued with symbolic and spiritual significance. Their "ecology" was the religious practice of subsistence.

Callicot butts heads with Calvin Martin, author of <u>Keepers of the Game: Indian-Animal Relationships and the Fur Trade</u>, over the relationship of native spiritual beliefs to Aldo Leopold's "Land Ethic." Essentially, Callicot shows that while Martin details the complex social, spiritual, and kinship relations between natives and game animals, he mysteriously refuses to allow that these relations constitute a moral or ethical relationship (Callicot, 1983). Callicot suggests that Martin may have some special technical definition of "ethics" in mind; perhaps the lack of a Kantian "categorical imperative" in

traditional tribal reasoning marks the absence of an ethical relationship for Martin. But on a wider, Humean account of ethics it is clear that Indigenous Americans understood themselves to have reciprocal moral arrangements with animal societies. Furthermore, Callicot argues, there is no reason not to acknowledge, as Martin does not, a strong similarity between the native notion of a community of natural beings and Aldo Leopold's Land Ethic, which calls precisely for an expanded notion of the moral community, one which will include animals, plants, soils, and even water and the atmosphere.

A very important observation that Callicot makes, and that environmental values educators ought to pay heed to, is this: "The facts of history and everyday experience do not support any simple cause and effect relationship between a given conceptual and valuational set and what people do" (Callicot, 1983, p. 308). This means that, for example, changes in environmental "attitudes" or "values" among school students may not readily translate into a new and non-exploitative relationship to natural systems.

Similarly, Jeanne Kay (1985) argues that while native fur trappers around Green Bay largely maintained their religious and spiritual beliefs in the early period of European contact and during the fur trade, they also over-hunted and depleted their game resources. Their "nature-oriented" religion did not restrain them in the face of a complex of other social and environmental changes. The lesson is that there is, in fact, no way to predict human behavior with any accuracy when given a presumed set of "values."

George Bird Grinell, one of the founders of modern conservation, established

lasting and friendly relationships with many plains tribes in the late nineteenth century. Based on his long experiences living among them, he said, "The Indian's life was passed in the open air and in close contact with nature. He drew his sustenance from the Earth and from the wild creatures that lived upon it" (quoted in Cornell, 1985, p. 111). It is safe to say that for Native American tribal cultures, "[h]unting, gathering, and planting were all governed by spiritual regulations which dictated environmental use" (Cornell, 1985, p.107). The emphasis of their rituals and beliefs was on *renewal*: the continued return of game animals, or crops, or life generally.

Two things must be noted for our line of inquiry. First, there is a well documented connection between the "values" or environmental ethics of Native Americans and their subsistence lifeway. In fact, there is no practical difference between the two. Indigenous people did not employ "professors" or "educators" to define and delimit "environmental values," while practicing a way of life predicated on massive exploitation of the natural world. Rather, they lived in accordance with the religious teachings of their specific community through the practice of clothing and provisioning themselves.

Second, while these beliefs and lifestyles generally provided for native people, Native Americans were also capable of over-using and depleting resources. Native agriculture could and did exhaust the soil, native fires could and did burn out of control, native trapping could and did deplete wildlife (Cronon, 1983, Kay, 1985). Native American environmental beliefs did not represent a solution to and resolution of all

environmental problems, but rather, a clever way of living in a particular place at a particular time.

Having clarified, to some extent, the broad outlines of native American environmental ethics -- noting the way in which these ethics are tied up in the cultural milieu of indigenous people -- and having examined the ideas of environmental values educators, we can further evaluate what connections may exist between them. The arguments of Bowers and of Native American multi-culturalists have a sympathetic audience among environmental educators. But the critical functionalists strongly challenge assumptions which that audience makes concerning the social and political function of the school in American society.

IV. CRITICAL PERSPECTIVES ON EDUCATION

In order to deepen our understanding of environmental values education, this chapter will examine a number of authors who criticize the socializing role of the school. There are three well-recognized traditions in educational theory which explicate the structure and meaning of a "hidden curriculum" in the public school: the structural-functional, the social-phenomenological, and the radical-critical or neo-Marxist schools of thought (Giroux, 1983a). The structural-functionalists explored the ways in which the very structure of the school experience inculcates children with the values and beliefs necessary to the smooth functioning of society. The social-phenomenologists have added to this general framework a more dynamic model of student behavior, which recognizes a more active role for the student in the construction of knowledge, norms, and behaviors in the school. Finally, neo-Marxists argue that the school serves to reproduce and maintain the dominant ideology of capitalism: indoctrination in the school conditions students for entry into an oppressive and unjust economy.

Collectively, these critics have argued that the school, as an institution of the democratic-capitalist state, prepares students according to the needs of the state and the labor market by accommodating them to a particular set of demands and expectations ("values," in a wide sense of the term). Teachers represent institutionally certified authority, and students are subordinate to them. Students are expected to fill a seat for up

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to eight hours a day, with minimum attendance standards, and respond to the bell when it is time to change classes. They are expected to complete specified tasks on time. The division of time and distribution of assignments parallels that in the work place, and the teacher is the "boss." Social critic Ivan Illich has long been one of the most influential and persuasive proponents of these views. His understanding of the role of the school within the larger society is broad and compelling.

In Deschooling Society, Ivan Illich argues that an early life of schooling creates dependency on institutionally certified experts for the provision of essentially free goods, such as knowledge. Schools serve to confuse the *substance* and *process* of education in the minds of the public; young people "go through the motions" of institutionalized learning, but do not necessarily become "educated." School is really designed to accustom students to social roles, which may later be the basis of job selection; it is not well designed to impart skills or insights. In Illich's words, the student is taught to accept a *service* in the place of a *value*; we are conditioned to accept education at the hands of teachers, rather than to value learning itself or to develop our own interests. Illich writes:

> Teaching, it is true, may contribute to certain kinds of education under
> certain circumstances. But most people acquire most of their knowledge
> outside of school, and in school only insofar as school, in a few rich
> countries, has become their place of confinement during an increasing part
> of their lives (1972, p. 12).

For example, worldwide, most people who speak a second language well do so because of odd circumstances, not because of schooling. Perhaps they stayed with their grandparents in the summers, or they have travelled extensively, or they fell in love with

a foreigner. At any rate, most bilingual people in the world gain their proficiency by merely living their lives, not by attending school.

Illich sees teaching as a "disabling profession," one that undermines the ability of ordinary people to provide things for themselves. For example, we depend upon doctors to treat our illnesses with drugs and technology, rather than taking care of ourselves in the first place through proper diet and exercise. We require expensive equipment to listen to the recordings of professional musicians, rather than acquiring a few simple and cheap instruments to make our own music. The professionalized institutions of industrial society serve to cut us off from our naturally broad range of skills and pursuits, and so we come to depend on the institutions which oppress us to "care" for us, to attend to those needs which we are increasingly unable to meet ourselves. In fact, professional experts have turned "the state into a holding corporation of enterprises which facilitates the operation of their self-certified competencies" (Illich, 1977, p. 16). Illich enjoins us to adopt a "skeptical and patronizing attitude toward experts" (1977, p. 14). Professional educators have monopolized learning; they determine what must be learned, and because they discount what is learned outside the school, they come to be the sole proprietors of institutionally recognized educational authority. As individuals progress through various stages of schooling, they are evaluated by the proper authorities and certified for an appropriate slot in the social machinery.

One implication of this interpretation of the school is that curriculum content is relatively unimportant in the larger picture of the school experience. Students do not

learn primarily spelling, writing, mathematics, science, or environmental values, except in a very compromised way. Mostly, students learn how to behave toward authority, how to interact with peer groups, how to evade punishment, how to attract a mate, and so on; they learn a number of social skills indifferent to course content. Most importantly, they learn that we all depend upon professionals and bureaucracies to provide us with "essential" goods and services. This general result is almost guaranteed by the structure of the school experience in an industrial society.

Samuel Bowles and Herbert Gintis pursue a neo-Marxist interpretation of schools and the labor market. They contend that the school is designed, not only to prepare students for the social roles of the work place, but to legitimize the unjust relations of power under capitalism. They observe that,

> [T]he structure of the educational experience is admirably suited to nurturing attitudes and behavior consistent with participation in the labor market ... As long as one does not question the structure of the economy itself, the current structure of schools seems eminently rational (Bowles and Gintis,1976, p.9).

But the labor market is characterized by exploitative social relationships and by class and race inequalities endemic to capitalism, therefore, students must be prepared for assimilation to a "hierarchically controlled and class stratified production system" (Bowles and Gintis,1973, p.20).

Bowles and Gintis document that the years of schooling a person is likely to achieve is better predicted by family income than by childhood IQ (p. 31). Students are "rewarded" with longer years of schooling, and therefore better earning potential, based

not on their "intelligence", but on their family background and income. While inequality in years of education did decline slightly from the 50's through the 70's, inequality in income rose significantly (p. 34), belying the notion that as education of the populace increases, wealth will be distributed to those of the highest "inherent ability." Moreover, according to surveys of students and teachers, teacher approval of students correlates well with student perseverance, dependability, and consistency, but is negatively correlated with student creativity and independence (p. 137). In other words, the school favors the development of a person who can follow the rules and who *needs* outside direction.

The central paradox of education is this: A democracy thrives when there is maximum participation by the majority of persons, when minorities are protected from the prejudices of the majority, and when the majority are protected from any undue influence of an unrepresentative minority. But capitalism thrives upon isolating the majority (workers) from decision making, protecting a single minority (capital owners and managers) from the will of the majority, and subjecting the majority to the maximal influence of the minority (p. 54). Bowles and Gintis remark:

> [T]he failure of progressive educational policy in the United States stems
> from the contradictory nature of the objectives of its integrative,
> egalitarian, and developmental functions in a society whose economic life
> is governed by the institutions of corporate capitalism (1973, p. 45).

The children of wealthier classes are educated in well-funded schools and prepared to assume the roles of managers of the corporate economy, while the children of the "lower" classes are collected in under-funded schools and prepared for lives of "wage slavery."

Furthermore, the school is not capable of establishing a progressive agenda because to do so would run counter to its role in re-establishing the existing unjust class structure of society in each new generation.

Educational theorist Henry Giroux has stressed how the role of the teacher and the distribution of tasks prefigures the future work environment of students. The teacher stands in a position of power, facing a seated classroom. Students are isolated from one another at desks, and perform their work individually. The teacher evaluates their work and passes judgment upon it. Another educational theorist, Stanley Aronowitz, puts it this way:

> The child learns that the teacher is the authoritative person in the classroom, but that she is subordinate to a principal. Thus the structure of society can be learned through understanding the hierarchy of power within the structure of the school. Similarly, the working-class child learns its [sic] role in society. On the one side, school impresses students as a whole with their powerlessness since they are without the knowledge necessary to become citizens and workers. On the other, the hierarchy of occupations and classes is reproduced by the hierarchy of grade levels and tracks within grades. Promotion to successive grades is the reward for having mastered the approved political and social behavior as well as the prescribed "cognitive" material. But within grades, particularly in large urban schools, further distinctions are made among students on the basis of imputed intelligence and that in turn is determined by the probable ability of children to succeed in terms of standards set by the educational system (quoted in Giroux, 1983a, p. 107).

Giroux is in agreement with Bowles and Gintis; he concludes that: "The structure, organization and content of contemporary schooling serve to equip students with the personality requisites desired in the bureaucratically structured, hierarchically organized work force" (Giroux, 1983a, p. 112).

Carnoy and Levin (1985) offer a slightly different account of the school. "Schooling tends to be more equally distributed than capital, income or employment status" in the population, yet schools are structurally and functionally similar to the work place (Carnoy and Levin, 1985, p. 2). This is because schools have a dual role: to produce *both* citizens *and* workers. Schools operate within the spheres of *both democracy and capitalism*, and they reflect the *tension* between the two. Carnoy and Levin point out that, historically, the nature of the schools has changed with the changing needs of the capitalist workplace *and* that movements for progressive school reform have grown up in response. For example, the emphasis on equality and democratization of the '50s through the '70s has given way in the '80s and '90s to an emphasis on gaining a competitive edge in "global markets." Students presumably need a greater familiarity with high technology, computers, and math and science generally. But while growth in the technology sector is high, overwhelmingly more jobs are being created in the service sector: building custodians, cashiers, wait-persons, nurse's assistants, and the like. These jobs are generally unpleasant, with low pay, low respect and usually no benefits. Increasingly, minorities and the handicapped are being relegated to such low wage jobs and to unemployment. Correspondingly, the schools in poor neighborhoods are underfunded, while wealthy districts can afford computers and math teachers. At this moment in the dynamic history of the school, the scales have tipped in favor of education for the needs of capital, rather than for the needs of citizenship.

Jonathan Kozol focuses on the distribution of funds for public schools, rather than

on the structure of the experience itself. Or perhaps, Kozol wishes that we see the structure of the experience as an artifact of unequal funding levels. In the United States, schools are funded according to the "foundation program" widely adopted in the 1920s. It is supposed to work like this: a tax is levied on the value of local homes and businesses. Since a given rate levied in a poor district obviously yields a lower level of funding than the same rate in a wealthier district, the state is supposed to provide sufficient funding to lift the poorer school district to a "foundation level." In practice, a great deal of controversy is generated over what level of funds represents an appropriate "foundation." Usually, in state politics, the wealthier districts have a disproportionate voice in deciding what level is appropriate, or, frequently, "sufficient" or "minimum." Kozol writes:

> If the necessary outcome of the education of a child of low income is
> believed to be the capacity to enter into equal competition with the
> children of the rich, then the foundation level has to be extremely high. If
> the necessary outcome is, however, only the capacity to hold some sort of
> job -- perhaps a job as an employee of the person who was born in a rich
> district -- then the foundation could be very minimal indeed. The latter, in
> effect, has been the resolution of this question (Kozol, 1991, p. 209).

Kozol's book, Savage Inequalities, documents the author's in-depth interviews with teachers, children, and parents in both rich and poor school districts. Kozol travelled throughout the United States, visiting schools in New York, Chicago, St.Louis, San Antonio, Pittsburgh, and many places besides. In many poorer schools he found deplorable conditions: filthy bathrooms, broken windows, peeling paint, caved-in ceilings, asphalt playgrounds littered with broken glass, overcrowded classrooms, under-

stocked libraries, and under-paid and dispirited teachers and administrators. In all his visits, he explored the political struggles in which school administrators find themselves.

Ultimately, he shows that parents in wealthy school districts have advocated funding plans for schools in their states which consistently isolate them from any but the most minimal responsibility to help fund the schools of the poor. This stark reality of the politics of schools in America is made especially clear by Kozol's contrasting the schools of the ghetto and the schools of the affluent suburbs. Frequently, parents in the wealthier districts express the idea that children in poorer schools will not be helped by better funding; their problems are attributable to the inadequate "values" of their minority parents. These parents speak of maintaining "local control" over their schools; they do not want the state to interfere with and degrade their schools. In this way "liberty," "independence," and "efficiency" are placed before "equity" in education. Kozol writes:

> [T]he state, by requiring attendance but refusing to require equity,
> effectively requires inequality. Compulsory inequity, perpetuated by state
> law, too frequently condemns our children to unequal lives (1991, p.56).

According to the Digest of Educational Statistics, while 12.2% of whites live below the poverty line, 33.1% of blacks and 30.6% of Hispanics live below poverty (p. 28). 15% of white students reported being in physical fights on school grounds, while 22% of blacks, and 17.9% of Hispanics did so (p. 149). In general, minority students are more likely to be poor and to face violent conditions at school. Instead of giving these children the extra help they need to succeed in this world, the policies of school administrations

have written them off.

The authors we have examined explicate the political agendas hidden in the school "curriculum" by an application of their own political analysis. The value of their arguments lies in their reconnection of schools to the problems of political ethics and social justice. It may be believed by some that the school is somehow "neutral," that it can impart knowledge to learners, and that they will then grow into autonomous individuals who govern themselves and participate in the governance of the state. That is, of course, the classic liberal model of the self and the school in the democratic state. But the terms "knowledge," "autonomous individual," and "governance" are laden with political and moral assumptions which are themselves the objects of the present critique. The classical liberal model can only account for the growing rift between the rich and the poor and for the inequality of the workplace by claiming that the school is mal-functioning, that it is in need of further "reform." More critical theorists, on the other hand, believe that the school functions exactly in accord with its real purpose: conditioning students to accept the unjust structures of power in a capitalist economy.

Illich believes that such social control is demeaning to human dignity and ought to be replaced by different social arrangements. Illich envisions a "convivial society" in which people use democratic politics and small scale technologies to govern their lives without the social constraints of industrial society. This vision parallels social ecology and prefigures bioregionalism. Concerning education reform, he calls for nothing less than the abandonment of schools as we know them.

> The alternative to dependence on school is not the use of public resources for some new device which "makes" people learn; rather it is the creation of a new style of educational relationship between man and his environment. To foster this style, attitudes toward growing up, the tools available for learning, and the quality and structure of daily life will have to change concurrently (Illich, 1972, p. 72).

He suggests that young people become involved in the community and in the workplace, that they use communications technologies to form "learning webs" with people of similar interests. According to Illich, young people should not be cooped up in an uncomfortable building for hours at a time; this defeats learning. Students ought to be outside, learning about their community and learning the social and technical skills needed to support it. This belief seems to be confirmed by the increasing importance employers place on the internship experience of prospective employees being recruited from colleges. The heart of Illich's critique is expressed in this passage:

> Everywhere the hidden curriculum of schooling initiates the citizen to the myth that bureaucracies guided by scientific knowledge are efficient and benevolent. Everywhere this same curriculum instills in the pupil the myth that increased production will provide a better life. And everywhere it develops the habit of self-defeating consumption of services and alienating production, the tolerance for institutional dependence, and the recognition of institutional rankings. The hidden curriculum does all this in spite of contrary efforts undertaken by teachers and no matter what ideology prevails (1972, p. 74).

Henry Giroux echoes these sentiments, though he calls for the restructuring of the classroom experience, rather than the abandonment of school altogether. He believes that the school ought to develop group solidarity and social responsibility. Small groups of students with team leaders should replace the model of the class built around the teacher.

The "tracking" of students should be eliminated, and grades as a method of evaluation should wither away. The militaristic division of time also ought to be done away with. Students will design their own learning and proceed at their own pace. Giroux explains that

> Students should be educated to display civic courage, that is, the willingness to act *as if* they were living in a democratic society. At its core, this form of education is political, and its goal is a genuinely democratic society, one that is responsive to the needs of all, and not just a privileged few (1983b, p. 351).

Paulo Freire is also concerned with the creation of schooling which functions as emancipatory politics. He describes public education as functioning according to a "banking model;" the teacher deposits information which he has himself researched and organized in the minds of the students and makes withdrawals from them at a later time in the form of a written test. Freire recommends a "problem-posing" model of education in which the teacher is a facilitator who helps the learner define his or her *historical and political situation*, so that he or she can intervene in it critically and creatively. Creativity belongs to the student, not the teacher. While Freire's pedagogy does not seem quite so radical today, it does stress the importance of politics in the educational process. The most important lesson according to this perspective is not grammar and algebra (though these are certainly not unimportant) but the powers that control the economy and will shape the productive lives of the students. With such understandings, the students may be able to create an economic life of their own choosing.

Individually, each of the above educational theorists offers a strong criticism of

the public school system of this country. Together, they represent a challenge not only to the schools, but to the entire industrial order of which schools are but one component. Illich is very clear about the indignities of an industrial society ruled by bureaucrats; Giroux and others call into question the economic assumptions of the schools; Kozol confronts us with the injustices of race and class that still prevail in America. It is against this critique of the public school that the question of environmental values education ought to be investigated. For if environmentalism is anything at all, it is the questioning of our current patterns of resource distribution and consumption, in other words, of our economy. If this questioning is superficial, it is a waste of everyone's time. We will next explore the implications of the work of these critical theorists for the question of environmental values education.

V. CONCLUSION

In the last three chapters we have examined three different bodies of literature as part of an effort to better understand environmental values education. Environmental education is still a young field, and its practitioners have created a body of theory frequently lacking in depth. Many authors tout the importance of values education in their theoretical models and curriculum plans. However, the causal connection of values education to "environmentally sound behavior" has not been well documented. Frequently, environmental educators offer a vague idea of what specific values they might have in mind in their models, or what measurable behaviors might count as "environmentally sound." But they are convinced that an improved "values curriculum" will produce the payoff of improved environmental quality, or better solutions to our environmental problems.

In Chapter Three, we examined two alternative environmental value frameworks that might be integrated into school curricula. C. A. Bowers has attempted a deep critique of modern society. He explores how our environmental behaviors are connected to the modern ideologies of individualism, creativity, and progress. This sort of attempt to understand the deep foundations of culture is often absent from the literature of environmental education. A study of Native American cultures reveals, not that Native Americans had found a solution to all environmental problems, but that a culture's values

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and behaviors are related in more complex ways than most environmental educators had imagined. Chapter Four's reading of the social critics of the school suggests that environmental values educators have mis-identified both the source of our environmental problems and the solutions to them. Finally, questions remain regarding a number of assumptions environmental educators have made regarding both our "environmental crisis," and the politics of education in America.

Bowers claims that modernist individualism, the underlying ideology of school psychology, is one of the primary culprits in producing a consumerist society which over-exploits the earth. He praises traditional cultures, purportedly free of individualism or exploitation, and concludes that we ought to look to their ethics in order to reform our own. Though he believes himself to have articulated a compelling account of the links between individualism, consumerism, and environmental problems, Bowers' exhortation that we "reconstitute the deep foundations of culture" is, in fact, a tissue of ambiguities. What exactly is meant by "sustainability" -- sustain *which* ecosystems and *which* people at *what* level for *what* period of time? Bowers attacks modernism without mercy, yet his work is the very model of a modernist critique: he criticizes the past and present, and claims to promote progressive cultural change through a newly discovered quasi-science. Bower's recommendation, that we revolutionize our culture through education, can be challenged because it ignores two major obstacles: 1) the school is a political institution, and the powers that control it are not likely to embrace a radical environmental agenda; 2) the structure of the school experience reproduces and reinforces anti-environmental

messages. It is the compulsory school system which creates dependency on the very institutions of society which degrade the environment. An examination of Bowers shows that the critique of modern Western values implicit in environmentalism, when made explicit, challenges the beliefs of most teachers and of many features of schooling. For this reason, it may be unworkable as a school reform.

A critical evaluation of Native American environmental ethics also points out some inconsistencies and difficulties in the environmental values agenda. The actual beliefs of Native American peoples prior to contact with the Europeans are difficult to document and tend to be mythicized in the minds of even accredited scholars, to say nothing of popular opinion. Once some sound general description of indigenous ethics has been made, its application to our contemporary environmental problems, and to teaching strategies, becomes even more problematic. Though the ethical beliefs, for example, of a subsistence hunting culture of Northern Canada may be interesting and worthy of study in their own right, they shed little light on how we ought to deal with problems such as toxic waste disposal or fossil fuel consumption. Native subsistence cultures are based on appropriation of local resources, while our economy of scale exploits global markets. Bowers and others have suggested that we ought to teach the "sustainable practices" of Native cultures to our children. Does the Native American tell us that we ought to abandon global consumption in favor of subsistence hunting? If so, we face the problem that our landscape has changed to the point that such a lifestyle may no longer be possible. Furthermore, such a change in lifestyle is opposed to our notions

of property, territoriality, family structure, and to our religious beliefs. These commitments cannot be easily sweep aside in the name of sustainability, nor should they be.

For the Native Americans, ethics was in no way separate from the practice of subsistence, whether it took the form of hunting, agriculture, or a combination thereof. While the study of indigenous peoples and their relationship to the environment can be fascinating, the usefulness of applying one culture's beliefs and behaviors to another culture's environmental problems is ambiguous. It is clear that we, as modern people living in a changed environment, must adopt a different kind of ethics than that practiced by Native Americans. The animated landscape of the Native American, populated with other-than- human-persons and powerful spirits, is simply not part of the beliefs and experiences of European descended Americans, even those who claim to be "deep ecologists." While environmentalists may be understandably concerned about the wasting of our natural resources, pollution, and human population, to glamorize the Indian's ethical and social relationship with the natural world does not address our problems. The appropriation of Native American beliefs is a form of colonialism, and is unethical. We do violence to another people's culture when we borrow bits and pieces which we like, and consign the rest to a reservation. We must produce a critique of the economics, politics, and ethics of our culture which does not appropriate someone else's beliefs, if only as a matter of strategy, because environmental educators will not convince many people to adopt the world view of the Hopi or Koyukon.

Even if we could adopt the ethics of the Native American tomorrow, there is no way of knowing what the environmental consequences would be because there is no linear cause and effect relationship between "values" and behavior. It is notoriously difficult to prove causation in the social sciences, and it must be nearly impossible to do so in the humanities, to which the study of values normally belongs. Native Americans were quite capable of over-using their resources, and did so at many times in the past, despite the environmental values attributed to them. Obviously, they did not exhibit the callous disregard for the integrity of the landscape rightfully attributed to multinational corporations, but it is nearly impossible to tell whether this is because of their moral relationship to the land or because they lacked the technological means. In other words, it cannot be known whether their ethics "caused" their sustainable environmental behaviors, or their primitive technologies "caused" their ethics. Native Americans were not infallible managers of resources. And *manage* resources they did, with the use of selective burning, agriculture, hunting, and seasonal movements and redistributions of their communities. If anything, the Native American is an example of someone who manipulated resources very intelligently, and with a long term outlook. We would do well to follow that example, but we must proceed to that goal within our own cultural and political frameworks. An authentic environmental ethic must address the environmental limits of the modern world, and it ought to do so without either throwing our culture out the window, as Bowers suggests, or offering too tepid an analysis of the root causes of environmental problems.

The theoretical frameworks of environmental values education frequently overlook politics in their analysis of values and education. While there can be no doubt that environmental values play an important role in our society's relationship to the natural world -- that our consumerist and accumulative values contribute to the depletion of natural resources -- there is no simple way to isolate our values, transform them, and so transform our relationship to the environment. Our values are bound up in our economic, political, and social institutions. Environmental education theorists have failed to address the institutional structures into which our values are woven. Indeed, the challenge of environmentalism is not to change values primarily, but to change a society, and this cannot be done without a full account of that society. Changing that society is a process of politics; therefore, a political critique must form the basis of tinkering with values education.

According to the likes of Illich, Giroux and Freire, the whole project of values education in the school is problematic. They understand the school to accustom students to the prevailing unjust political relationships and unsustainable economic practices of the society at large *by the very structure of the school experience*. Whatever environmental values education a progressive teacher may slip into the science or social studies curriculum will be lost amid the overwhelming number of contrary messages. For Illich, the school is akin to a factory; it produces, assembly line-fashion, young labor units who, having been segregated according to "ability" (as defined by school bureaucrats), are prepared to assume their roles within the other oppressive institutions of society. They

are ready to join their fellow citizens in the consumption of manufactured "needs." The school produces workers and consumers *who depend upon the institutions of corporate capitalism* to provide them with their wages, and all that their wages buy: the goods and services of the consumer economy. (Native Americans, on the other hand, provided for themselves within their communities, dependent only on their own skills and kinship relations.) Environmental educators ought to "put their cards on the table": we need environmental education *because of the excesses of the dominant mode of economic production: corporate capitalism.*

These social critics suggest that the school is complicit in, if not responsible for, the reproduction of the very problem which environmentalists seek to resolve. As a brief review of Native American ethics indicates, ethics are part of the total field of our experiences. An early life dominated by institutions such as the school does not encourage creative and fundamental questioning of the institutions through which we continue to degrade the environment.

Illich claims that we live in a professional-dependent society; professionals determine our "needs" and come to be the sole providers for those needs by instituting legal certification for their own competencies. Technocrats, doctors, politicians, bureaucrats, and educators are among the "disabling professions." Bowers, Hungerford, Caduto, and other educators we have encountered are such professionals, clamoring for research dollars and clients. They claim that *their* particular specialty, environmental education, is the most pressing "need" youngsters have today.

Andre Gorz takes up Illich's line of argument that curriculum content is a relatively unimportant feature of the school in Ecology as Politics. Gorz contends that no particular values attach to the study of ecology, as implied by the environmental values theorists. Indeed, we are faced with a choice between Illich's convivial society and technofascism:

> Either we agree to impose limits on technological and industrial production so as to conserve natural resources, preserve the ecological balances necessary to life, and favor the development and autonomy of communities and individuals (this is the convivial option).
> Or else the limits necessary to the preservation of life will be centrally determined and planned by ecological engineers, and the programmed production of an 'optimal' environment will be entrusted to centralized institutions and hard technologies (this is the technofascist option, the path along which we are already halfway engaged). The choice is simple: 'conviviality or technofascism'" (Gorz, 1985, p. 17).

Educators Roger Hart and Louise Chawla have this bifurcation in mind when they speculate upon the skills and abilities we ought to expect our education system to inculcate.

> If we expect children to be living in a decentralized participatory democracy with less dependence upon foreign resources, we might stress such qualities as resourcefulness, problem solving ability, critical reflectiveness, flexibility to change, skills of cooperation, social and environmental competence, and social and ecological responsibility. If however we expect children to enter a more technocratic, centralized, less participatory society, we might stress the kinds of behavioral priorities currently being encouraged in the schools of Western Europe and the United States with their great emphasis on abstract thinking and theory divorced from practice (Hart and Chawla, 1981, p. 291).

This line of criticism, represented by Illich and the Marxists, suggests that our overriding concerns ought not to be with the condition of the environment, but with the quality of human life. As was suggested in the discussion of Bowers, concepts such as "sustainability" are not particularly useful in making political and moral decisions. For example, while industrial society may damage the Earth's ecosystems, it is not clear how debilitating this damage will be: life on this planet, and more particularly the survival of the human species, may not be very seriously threatened by environmental problems. Our great political and moral problem is not that the survival of the Earth is threatened, (a hypothetical possibility) but that the resources of the world are distributed unequally, and many people live in poverty and desperation as a result (a certainty). Environ mentalists have often been accused of elitism; of caring more about trees than about other humans. Thousands of humans die of starvation every day. The absence of this fact from the analyses of many environmental educators is disturbing. An underlying ambiguity of environmentalism appears in environmental education: it is not clear whether environmentalists wish to sustain the consumption of material goods in America in a more "environmentally friendly" way, or give an account of the good life which will allow *all* humans to live decent and prosperous lives. Is environmentalism a better way of sustaining American consumption, or a path to a more spiritually rich, if materially poorer existence?

Similarly, since Kozol has pointed out that educational resources are inequitably distributed in this country, we are led to ask who benefits from environmental education.

There is a real possibility that the recipients of environmental education in relatively wealthy school districts and in universities will become the managers and programmers of the "optimal environment" alluded to above by Gorz. Students from poorer school districts will have less opportunity to influence decision-making in this specialized area. Environmental educators ought to ask the questions: "Who makes decisions about the environment and for whose benefit, and who pays?" These important political questions deserve thoughtful and honest answers. If the answers reflect broader injustices in our society, then environmental educators ought to address this in their theoretical models.

Environmental educators find themselves involved in a struggle the extent of which they only dimly acknowledge, a struggle for the redefinition not only of the marginalia of the "values curriculum" but of the *way in which people ought to live*, as Plato would have it. Accordingly, their efforts must be grounded in an explicit political and philosophical assessment of the nature of our environmental problems. This assessment will be unpalatable to many, but at least it will be honest. Environmental problems are tangled together with our values, but are not simply "caused" by them. Our values are inextricably bound to institutions of our society which contribute to environmental degradation, poverty and racism. Our reading of the social critics of the school suggest that the school experience itself inculcates anti-environmental messages. Therefore, education must itself be fundamentally re-envisioned if it is to encourage democratic and environmentally sustainable communities in the future.

However, critics such as Illich and Giroux have endorsed a number of hopelessly utopian reforms as solutions. Illich wants us to abandon the school altogether, yet there is good reason to believe that instructing children in groups is a perfectly normal and legitimate thing to do. Schools may be the best way to teach literacy and numeracy in an economy which requires both parents to work. The socializing role of the public school system, which Illich objects to, may be balanced by its integrative and egalitarian roles. While children certainly become accustomed to the subordination of their desires to "institutionally certified authority," many children are able to use schools as a vehicle to better themselves and their situations. Kozol suggests that American children would be better served by equal and well-funded schools than by no schools.

Marxists, such as Giroux and Freire, maintain that the school, despite its flaws, can be changed so that it empowers and liberates learners. The school can be a vehicle for emancipatory politics. Giroux suggests that the classroom be run more democratically; that students collectively guide the process of learning, that grades and tracking be eliminated, that the division of time be more flexible. Self-paced, student directed learning would be the terms to describe this new method of schooling. Freire also modifies the role of the teacher. For him, the teacher is a facilitator who helps the students cultivate an understanding of the political and economic forces that shape their lives. Here too, the students determine what is worth studying in an effort to create a democratic atmosphere.

The Marxists generally do not emphasize that they are basically replacing one

ideology which they object to with another which they embrace. The school still more or less reproduces ideology in its "collectivist" rather than "authoritarian" classroom. Even if one agrees with Giroux's or Freire's ideology, one must acknowledge that most Americans and most school boards do not. Perhaps the Marxists hope to re-engineer the classroom without anyone noticing. They also hope that students would rather study Marxism and ecology than Nintendo and MTV's Beavis and Butthead. In all seriousness, the concept of democracy in the classroom can be taken too far. Ten-year-olds are simply not sufficiently wise to make most determinations concerning their own education. It would be irresponsible of us as parents to send our kids to schools where they may study whatever happens to strike their fancy on that day. Anyone who has worked with or raised children knows that children need structure and discipline from adults. Most decisions concerning the schools -- those concerning course content, staffing and funding levels, building and equipment maintenance, even the "democratization" of the classroom -- will have to be made by adults. Ironically, the Marxists have advocated *reform*, rather that *revolution*, of the school.

Environmental education theorists appear to have assumed that either the public or powerful school boards accept that reshaping "environmental values" is one of the proper functions of the school. This is by no means obvious. The more environmental education challenges the consumerist values of society at large, and of corporate industry in particular, the more resistance it will meet. When one considers the fact that businessmen and professionals are heavily over-represented on school boards, it is

difficult to see how their schools can become havens of radical cultural criticism (Bowles and Gintis, 1973, p.190). They are as likely to accept Bower's suggestion that schools educate for deep ecology as they are to incorporate the Earth First Songbook into the music program. Similarly, the Marxist critics frequently overlook the political difficulty of establishing their reforms in schools. Furthermore, although many teachers are sympathetic to environmentalist claims, evidence suggests that they have other things to worry about. According to the Digest of Education Statistics, when asked to select their most important goal, 45.7% of public secondary school teachers indicated building basic literacy skills, 15.5% indicated encouraging academic excellence among their students, 15.7% indicated promoting good work habits and self discipline. Only 1.6% indicated promoting specific moral values was the most important goal and a mere 0.9% indicated that multiculturalism was the most important goal (p. 31). This shows that most teachers would probably put environmental values education and multi-cultural education near the bottom of their priorities; their role, as they see it, is to produce literate, disciplined citizens.

Professional environmental educators have produced a plethora of models, theories, and developmental sequences with which they hope to improve environmental education. For example, the Hungerford-Hines-Tomera model (Figure One) explicates the factors which contribute to a person taking part in "responsible environmental behavior." The authors hoped that, armed with this model, educators would make their students into environmentalists more reliably. But it turns out that the "personality

factors," which are vital to promoting environmental responsibility, are beyond the purview of educators. Further research also showed that students who have spent a great deal of time in the outdoors, who have repeated experiences in camping, hunting, or fishing over a long period of time, are more likely to exhibit "environmental responsibility." Schools cannot be expected to provide such experiences in an increasingly urban and technologically dependent society. At any rate, environmental values are formed out of the total background of a person's experience as a member of a culture, and even good and dedicated teachers are no substitute for a culture which practices environmental values.

Even though there is truth in Ivan Illich's description of the school, his proposal that we "de-school" society seems rash. However, in doing away with the school we do not do away with education. Education in Illich's convivial society is more or less on-the-job training augmented by "learning webs." The learning web is nothing more than an arrangement whereby people of similar interests in a given community can make contact, and learn from each other. Whatever else is said about Illich, the learning web seems a promising solution to the structural challenges of environmental education. An environmental learning web can exist side by side with the traditional school system, and perhaps nudge it in the direction of environmental whatever.

Educator and author David Orr has also recognized that the structure of education founded on the principles of environmentalism will be significantly different from the structure of education today. In Ecological Literacy: Education and the Transition to a

Postmodern World, Orr proposes the broad parameters of education for a "Land Ethic."

Orr insists that we recognize that all education is environmental education; wherever and

however young people are educated, they encounter messages concerning their

relationship to the environment. Usually they are told to consume it rather than care for

it. Environmental issues are very complex and require an interdisciplinary approach if we

are to understand or resolve them; therefore, our education system ought to produce more

generalists and fewer specialists. Orr notes that the way education occurs is as important

as its content. Learning ought to be participatory, experiential, and suited to the life

situation of the student. Students also ought to be familiar with their own local ecology,

whether they live in the city or the country. Finally, education ought to be relevant to the

building of a sustainable society -- it ought to increase the practical competence of

students, not only their abstract intellectual abilities.

Orr's aim is "ecological literacy" -- understandings of our relationship to the larger

natural environment along with the abilities to promote a sustainable society. All our

years of education ought to make us more than merely well-read; we ought to be able to

care, and to nurture -- in order to be relevant to our ecological crisis. Orr is not afraid to

ask the question, "Is environmental education an oxymoron?" He notes that increasing

years of education do not increase our sense of responsibility or our wisdom. Rather,

increasing years of education are correlated with increasing income, which represents for

him "a crude but useful measure of the total amount of carbon the scholar is able to

redistribute from the earth's crust to the atmosphere" (p. 150). The vacancy of so much of

our education has now been well-attested to. But effective environmental education, it seems, is vital to our long-term survival. Orr succinctly evokes the relationship between the typical experiences of young people today and their understandings of and relationship to their world.

> Today's student is largely shut off from the natural world, sealed in a cocoon of steel, glass and concrete, enveloped in a fog of mind-debilitating electronic pulsations. Upon graduation from high school, the typical eighteen-year-old will have spent some twelve thousand hours in a classroom, but will have watched television for some sixteen thousand hours and will have witnessed the simulated violent deaths of eighteen thousand persons followed by hucksters selling deodorants, beer, cars, or other claptrap. The results -- apathy, moral and physical anemia -- should surprise no one (Orr, 1992, p. 134).

Nor should we be surprised that most Americans possess an extremely limited understanding of natural systems and the major issues of environmentalism. This suggests that without major changes in the structure and content of our experiences, educational and otherwise, changes in our understanding of and relationship to the natural world will not be possible.

But which comes first, the sustainable society or new and different experiences which change our relationship to the environment? Perhaps we need not await the establishment of a convivial or sustainable society before we establish alternative forms of education. We can agree with Orr and Illich that education ought to engender practical competence; this can be achieved, in part, through "learning webs." We may, in fact, be able to teach environmental values better by showing people how to grow food and build

things, than by subjecting them to exercises in environmental "values clarification" according to the latest "developmental sequence." Since, as has been argued here, values are implicit in the nature of the economy and the structure of social life, "environmental values education" may be nothing more than learning the trades and skills of the sustainable society. In other words, a young person who learns organic agriculture, construction with recycled building materials, and bicycle maintenance and repair, and does so thoughtfully, will learn to honor the values of frugality, minimal impact, sustainability, and respect for community in the course of exercising his or her trades.

Environmental education can be a worthy calling. Professional environmental educators do good and necessary work. But we must fault them if they offer an incomplete analysis of values, one which ignores the ways in which our institutions, especially the public school, reproduce cultural patterns which contribute to our environmental problems. Educators are correct to observe the importance of values, but because the public school system is structured so as to reinforce the consumer economy, the classroom is a poor pulpit for sustainability. We ought not assume that an environmentalist values agenda can succeed in the school.

REFERENCES

Booth, Annie L. and Harvey M. Jacobs (1990). Ties that bind: Native American beliefs as a foundation for environmental consciouness. Environmental Ethics, 12 (1), pp 27-43.

Borgmann, Albert (1984). Technology and the Character of Contemporary Life: A Philosophical Inquiry. Chicogo: University of Chicago Press.

Borgmann, Albert (1992). Crossing the Post-Modern Divide. Chicago: Chicago Press.

Bowers, C. A. (1995). Educating for an Ecologically Sustainable Culture: Rethinking Moral Education, Creativity, Intelligence and Other Modern Orthodoxies. New York: State University of New York Press, 1995.

Bowles, Samuel and Herbert Gintis (1976). Schooling in Capitalist America: Educational Reform and the Contradictions of Economic Life. NewYork: Basic Books Inc.

Caduto, Michael. (1983a) A review of environmental values education. Journal of Environmental Education,14 (3), pp 13-21.

Caduto, Michael. (1983b) Toward a comprehensive strategy for environmental values education. Journal of Environmental Education, 14 (4), pp 12-18.

Callicot, J. Baird(1983). Traditional American Indian and Western European attitudes toward nature: an overview. Environmental Ethics, 4 (4), pp 293-318.

Carnoy, Martin and Henry M. Levin (1985). Schooling and Work in the Democratic State. Stanford: Stanford University Press.

Cornell, George L (1985). The influence of Native Americans on modern conservationists. Environmental Review, 9 (2) pp 104-117.

Cronon, William (1983). Changes in the Land: Indians, Colonists and the Ecology of New England. New York: Hill and Wang.

Ferry, Luc (1995). trans. by Carol Volk. The New Ecological Order. Chicago: University of Chicago Press.

Fertig, Fred (1970). Child of nature: the American Indian as an ecologist. Seirra Club Bulletin, no. 55, August, 1970, pp 4-7.

Freire, Paulo (1993). Pedagogy of the Oppressed, Revised Edition. New York: Continuum Publishing Co.

Gigliotti, Larry. (1992) Environmental attitudes: Twenty years of change? Journal of Environmental Education, 24 (1), pp 15-26.

Giroux, Henry (1983a). "Social education in the classroom: the dynamics of the hidden curriculum." In: The Hidden Curriculum and Moral Education, Henry Giroux and David Purpel, eds. Berkeley: McCutchan Publishing Corporation.

Giroux, Henry (1983b). "Critical theory and rationality in citizenship education." In: The Hidden Curriculum and Moral Education, Henry Giroux and David Purpel eds. Berkeley: McCutchan Publishing Corporation.

Gorz, Andre (1995). Ecology as Politics. New York: Westview Press.

Hart, Roger and Louise Chawla (1981). The development of children's concern for the environment. Zeitschrift fur Umweltpolitik, 4 (2), pp 271-294.

Hines, Jody M., Harold R. Hungerford, and Audra N. Tomera. (1986) Analysis and synthesis of research on responsible environmental behavior: a meta-analysis. Journal of Environmental Education, 18 (2), pp 1-8.

Hungerford, Harold R., Ben Peyton and Richard J. Wilke. (1980) Goals for curriculum development in environmental education. Journal of Environmental Education, 11 (3), pp 42-47.

Illich, Ivan (1971). Deschooling Society. New York: Harper and Row.

Illich, Ivan (1977). "Disabling Professions," in Disabling Professions, Ivan Illich et al. Salem, New Hampshire: Marion Boyars.

Iozzi, Louis A. (1989) Environmental education and the affective domain. Journal of Environmental Education, 20 (3), pp 3-9.

Kay, Jeanne (1985). Native Americans in the fur trade and wildlife depletion. Environmental Review, 9 (2), pp 118-130.

Knapp, C. (1983). A curriculum model for environmental values education. Journal of Environmental Education, 14 (3), pp 22-25.

Kozol, Jonathan (1991). Savage Inequalities: Children In America's Schools. New York: Harper Collins.

National Center of Education Statistics (1995). Digest of Education Statistics. United States Department of Education, Office of Research and Improvement. Washington. D. C.: United States Government Printing Office.

Orr, David (1992). Ecological Literacy: Education and the Transition to a Postmodern World. Albany, New York: State University of New York Press.

Simmon, Deborah A (1991). Are we meeting the goal of responsible environmental behavior? An examination of nature and environmental education center goals. Journal of Environmental Education, 22 (3), pp 16-21.

Slade, Andrew H (1992). A Developmental Sequence for the Ecological Self. Thesis, University of Montana.

Sleeter, Christine E. and Carl A. Grant (1988). Making Choices for Multicultural Education: Five Approaches to Race, Class and Gender. New York: Merrill-Macmillan Publishing Company.

Sponsel, Leslie, E (1988). Cultural ecology and environmental education. Journal of Environmental Educaton, 19 (1), pp 31-42.

Tbilisi Declaration (1978) In: Wisconsin State Department of Public Instruction. Appendix A., Guide to Curriculum Planning in Environmental Education, 1985, 74-78. (ERIC Document Reproduction Service No. ED 264 134)

Van Matre, Steve (1990). Earth Education. Warrenville, IL: The Institute for Earth Education.

Weilbacher, Michael (1991). "Education's New Challenge." E Magazine, 2 (2).

Udall, Steward (1972). Look to the Mountain Top. San Jose: Gousha Publications.