

Chapter 1

INTRODUCTION

Public school and university education have long been viewed as a panacea for the variety of conditions relating to individual and social advancement. Before World War II, formal education was identified with the advancement of democracy; more recently it has been justified on the grounds that it is essential to the nation's economic interests. Indeed, there is significant evidence that these expectations have been partially met. But what has not been adequately recognized is that in advancing knowledge (the university's chief claim to legitimacy) and disseminating it (the public school's primary role), a powerful sorting process was occurring that separated the multiple forms of cultural knowledge into high and low-status categories. Basically, high-status knowledge is associated with modern assumptions, values, and ways of knowing; knowledge which is not associated with the modern individualistic and technologically oriented culture of change has been viewed as low-status—and largely excluded from the nation's classrooms. While this invidious distinction is more clearly recognized today by certain traditionally oriented ethnic groups, it now needs to be challenged for environmental reasons.

The introduction of millions of tons of toxic chemicals into the environment, as well as the impact of modern technologies on fisheries, forests, topsoil, aquifers, and weather systems, now make it increasingly difficult to ignore the connections between the high-status forms of knowledge promoted by public schools and universities and the ecological crisis. The rapid increase in human population, along with the spread of moral disintegration among previously

stable and relatively self-reliant cultures, are also important contributors to the decline of the Earth's natural systems. Both of these world-wide trends have also been heavily influenced by the West's high-status forms of knowledge. In effect, the changes in the Earth's chemistry and biological processes, which are on a downward trendline, bring into question in the most profound and urgent way the forms of knowledge that our educational institutions equate with modern progress.

The ecological crisis now forces us to acknowledge the intellectual and moral double binds in what is being taught in our public schools and universities. As one of these double binds is that few public school teachers and university professors recognize how modern values and behavioral patterns are connected to the ecological crisis, it will become increasingly necessary for environmentally conscious groups to challenge what is being taught in our educational institutions. The question of why the various groups that make up the environmental movement should take on this task, as well as the forms of resistance they will encounter, will be addressed in later chapters. For now it is important to obtain a clearer overview of the intellectual and moral double binds that characterize the relationship between the high-status knowledge being promoted in our educational institutions, the global commoditization and thus Westernization of knowledge and relationships within different cultures, and the degradation of the life-supporting natural systems that all species (including humans) depend upon.

Whenever the democratic process has been undermined by special interest groups or by the failure of citizens to fully participate, it has been thought that what the public needed was an increased exposure to public education. Similarly, when the economy lagged more formal education was seen as essential to improving the efficiency and reliability of the work force. Today, it is argued that educating the elite scientists and technologists who design the computer-based machines that are increasingly displacing the human worker should be one of our nation's top priorities. But as we learn more about changes occurring in degraded natural systems, as well as how human activities are changing weather sys-

tems that will in turn alter the distribution of species (and thus our patterns of dependence), framing the solution to the crisis in a way that does not involve a radical change in the conceptual and moral foundations of the educational process will only add to our problems. This is a classic double bind situation where the promotion of our highest values and prestigious forms of knowledge serve to increase the prospects of ecological collapse.

A strong case can be made that the cultural assumptions underlying the high-status forms of knowledge, which were supposed to ameliorate the shortcomings of democracy and the economy, actually contribute to increasing the political power of economic and technological elites that continue to undermine, as Tom Athanasiou documents in *Divided Planet: The Ecology of Rich and Poor* (1996), democracy by destroying the traditional basis of self-reliant communities. Critics who have been able to keep the failures of modernization in perspective have largely been ignored or misunderstood by the university educated segment of the population. And while more people sink into economic, moral, and political poverty, politicians continue to use the media and bureaucratic agencies to keep social unrest from becoming a destabilizing political force. Today, the scale and multiple dimensions of the ecological crisis make the politics of self-deception both more difficult to sustain over the long-term and infinitely more dangerous. If we continue to take seriously the formulaic arguments about the ameliorative effects of high status forms of knowledge now being promoted by politicians and spokespersons of the educational establishment, we will face ecological consequences that cannot be hidden by the rhetoric of politicians or visually smoothed over by the media.

That these privileged forms of knowledge contribute to the double bind where modern progress leads to environmental degradation can be seen by comparing the characteristics that appear to be shared by ecologically centered cultures with the deep cultural assumptions that underlie the entire range of public school and university curricula. The identification of patterns of ecologically centered and, until recently, sustainable cultures should not be inter-

puted to mean that they share identical beliefs and daily practices. Careful consideration of such indigenous cultures as those of North and South America, or of the cultural synthesis worked out by the Balinese, reveals tremendous diversity in how their shared cultural patterns are expressed. Unfortunately, in deliberately denigrating these ecologically centered approaches to dwelling in very different environments, Western cultures have failed to recognize that many indigenous cultures had worked out the symbolic frameworks for answering questions of long-term survival that all cultures must address: namely, how to live in a sustainable relationship with an environment that cannot be taken for granted. This cultural development of a symbolic reference system, I will argue, exerts a powerful influence over a cultural group's ability to live within the limits of its bioregion, rather than being dependent upon the resource base of other cultural groups. These areas of symbolic development should also be considered essential to putting modern cultures on a more sustainable pathway.

Briefly, the areas of cultural development that are present in ecologically centered cultures, and which exist only in limited or distorted form in modern cultures, include the following:

1. Mythopoetic narratives (meta-narratives that explain origins and fundamental relationships) that represent humans and other forms of life that make up the natural world as equal participants in a sacred, moral universe.
2. A metaphorical language and thought process (which involves all cultural forms of metaphorical expression—in the arts, design of buildings, layout of social space, clothes, etc.) that is rooted in the natural world. That is, natural phenomena are used as analogs for understanding human relationships, the everyday and transitional events in human life, as well as human relationships with nature. Nature based metaphorical languages often lead to interspecies communication and combine, with the mythopoetic creation stories, to make reciprocity with nature a moral absolute.
3. A sense of temporality (how the culture organizes the experience of time) where the past and future are sources

of authority that influence how decisions in the present are made. This sense of time involves both a complex way of understanding and experiencing tradition, and a deep sense of the connectedness and responsibility for the well-being of future generations.

4. A well-developed tradition of transgenerational communication where elders, both women and men, take responsibility for passing on and renewing knowledge essential to just and self-reliant human communities, and to sustainable human/nature relationships.

5. Forms of community where conviviality, mutual aid, ceremonies (expressed through dance, song, narrative), patterns of civic responsibility and reciprocity ensure that economic production and exchange do not become the dominant force in everyday life.

6. Technological approaches to dwellings, food production, healing, and other aspects of community life exhibit a deep local knowledge of the elements of ecological design. This local knowledge, built up and refined over countless generations, takes account of the characteristics of natural systems, the skills and needs of the community, the need to minimize waste and destructive effects, as well as how to integrate technology into the cultural group's symbolic world of moral and spiritual connectedness.

7. An ideology (the modern word for guiding beliefs, values and episteme) that can be described (again, in modern terminology) as cultural/bio-conservatism; that is, an ideological orientation that emphasizes conserving cultural values, beliefs, and practices that contribute to sustainable relationships with the environment. Unlike the various expressions of Western liberalism, which are anthropocentric and contribute to an experimentally oriented culture, cultural/bio-conservatism is based on the recognition that humans are dependent upon the viability of natural systems. Critical thought and technological innovation that help carry forward ecologically sustainable cultural patterns are as important to cultural/bio-conservatism as are the wisdom based traditions handed down and renewed over generations.

The form of modern culture that public schools and universities have helped to create and legitimate is also based

on powerful mythopoetic accounts of how life began, and of the fundamental relationships that must be observed. It also has its own distinct metaphorically based languages, a complex way of representing the temporal dimensions of life, and a guiding and legitimating ideology. But these areas of cultural development are radically different from what characterizes cultures that have survived over hundreds, even thousands of years, without destroying the prospects of future generations. One of the great ironies today is that the knowledge of relationships that ecologically centered cultures have developed is considered by modern individuals to be “primitive,” backward, and unworthy of advanced, progressive cultures. And in terms of the status system that is dogmatically reinforced in public school and university curricula, the symbolic achievements of these ecologically centered cultures fall into the category of low-status knowledge—except in departments of anthropology and linguistics where there is a long tradition of documenting the belief systems and practices of “primitive” cultures (originally, to ensure that libraries and museums would have accurate accounts of cultures considered to be on the verge of extinction). The different minority cultures within North America that still retain some of the characteristics of highly developed ecologically centered cultures (e.g., elders, a sense of connectedness to the features and rhythms of the land, respect for traditions that have sustained the sense of community responsibility and mutual support, and so forth) may also be studied in schools and universities, but primarily as fitting into the category of folklore, which occupies the lowest rung on the status ladder in English departments.

The double bind that our educational institutions are helping to put us in can be seen even more clearly by identifying the cultural assumptions (guiding root metaphors) that underlie the high-status knowledge that must be learned before the diploma or degree is awarded. These assumptions provide the basic orientation and legitimating framework for the creation of the new knowledge, which in turn will be translated in the technologies used for updating and extending the commodification of human relationships

and activities—including relationships with the environment. And the Western universities that are chiefly responsible for the designation and promotion of high-status knowledge educate many of the members of the elite classes in Third World countries to the Western model of economic development. These assumptions are also being promoted in Third World systems of higher education that are based on these Western models of what a university should be. These assumptions include:

1. A view of the individual as the basic social unit (indeed, increasingly the gene is represented as the unit that determines both biological and cultural development). This leads to thinking of intelligence, creativity, and moral judgment as individual attributes. The pursuit of self-interest and the sense of being separate from nature follow from this view of the autonomous individual.
2. An anthropocentric view of the world that leads to organizing knowledge and constituting values from a human perspective and need. Relationships with the natural world are thus framed variously by instrumental values and rational approaches to problem solving, the stance of the objective observer, and the cultural categories of public and private property.
3. Change is viewed as inherently progressive in nature. Thus, values, ways of knowing, and technologies that foster change have the highest status in our educational institutions. The assumption that connects all changes with social progress, and the messianic drive to spread progress throughout the world, leads to the globalization of these values, ways of knowing, and technologies.
4. Traditions, except for family holidays, patterns, and events, are seen as inhibiting progress. They are also viewed as irrelevant to a modern, experimentally oriented culture. The promoters of high status knowledge only recognize traditions (including the earlier achievements within a field of knowledge) when it helps to represent how far and rapidly we have progressed. Within the high status knowledge community, tradition is synonymous with banality and backwardness.

5. The world is understood as secular in nature, with spirituality either being limited to the experience of the individual or explained in functional terms. The division between the secular and the spiritual was partly a result of the agreement of the “fathers” of modernity to separate church and state, to privatize religion, and to promote a form of education that would encourage the belief that the individual’s rational process, when properly informed, is the ultimate basis of authority.

6. Social development is understood in economic and technological terms. Development (progress) takes the form of turning knowledge, relationships, and cultural achievements into commodities—thus expanding the influence of economic values into more aspects of community life. The globalization of commoditized knowledge and relationships (with computers being the latest expression of this market place mentality) is justified in evolutionary terms, with the elite elements of Western culture (technology, science, consumer lifestyle) being represented as the most fully evolved.

7. Machines, which were the basis of metaphorical thinking in the early years of modern science, continue to serve as the analog for understanding life processes—from the molecular to the cosmic. Witness the following statement by Hans Moravec, a leader in the high-status field of artificial intelligence:

Our culture still depends utterly on biological human beings, but with each passing year our machines, a major product of the culture, assume a greater role in its maintenance and continued growth. Sooner or later our machines will become knowledgeable enough to handle their own maintenance, reproduction, and self-improvement without help. When this happens, the new genetic takeover will be complete. *Our culture will then be able to evolve independently of human biology and its limitations, passing instead directly from generation to generation of ever more capable intelligent machinery.* (italics added, 1988, p. 4)

One consequence of this metaphorical language is that machines are increasingly viewed as superior to humans—in the areas of work, intelligence, entertainment, and healing.

8. Technologies are created by experts who think in terms of standardized designs that can be replicated anywhere in the world, the use of materials that will maximize profits and ensure centralized control over the use of the technology, and a short replacement time by more advanced technologies.

9. There is an increasing reliance on science as the most powerful and legitimate source of explanations of the origin and “evolution” of human life, and all other life processes—including the genetic basis of cultural developments.

Collectively, the assumptions encoded in high-status knowledge put modern cultures on a highly experimental pathway, while at the same time providing the conceptual and moral guarantee of progress. The encoding of these assumptions in the language and thought process further ensures that aspects of cultural experience that can be interpreted by this cultural grammar will be recognized as “real”; at the same time, what cannot be understood or recognized in terms of this cultural schemata ceases to have any standing. For example, the pitfalls facing experimentally oriented cultures are obvious to people who do not have an economic, political, or identity-based interest in promoting the current cultural trajectory of modern high-status forms of knowledge that the Earth’s ecosystems cannot sustain. Members of cultures based on the ecologically centered patterns identified earlier are more apt to recognize that the main issues facing all humans concern the destruction of the environment and the loss of traditional knowledge of how to live symbolically rich lives without undermining the prospects of future generations. Yet, those who protect high-status knowledge from being challenged, and promote its further development (not to mention obtaining copyrights on the technological advances it leads to), are unable to recognize the environmental evidence that brings into question their deepest assumptions. The extent of this collective myopia will be documented in the chapters that focus directly on what is being taught in the nation’s educational institutions.

Generalizations about the differences between high and low-status forms of knowledge need to be interpreted as

referring to the dominant characteristics that can be found on the opposite ends of the continuum of the cultural groups that make up American society. There is overwhelming evidence of a dominant elite whose power and legitimacy are based on the privileged forms of knowledge promoted in our educational institutions—particularly in universities. There is also an abundance of evidence relating to the marginalized and exploited cultural groups who are seen by the advocates of modernization as backward and inferior in intellectual and moral terms. But generalizations about the ecological consequences of high and low-status forms of knowledge also have to take account of the cultural patterns and beliefs found more in the middle reaches of this continuum of cultural orientations. It needs to be kept in mind, for example, that not all traditional cultures are models of ecological citizenship. Nor should all low-status forms of knowledge that underlie the cultural practices of marginalized groups be considered as immune from criticism and reform efforts. Furthermore, it needs to be remembered that solutions to the cultural aspects of the ecological crisis are not attainable simply by borrowing (appropriating) from the many approaches that ecologically centered cultures have taken to the creation of inclusive mythopoetic creation stories, transgenerational communication, cultural/bio-conservatism, and so forth. Indeed, this last warning may be relevant only to New Age activists, as it is nearly impossible to imagine the keepers of high-status knowledge even acknowledging that modern culture might have taken the wrong pathway of development. It is just as impossible to imagine them recognizing that the educational process should include the careful study of the earth wisdom of traditional cultures, and questions of how to reconstitute the conceptual and moral foundations of modern life. But this observation, which is based on more than twenty-three years of personal interaction with the keepers of high-status knowledge (at a university that prided itself on being a liberal institution), again frames the discussion in terms of the dominant elite that occupies the extreme end of the continuum.

Generalizations about this group also need to be framed against the background of the efforts of educators and private foundations that occupy a central position on

this continuum. That is, they possess the credentials necessary to participate in the symbolic world of high-status knowledge but have traditionally been concerned about the plight of marginalized, low-status groups. While their efforts to “green” educational institutions, from developing more efficient approaches to energy use in campus buildings to bringing about changes in the content of courses, must still be viewed as having a limited influence, they nevertheless need to be kept in the foreground of any discussion of educational reform strategies. Their efforts serve as reminders that significant cultural change often occurs through the efforts of dedicated people who start working from the margins of established power groups. They also serve both as models that can inspire similar efforts in other educational institutions, and as examples that must constantly be scrutinized in terms of internal contradictions. This last point is especially important as many environmental activists, both within and outside educational institutions, continue to embrace liberal assumptions that they acquired earlier without recognizing that these very assumptions provided both the conceptual and moral basis of the Industrial Revolution.

Perhaps the most visible and promising effort to reorient higher education toward the goal of an ecologically sustainable future was the Campus Earth Summit for Higher Education, held in 1995 at Yale University. Sponsored by the Heinz Family Foundation, the conference brought together 450 faculty, staff, and students from twenty-two countries, including representatives from all fifty states. The three day conference resulted in the publication of the *Blueprint for a Green Campus*, which contained the following recommendations:

- (1) Integrate Environmental Knowledge into All Relevant Disciplines;
- (2) Improve Undergraduate Environmental Studies Course Offerings;
- (3) Provide Opportunities for Students to Study Campus and Local Environmental Issues;
- (4) Conduct a Campus Environmental Audit;
- (5) Institute Environmentally Responsible Purchasing Policies;
- (6) Reduce Campus Waste;
- (7) Maximize Energy Efficiency;

(8) Make Environmental Sustainability a Top Priority in Campus Land-Use, Transportation, and Building Planning; (9) Establish a Student Environmental Center; (10) Support Students Who Seek Environmentally Responsible Careers (Heinz Family Foundation, 1995, pp. 2–3).

That these recommendations were the main achievement of the meeting indicates a general concern on the part of the attendees that higher educational institutions are continuing to operate as though the ecological crisis exists only as a media event. Like the Declaration of Independence, the *Blueprint* represents an attempt to awaken the most influential leaders within the educational establishment. More importantly, its recommendations identify the different areas in which higher education needs to initiate basic changes—with the curriculum being only one area.

While there are many small colleges, foundations, and individual professors attempting to foster environmentally oriented reforms, two programs stand out in terms of their national visibility and ability to provide leadership, as well as to channel resources to promising reform efforts. In 1990, Tufts University established the Environmental Literacy Institute with the goal of educating the entire student population of the university to become “environmentally literate.” The leadership behind this commitment came from the combined efforts of Tufts President, Jean Mayer, and the Dean of Environmental Programs, Anthony Cortese. One of the key features of the Institute is a two-week summer workshop at which faculty from different disciplines engage in an intensive study of environmental issues and discuss how these issues can be integrated into their courses. Faculty are then encouraged to teach their revised courses the following year. Institute faculty then review the course syllabi before making them available to universities across the country. In addition, Tufts University is also the home base for the Secretariat of University Presidents for a Sustainable Future. One of the key features of this group is The Tallories Declaration, which commits the signatory to provide institutional leadership both in introducing environmental awareness into all facets of university life and in

developing partnerships with community organizations working toward environmental renewal. To date, the Declaration has been signed by 223 university presidents representing institutions in North and South America, Asia, Africa, and Western and Eastern Europe.

The other noteworthy national effort is the Second Nature Institute started in 1993 by Cortese and Bruce Droste. The name of the Institute, according to its founders, was chosen to highlight that its central purpose was to make environmentally sound living “second nature” to the next generation of educational leaders. Most notable is its support of a consortium of seventeen historically African American and Native American institutions that are providing leadership training in how to introduce environmental literacy into the educational process.

There are many other efforts being made across North America to introduce environmental issues into courses, conduct campus energy audits, and convince departments to adopt more long-range strategies for collaborating with community action groups. The Green University Strategic Plan for George Washington University, the Eco-Justice Task Force established by the School of Theology at Claremont Graduate School, La Verne University’s faculty-wide effort to green its entire curriculum, and Portland State University’s School of Education graduate program, which focuses on the connections between education, culture, and ecology at the master’s level and community and environmental renewal at the doctoral level, are just a few of the reform efforts taking place on what must be acknowledged as the outer fringes of higher education.

But even the success of establishing environmental studies programs at most major universities across North America must be viewed as an expression of grudgingly granted tokenism—like the establishment of ethnic and women’s studies departments. That is, environmental studies is being accepted as an area of academic study, but its presence on campuses has had no significant influence on what is taught in departments such as psychology, political science, philosophy, history, economics, sociology, and so forth. While there may be one or two environmentally ori-

ented faculty members within liberal arts and professionally oriented departments who are attempting to clarify how relationships between humans and nature traditionally have been represented in these disciplines, or who are exploring the implications of changing the conceptual and moral priorities within the discipline, they are always in the minority. More importantly, they are seen by their more orthodox colleagues as being engaged in trendy and thus not really scholarly pursuits. These marginalized faculty are also penalized in the academic reward system when they volunteer their time to help the usually underfunded environmental studies program survive. The low level of support, as well as the inability of the more traditional academics to recognize the implications of the ecological crisis for their own disciplines, should be kept clearly in mind when considering why these promoters of high-status knowledge cannot be relied upon to reform themselves.

The growing number of private foundations supporting efforts to develop ecological literacy is somewhat more encouraging. However, the experience of participating in foundation sponsored conferences, where everybody shares similar views about the need to make the environment the main focus of educational reform, can indeed be misleading—particularly when conversations with colleagues at one's home institution seldom touch on environmentally related issues. This type of experience, along with the reform efforts cited above (including the Yale University Campus Earth Summit), can create a deceptive sense of the impact that conferences, foundation grants, and networking among environmentally concerned educators really have on mainstream public schools and universities. To make this point in the context of the earlier discussion of high and low-status knowledge, these reform efforts are taking place in that part of the continuum where there are few leverage points for effecting real change. That is, the reform efforts lack academic legitimacy, as well as a political and economic power base within the institution.

Putting these reform efforts in proper perspective requires admitting that they are taken seriously by only a small minority of university presidents and faculty, and by

an even smaller number of public school teachers. Aside from the more progressive public school science teachers who now base their environmental science courses on the constructivist view of intelligence (which is the latest reinterpretation of Industrial Revolution/Enlightenment assumptions about the connection between individual empowerment and social progress), it is safe to say that it is the unique public school teacher indeed who understands either the surface or deeper implications of David Orr's observation that "*all education is environmental education*" (1992, p. 90). Even the first recommendation of the *Blueprint for a Green Campus* on the "Need to Integrate Environmental Knowledge into All Relevant Disciplines" is framed in a way that recognizes that environmentally oriented faculty have no real power to effect changes in what is being taught in university classrooms and rewarded as significant research. While the document recommends integrating "environmental knowledge into all relevant courses," it provides examples of integration that do not lead to fundamental reform in the conceptual foundations of the disciplines, but are "add-ons" that merely give the appearance of relevance. Instead of citing an example of, say, an economics professor who helps students rethink the assumptions about scarcity, competition, and the causal connections that are supposed to exist between free market forces and human progress, the *Blueprint* cites the example of an economic professor at Tufts University who revised his course to include homework problems on articles from the *New York Times* about the poaching of elephants and the debate over grazing fees in the American West. A second example involved a drama professor who revised her theater technology course to teach students about resource flows of chemicals used in theater production (1995, p. 10).

Specific recommendations on how faculty should approach the integration of environmental knowledge into all areas of the university curriculum also suggest an add-on approach. High on the list is the need to "discuss with peers, faculty in your department, program, or related field, the environmental perspectives and components of your academic field." The *Blueprint* also recommends "making an

environmental course, or a course with a focus on environmental topics, part of the core curriculum or distribution requirement.” Indeed, these recommendations appear far-reaching and essentially sound when one considers the lack of environmental awareness in the discourse and reward system of most academic departments. With more of their research funding now coming from environmental, rather than defense related governmental agencies and industries, certain areas of the sciences are becoming notable exceptions to the kind of environmental denial that exists in most departments.

Given the widespread indifference that still pervades most departments, it is wishful thinking to base the kind of fundamental changes needed in the cultural assumptions that underlie the advancement of high-status knowledge on the hope that faculty who now benefit from the present system will be willing to engage in a serious discussion of how to introduce an environmental perspective into their courses and research. Adding an environmentally oriented course, even if it had a deep cultural perspective on human and nature relationships, to the core curriculum or set of distribution requirements seems to ignore that the real problem is in what is being taught in the existing core courses. Universities have long prided themselves on encouraging diversity of thinking—as long as the diversity was based on the same deep cultural assumptions. Unfortunately what students learn from this intellectual equivalent of a shopping mall is how to compartmentalize their own moral and intellectual commitments in ways that fit the ideological and epistemological orientation of the different disciplines. Learning to compartmentalize as one moves from one course to another dulls the awareness of contradictions—especially contradictions that obscure the fact that the environment can only tolerate so much human stupidity before its internal changes call people to account. It also conditions students to accept moral and intellectual relativism as a necessary part of participating in institutional settings governed by high-status forms of knowledge. But what is most problematic about this add-on approach to integrating environmental knowledge into the university

curriculum is that the basic double binds remain unchallenged—if they are even recognized.

There is an important parallel between the present inability of academics to recognize that high-status knowledge is built upon a set of anthropocentrically oriented cultural myths, and their earlier inability to recognize the racism and sexism in this privileged form of knowledge. University professors and public school teachers only became aware of the connections between what they were teaching and the symbolic and structural nature of racism and sexism after years of street demonstrations, court battles, and media attention. Even now there are powerful sectors in the academic community that do not yet recognize that the intellectual norms of “objectivity” and rigor also encode the epistemic orientations of the English language (if that is the language of the scholar/researcher). Nor do they recognize that it is at the level of epistemic code reproduced in the language that all forms of inquiry and knowledge construction become political, and this raises the issue of cultural domination—particularly when the language of the academic or expert explains the problem and solution that other cultural groups are expected to accept. The most obvious example of the cultural myopia that surrounds the myth of objective inquiry is evident in the ways that scientific explanations subvert the moral relationships that are integral to how many indigenous cultures understand “natural” phenomena.

It took feminists over a hundred years of political activism before public schools and universities began the slow and still uneven process of examining how the curriculum, hiring practices, and reward system favored men—often to the total exclusion of women. Our educational institutions have an even more dismal record in recognizing the racist assumptions that were often the basis of a field of inquiry (psychology and anthropology come easily to mind). Their attempts to rectify this deep-seated tradition, particularly in the area of curriculum reform, have largely taken the form of academic tokenism where the problem is isolated by setting up a special department of ethnic studies. But these institutions are beginning to respond to outside political pressures to address these social justice issues. And this

may be the point that is most significant in terms of whether our educational institutions continue to take a tokenism approach to environmentalists, or begin to address the more deeply embedded cultural assumptions that are the basis of the high-status forms of knowledge that continue to ignore the problem of long-term sustainability. The evidence, I think, is overwhelming that the latter will only occur in response to outside political pressures.

This leads me to state the central purpose of this book, which is to foster a critical and sustained discussion of why it is absolutely imperative that what is learned in public schools and universities be made a central concern of the environmental movement. A second purpose is to suggest workable strategies for integrating the educational process into the larger task of changing from a culture that exploits the environment to one that can live within sustainable limits. When we consider the power of public education to obfuscate fundamental human/environment relationships, to delegitimize certain forms of cultural knowledge while conferring high status on other forms, to determine who has access to the credentialing process essential to positions of power within society, and to renew the deepest held mythologies of the dominant culture, the need to develop an educational strategy becomes as important as any challenge now facing the environmental movement. Indeed, a strong case can be made that the need for political action directed toward preserving wild lands, slowing the rate of pollution of land and water, and winning support for a specific piece of environmental legislation, has its roots in the environmentally destructive cultural beliefs and practices that are mostly passed on from generation to generation through the media and educational institutions. Unless the culture of modernism is fundamentally altered, which in part means altering what students learn in public schools and universities, there will be an unending series of environmental problems that will keep attention focused on the immediate consequences of these cultural beliefs and practices, and not on the source of the problem. This is the classic double bind situation that now needs to be addressed; that is, if the world's natural systems do not first collapse from the increased pressure caused by the continuing expansion of the human population.

However, before considering the key issues that must be addressed as part of the process of developing an educational strategy, it is necessary to identify possible reasons for the environmental movement's current indifference to the double binds now being exacerbated by the modernizing orientation of our public schools and universities. The suggestion that education and culture are as bound together as culture and natural systems is fairly obvious when stated in this way. So the question becomes, Why have intelligent people who are aware of environmental problems ignored by vast numbers of Americans been unable to recognize the critical importance of the primary relationships between education, culture and ecosystems? Obviously, they are not intellectually limited or morally atrophied. The reasons, I suspect, are as varied as they are complex. But they need to be taken into account as we start to think about the purpose and strategy for an ecologically sound approach to educational reform.

The three most obvious reasons that educational institutions are ignored include the fragmented nature of the environmental movement, the marginal status of a deep cultural perspective in the education of the people who become environmental writers and activists, and the ideological orientation that many members of environmental groups share with the educational community. A brief consideration of each complex set of reasons will help us recognize that developing an educational reform strategy will require giving as careful consideration to the dynamics and varied nature of what I have loosely referred to as the "environmental movement" as must be given to the even more complex nature of the educational establishment.

Reasons for Laissez Faire Attitude toward Public Schools and Universities

Fragmented Nature of the Environmental Movement

The use of the phrase "environmental movement" may suggest intellectual laziness or a general lack of understanding on the part of the person who uses it. It may also suggest an awareness that it is the only label sufficiently

broad to encompass a wide range of interest groups who, in some instances, share little in common except the need to include the word “environment” in their promotional literature and appeals for funding. As I am attempting to reach interest groups who represent the entire spectrum of environmental writers and activists (including corporate leaders who recognize the danger of pushing beyond critical ecosystem thresholds), the latter explanation accounts for my use of this admittedly inaccurate phrase. I could have used the more conventional distinction that separates environmentalists from deep ecologists. According to this approach, the environmentalists include groups who utilize science and technology as a means of managing the environment as a natural resource that can be exploited on a long-term basis. Thus, most scientists, free-market environmentalists, and elements of the business community interested in “sustainable economic development” would fit into this category. Among the more prominent groups challenging the conceptual and moral basis of our ecologically destructive cultural patterns are the deep ecology philosophers, social ecologists, and ecofeminists. Following the lead of Arne Naess and George Sessions, deep ecology thinkers have attempted to identify an alternative set of guiding philosophical principles that avoid the dangers of the anthropocentric assumptions that underlie modern culture. Social ecology, as represented in the ideas of Murray Bookchin and Janet Biehl, takes a more systemic approach to understanding the roots of the ecological crisis. Thus, social ecologists are critical of deep ecology thinkers for emphasizing the influence of philosophical ideas rather than the role of capitalism in reducing nature to an exploitable resource. But their prescriptions for a post-capitalist form of culture share much in common with the current expression of libertarian thinking that emphasizes “self-managing, face-to-face communities.” While critical of both deep ecology and social ecology (for very different reasons), ecofeminists in the words of Charlene Spretnak offer as “an alternative to the Western patriarchal worldview of fragmentation, alienation, agonistic dualisms, and exploitative dynamics . . . a radical reconceptualization that honors holistic integration:

interrelatedness, transformation, embodiment, caring, and love" (1994, p. 187).

I find that the distinctions between environmentalists and the groups who take a more critical approach to systemic and cultural beliefs to be useful in certain circumstances. But we should be looking for a shared basis of interest in addressing the complex problem of developing a strategy for awakening the educational establishment to its role in perpetuating ecologically destructive cultural beliefs and values. Thus, I shall continue to use the more inclusive label of "environmental movement," while recognizing that the various groups encompassed by this label will approach any serious consideration of an educational strategy in terms of their distinctive interpretative frameworks. With regard to the more doctrinaire members of these different groups, my expectations have been scaled back to the point of hoping merely to shift their focus from an incidental interest in educational issues to a more sustained discussion. For people in the environmental movement who are open to addressing changes that will affect the mainstream of American society, and to considering educational institutions as one of the most viable leverage points, I have greater expectations for success.

To return to the main issue under discussion here, it is this diversity of groups within the environmental movement that accounts, to a large degree, for the reason why educational reform has been ignored. In the early 1900s, environmental groups came into existence in response to how specific environmental issues were perceived at the time. The early conservation movement worked to save large tracts of land from economic development by having them set aside as national parks. As human demand and technological developments began to degrade the environment in other ways (threat of species extinction, loss of forest cover, degraded fish habitat, etc.) environmental groups continued to form for the purpose of dealing with specific environmental problems. It is this problem-specific orientation of most environmental groups (protecting rain forests, saving whales, restoring degraded habitats, enacting legislation that address specific environmental abuses) that has pre-

vented them from considering how the cultural assumptions passed on through the different levels of formal education contribute to the problems that become their primary concern. Focusing on environmentally specific issues has also been essential to the survival of groups operating on limited budgets, and who have had a better chance of obtaining continued outside funding if they remained focused on the environmental issues that other people shared an interest in. If these groups had launched a broad-based effort to reform the cultural orientation taught in the classrooms, they would have jeopardized, in many instances, their sources of financial and political support—as well as lost the central focus essential to their success. Furthermore, the crisis nature of many environmental problems has required immediate action, such as responding to the spill of radioactive waste or other toxic chemicals, the need to block the sale of what remained of an old growth stand of trees, and the need to take action that would reverse the rapid decline of a particular species. This need to respond to environmental crises, which now characterize many environmental groups, makes sustained reflection on the broader cultural issues more difficult. Understanding the deep cultural assumptions, where they came from and how they are encoded and reenacted in daily practices, also requires a different form of knowledge than what is required in the rapid marshalling of public attention, economic resources, and scientific/technological expertise essential to restoring the viability of an ecosystem or to protecting existing environmental legislation from being dismantled. And this brings us to the second set of reasons the connections between education, culture, and the ecosystem have been largely ignored: namely, the lack of a deep understanding of culture that environmental groups share with other segments of society who were educated in America's public schools and universities.

Marginalization of Culture

In one sense, environmental writers and activists cannot avoid dealing with culture as it is integral to how they think about environmental issues and to their use of tech-

nologies. Contrary to popular opinion and what is taught in various subfields of science, the scientific way of understanding natural phenomena is based on a culturally specific epistemology. This is often overlooked partly because of the legitimating ideology that few people are able or willing to question, and partly because the cultural epistemology shared by scientists has become so widespread around the world that it has taken on the mythic status of a culture-free mode of inquiry. In effect, the word “culture” encompasses everything humans think, value, communicate, and in other ways act out. Even the more biological aspects of human and other forms of life are influenced by cultural practices.

Given the pervasiveness of culture, one might well question the claim that environmentalists have ignored the role culture plays, and thus the importance of education, in the increasingly problematic relationship between humans and the environment. The reason for my concern is that most of our culture is learned and reenacted at a taken-for-granted level. Indeed, cultural patterns, such as the subject-verb-object ordering of our language and thought processes, are part of our natural attitude. Most of our experience is based on taken-for-granted patterns that contribute to communication, meaning, and in other ways enable people to negotiate relationships and resolve everyday issues. In effect, these implicit cultural patterns serve as the conceptual and moral background knowledge that enables us to deal with the more explicit uncertainties; but when these patterns lead to problematic relationships, such as the perception of the environment as a natural resource or computers as a culturally neutral technology, they then need to be made explicit—which is often the first step in the process of effecting change in the culture. Making explicit the gender bias in language, and in our everyday relationships, is an example of cultural change that involves the revision of previously held taken-for-granted patterns.

The primary reason that environmentalists tend not to think of environmental issues in terms of cultural patterns, but to use other categories and metaphorical language that further marginalizes an awareness of the influence of culture, is that their own education occurred in institutions

that treat culture as the specific interest of anthropologists. When students take an anthropology class they are learning about culture; but their psychology, history, literature, and biology classes are represented as bodies of knowledge, theories, individual scholarly achievement and creativity, that do not require an understanding of how they are an expression of a particular culture. Furthermore, the organization of knowledge in each of the disciplines is based on philosophically grounded assumptions that had their origins in the formative development of the modern mind-set when philosophers and social theorists did not understand how culture influenced their own ways of thinking. The result of this inability to recognize the constitutive role of culture is that the assumptions that underlie the modern way of thinking reproduce misunderstandings of these earlier thinkers. For example, currently held assumptions that represent the individual as the basic social unit, intelligence and creativity as attributes of the individual, language as a neutral conduit, the rational process as yielding “objective” and thus culture-free knowledge, and change as inherently progressive in nature, would more easily be recognized as culturally specific if differences in cultural epistemologies were understood.

As these modern and culturally specific assumptions underlie most areas of the public school and university education, few graduates of these institutions are able to recognize the constitutive role (and taken-for-granted status) of culture in human experience—except when specific cultural patterns become existentially problematic. Having been educated to base their own thoughts, values, and technological practices on the assumptions underlying modern consciousness, most environmentalists simply reproduce the way of understanding that continues to disregard the influence of culture. Some environmentalists, such as Wendell Berry and Gary Snyder, come very close to writing directly about the hidden influence of culture. The writings of Richard Nelson, Gregory Cajete, Jerry Mander, and Helena Norberg-Hodge are even more explicit. But most environmentalists share the proclivity either to ignore culture or to equate culture with modernity, which may account, in part,

for why they have ignored how educational institutions reproduce the double binds of the culture.

As I will be basing my analysis and suggestions for educational change on a way of understanding culture that is not widely shared, a brief explanation of what I mean by culture might help prevent misinterpretations of critical parts of my argument. The anthropologist Clifford Geertz suggests that the word “culture” should be seen as “denoting an historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which men communicate, perpetuate, and develop their knowledge about and attitudes toward life” (1973, p. 89). After listing a number of different ways that culture influences human experience, Ward H. Goodenough summarized in the following way how everyday experience involves the expression of culturally shared patterns: “culture, then, consists of standards for deciding what is, standards for deciding what can be, standards for deciding how one feels about it, standards for deciding what to do about it, and standards for deciding how to go about doing it” (1981, p. 62). I will be using the word culture in the same inclusive way, but will stress more how cultural patterns are learned at a tacit and contextual level, and thus experienced as taken-for-granted—or what can be called our “natural attitude” toward everyday life. I will also be emphasizing how past forms of cultural intelligence and moral sensitivity, particularly as they relate to human relationships with the environment, are encoded and reproduced through different forms of communication that sustain people’s taken-for-granted experience—from the metacommunication of body language to the cultural encoding and reproduction characteristics of computer mediated thinking and communication.

When this more complex view of culture is used as the *basis* of thinking about environmental issues, and not as an incidental issue that might be brought into the discussion as an afterthought, it then becomes easier to recognize the patterns of modern thinking that characterize most current criticisms of modernity. This more complex view of culture also makes it easier to bring into the discussion of ecological

sustainability a comparative perspective that is less distorted by the modern bias against more traditionally oriented cultures. In short, the foregrounding of the cultural nature of human experience (including the recognition that cultural patterns are given individualized expression) makes it easier to avoid the modern form of discourse that misrepresents the individual, whether in the role of theorist or as the object of analysis, as culturally autonomous.

For example, in making the case that educational institutions are perpetuating a double bind by educating students to high-status cultural assumptions and practices that threaten the viability of ecosystems, an important distinction needs to be kept clearly in mind. Understanding how culture is part of our taken-for-granted patterns of thought and behavior is essential to being able to consider the second area of concern: namely, the ecologically problematic cultural patterns that need to be given specific attention. One of the most difficult cultural processes to recognize is how the languages of a cultural group encode and continue to reproduce the patterns of metaphorical thinking that occurred at an earlier time in the history of the cultural group. This is essential to understanding why environmentalists continue to perpetuate the double binds of modern culture by relying upon the patterns of thinking that contributed to the ecological crisis in the first place. The way in which cultural patterns are learned at a taken-for-granted level of understanding is also important if the process of making explicit and reconstituting problematic cultural patterns is to be carried beyond what is already obvious and immediate. How cultural patterns, which always have a human origin, become reified and thus experienced as having an objective (even universal) status is another aspect of everyday experience that needs to be understood. Particularly relevant to our concerns here is how taken-for-granted patterns tend to be projected onto other cultural groups as their basis of understanding. This leads to misunderstanding the differences between cultural groups, and often to the unintentional imposition of practices and beliefs—in the name of progress.

The other aspect of culture that we shall return to in later chapters has to do with the questions that environ-

mentalists need to raise in considering any aspect of culture. The questions fall into two categories: "Which cultural patterns are contributing to the ecological crisis?" and "What are the characteristics of cultural patterns that contribute to long-term sustainability?" Both questions are essential to a critical assessment of the form of culture being learned in public schools and universities.

The Shared Ideological Orientation

The diversity within the environmental movement suggests that it would be impossible to obtain agreement on a guiding set of ideological principles. The eight "Basic Principles" of Deep Ecology articulated by Bill Devall, George Sessions, and Arne Naess (1985, p. 70) did not lead to an increase in collaboration between social ecologists, ecofeminists, and deep ecologists. Nor have the principles been embraced by environmentalists ranging from eco-capitalists, who want to present a green image to consumers, to scientific environmentalists who still embrace the belief that a more rational understanding of the dynamic characteristics of ecosystems will enable us to manage them on a long-term basis. In spite of the fundamentally different perspectives on what deserves attention, and how respective self-interests are to be served by the approach taken to environmental problems, a strong case can be made that there is a common set of assumptions shared by most environmentalists, and that these deeply held and mostly taken-for-granted assumptions can best be understood as an ideology. It is an ideology that frames how basic aspects of human experience are to be understood and acted out.

But the differences between environmental groups reflect differences in which shared assumptions are given more prominence. For example, those groups that want to manage the environment on a more scientific basis foreground the liberal assumption of the ability of rationally based thought to exercise control over the uncertainties of the future. Environmentalists who want to save rain forests or the spotted owl from economic exploitation foreground a different liberal assumption—namely, that liberation from exploitation now

needs to be extended to the non-human world. While certain assumptions are given prominence in the thinking of a given environmental group, many of the other assumptions basic to the ideology continue to be shared at a more tacit level of understanding. There may even be fundamental differences about the efficacy of specific ideological assumptions, such as those which lead ecofeminists to distance themselves from what they perceive to be patriarchal patterns in other environmental groups, or those which set the anti-anthropocentric stance of some groups at odds with those who advocate the use of science as the basis of environmental management. These differences, however, often seem not to affect the tacit acceptance of other assumptions that bind these groups to a common ideological orientation.

As more attention will be given later to the connection between the liberal ideology of modernism and the double bind that educational institutions are creating for present and future generations, I will only summarize here why the ideology shared by different groups within the environmental movement has contributed to their indifference toward what is being taught in the nation's educational systems. Simply put, the environmentalists' indifference toward educational institutions results, in part, from sharing with the educational establishment many of the assumptions that underlie modern liberalism. That is, taken-for-granted assumptions and practices tend to go unnoticed until behavior is challenged by a different set of assumptions. As we shall see in the next chapter, the language of mainstream classroom teachers and university academics is derived from and, in turn, reproduces the same ideological assumptions that are taken for granted by most environmental writers and activists. This common grounding in the same deep patterns of thinking also helps account for the ability of environmentalists to stay focused on specific problems.

It is ironic that the ideological assumptions that provided the liberal, conceptual, and moral framework for the development of the Industrial and now the Information-Revolution continue to be the basis of thinking for most environmentalists. Again, it needs to be emphasized that I am not suggesting that *all* the liberal assumptions are em-

braced by *all* environmentalists. It also needs to be emphasized that even when there are fundamental differences over certain assumptions, the differences often do not lead to rethinking other liberal assumptions that are still taken for granted. The following examples are intended to demonstrate both points: the sharing of liberal assumptions and the inability to question and revise key aspects of modernist liberal assumptions in the face of radically divergent thinking about human/nature relationships.

I would like to start with an observation by Roderick F. Nash that supports my argument. In *The Rights of Nature*, Nash writes:

The alleged subversiveness of environmental ethics should be tempered with the recognition that its goal is the implementation of liberal values as old as the republic. This may not make modern environmentalism less radical, but it does place it more squarely in the mainstream of American liberalism, which, after all, has had its revolutionary moments. (1989, p. 12)

In a later passage Nash identifies one of the connections between the philosophical underpinnings of the liberal view of freedom and how deep ecologists think about the rights of nature:

It is significant for the link between Western liberalism and environmental ethics that Naess and other deep ecologists based this axiom on the 'inherent,' 'intrinsic,' or, as older philosophers might have said, 'natural' rights of all beings to life, to freedom from excessive human interference, and to the opportunity to pursue their own definition of happiness. Here, of course, was an explicit application of the familiar tripartite foundation of American liberalism, dressed in new ecological language and extended not only to all living things but, as Sessions and Naess explained after a 1984 camping trip to Death Valley, California, to 'rivers, landscapes [and] ecosystems.' (p. 147)

Different liberal assumptions are clearly present in Arne Naess's emphasis on individuals developing their *own*

guiding ecological principles (1989, p. 37), and Murray Bookchin's stress on the importance of "individual autonomy" within the context of what libertarians envision as small scale, participatory communities. Bookchin's revisionist brand of liberalism can be seen in the following warning—one that demonstrates the modernist liberal tendency to ignore the nature of cultural embeddedness as well as the diversity of cultural ways of understanding such primary relationships as the individual's relationship to the human and biotic community:

A tyranny of consensus, like the famous 'tyranny of structurelessness,' demeans a free society. It tends to subvert individuality in the name of community and dissent in the name of solidarity. Neither true community or solidarity are fostered when the individual's development is aborted by public disapproval and his or her deviant ideas are 'normalized' by the pressure of public opinion. (1990, p. 176)

As these references to Naess and Deep Ecology may lead some readers to misinterpret me to be putting the eight guiding principles of Deep Ecology into the category of liberalism, it is important to make several important distinctions. The eight principles formulated by Arne Naess and George Sessions are not in themselves an expression of liberal thinking. But the rational approach to articulating the principles, as well as the emphasis on each individual deciding how to interpret them, are expressions of the liberal tradition of presenting universal principles that ignore how ideas reproduce a specific cultural epistemology and moral code. Naess's statement that individuals must decide their own approach to a guiding ecosophy does not reflect the deep influence of Buddhism and Hinduism on his thought as it does his Western liberal emphasis on individuals interpreting how the guiding principles are to be actualized. Witness the following explanation by Andrew McLaughlin:

Even the *kinds* of reasons which might persuade a person to adopt a version of the platform (the eight principles) may range from rational to nonrational to irrational. For example, acceptance might be based on philosophical re-

flection, religious conviction, personal experience, intuition, mystical experience, aesthetic perception, or some other basis. *Allowing for a variety of paths to the same position is precisely the intent of the Deep Ecology platform.* (1995, p. 91)

This rational formulation of principles does not take account of how different cultures have embedded their own understanding of ecological principles in their meta-narratives. It reflects instead the liberal assumption about the universal efficacy of abstract rational thought.

Other environmental writers have advocated futurist thinking (that is, a highly experimental orientation toward cultural engineering), fostering the ability to “break away from old patterns of thinking,” a subjectivist approach to experiencing the landscape, and social decision-making based on “communicatively rationalized political debate.” Indeed, the greening of liberal assumptions has created a more ecologically attuned vocabulary that nearly obscures the legitimating role these assumptions played in the creation of an industrial, and now information based, society. But if the reader examines closely the conceptual/moral framework currently being reworked to account for environmental concerns, it is still possible to recognize the essential elements of liberal ideology: the efficacy of rational thought, the view of the individual as the basic social unit (now embedded in information and energy webs), the progressive nature of new ideas and values, the rejection of forms of authority grounded in tradition and cultural norms, and so forth. However, the average reader who shares these basic liberal assumptions (even readers who reject today’s extreme commercialized and nihilistic expression of these assumptions) is not likely to be aware of the presence of these assumptions in the writings of environmentalists—nor, by extension, in the writings of educators.

Another way to assess the explanatory power of these generalizations about the liberal ideology that are taken for granted within both the environmental movement and the educational community is to consider how the members of both groups react to the suggestion that, in terms of a guid-

ing ideology, some form of cultural conservatism may be better suited to addressing the complex challenges of living within ecological limits. That is, how many environmentalists and educators would be comfortable with the idea that the survival of the world's cultures within the context of viable ecosystems will require evolving a set of guiding ideological assumptions that are oriented toward conserving ecologically sustainable cultural practices and beliefs? And how many would be comfortable with the further suggestion that the educated elite of American society can learn from the ecologically centered conservatism of other cultures, and from the cultural conservatism of many ethnic groups in American society? Another test that often leads environmentalists and educators to make explicit their liberal assumptions is to suggest that one of the problems we face is an inability to accumulate and transgenerationally communicate ecologically sustainable beliefs, values, technologies, and ceremonial practices.

The argument that some form of conservative ideology may be more appropriate to evolving an ecologically sustainable form of culture presents another kind of challenge to the taken-for-granted assumptions of liberal thinkers. For example, the accumulation and transgenerational communication of ecological wisdom will require that the elderly in our society learn to take on a radically different set of responsibilities in order to play their part as elders. Today's youth will also have to learn how to participate in the process of transgenerational communication if they are to contribute to the process of ecological/cultural renewal, and later to assume the responsibility of elders. I will conclude this overview of how the shared ideological orientation contributes to environmentalists' laissez-faire attitude toward high-status forms of knowledge and the nihilistic values being reinforced in the classroom with a quote from Dave Foreman that recognizes, in a limited way, the nature of the ideological double bind sketched in the last paragraphs. In his book, *Confessions of an Eco-Warrior*, he acknowledges that "it may well be debated whether allying environmentalism with liberalism in general was a positive change. But that is a topic deserving analysis on its own. I

am teasing a different rattlesnake here” (1991, p. 197). His analogy of how many environmentalists would react to the connection with conservatism is an apt one that we shall return to in later chapters.

Overview of the Many Dimensions of An Educational Strategy

My suggestion that environmentalists should give attention to the double binds that their own liberal and modernist patterns of thought put them in may sound like another expression of wishful thinking about the power of the printed word. But as the globalization of modern cultural practices (including the use of chemicals and other Western technologies, more widespread centering of daily life on consumerism, etc.) further impact the environment, it will become increasingly obvious that environmentally degrading cultural beliefs and practices themselves will have to be addressed. The subsequent chapters represent an attempt to focus attention on the need to reform the symbolic foundations of modern culture, and thus on what is being learned in public schools and universities, before existing environmental challenges become catastrophic in nature. The differences that characterize the various groups that make up the environmental movement, and the difficulty of reconstituting the deep cultural assumptions that are in conflict with the need for immediate technological solutions to environmental problems, may limit the effort to develop strategies for marshalling the political energy necessary for effecting radical educational reform. However, identifying the complexities of the problem is the first step that needs to be taken in initiating a serious discussion about how public schools and universities can play a more central role in helping to reduce the impact of modern culture on the environment.

The following chapters provide an overview of how university departments continue to promote the modern view of the individual as the basic social unit, an anthropocentric way of understanding human/nature relationships, and the

assumptions that underlie the quest for new ideas, values, and technologies. The wide conceptual diversity that appears to exist within and between departments continues to be based on these modernist assumptions, which are in radical opposition to the forms of human relationships with nature that ecologically centered cultures have made their primary concern. This overview of the many expressions of high-status knowledge will help clarify the questions that need to be asked by environmentalists, as well as help demystify the specialized language of different disciplines that makes outside criticism difficult. The other chapters will address issues relating to the need to align educational reform with an ecologically centered ideology, to understand how culture is stored and reproduced (often at the unconscious level) through the language processes that frame teaching and learning, to consider the range of strategies that can be used to avoid a tokenism and add-on approach to reforming the curricular foundations of high-status knowledge, and to understand the connections between reforming teacher education and the greening of public schools.

My hope is that this book will help raise the level of awareness within the environmental movement about the danger of ignoring the educational process, as well as lead to the emergence of a new type of environmental activist—one who has a deep understanding of how culture is encoded, stored, and reproduced in the communicative patterns of everyday life, and in the educational process. It is also the intention of this book to bring the characteristics of ecologically sustainable cultures into the discussion of educational reform. Unless environmentalists have a clear understanding both of how the educational process fits into the more complex dynamics of cultural change, and of cultural patterns that are sustainable, they will have no way of knowing how the educational process is undermining their efforts to create a sustainable future.