

10. Environmental justice considers governmental acts of environmental injustice a violation of international law, the Universal Declaration On Human Rights, and the United Nations Convention on Genocide.
11. Environmental justice must recognize a special legal and natural relationship of Native Peoples to the U.S. government through treaties, agreements, compacts, and covenants affirming sovereignty and self-determination.
12. Environmental justice affirms the need for urban and rural ecological policies to clean up and rebuild our cities and rural areas in balance with nature, honoring the cultural integrity of all of our communities, and providing fair access for all to the full range of resources.
13. Environmental justice calls for the strict enforcement of principles of informed consent, and a halt to the testing of experimental reproductive and medical procedures and vaccinations on people of color.
14. Environmental justice opposes the destructive operations of multinational corporations.
15. Environmental justice opposes military occupation, repression and exploitation of lands, peoples and cultures, and other life forms.
16. Environmental justice calls for the education of present and future generations which emphasizes social and environmental issues, based on our experience and an appreciation of our diverse cultural perspectives.
17. Environmental justice requires that we, as individuals, make personal and consumer choices to consume as little of Mother Earth's resources and to produce as little waste as possible; and make the conscious decision to challenge and re-prioritize our lifestyles to insure the health of the natural world for present and future generations.

\*Source: Principles of Environmental Justice (October, 1991). Ratified at the First People of Color Environmental Leadership Summit. Washington DC. October, 1991.

## LEARNING OUR WAY TO A SUSTAINABLE AND DESIRABLE WORLD: IDEAS INSPIRED BY ARNE NAESS AND DEEP ECOLOGY

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The challenge of today is to save the planet from further devastation which violates both the enlightened self-interest of humans and nonhumans, and decreases the potential of joyful existence for all (Naess, 1995, p. 226).

### INTRODUCTION

The world is shaped by the ways in which humans choose to live. Nature, as the material world and all its collective objects and phenomena, is embedded in our genes and our cultures. Our cultures, through their artifacts and actions, reflect our shifting attitudes toward nature. Our changing attitudes toward nature guide our shaping of it. And this refashioned nature, in turn, reshapes our cultures.

Many of today's environmental problems—global warming, stratospheric ozone reduction, biodiversity loss, pollution, water shortages, desertification and salinization, invasive species—are the unintended, unforeseen (but not necessarily unforeseeable) consequences of a failure to adequately appreciate the two-way character of this relationship. Humans can be positive and creative forces on this planet, but we must learn to live—and find joy living—in ways that celebrate and cherish the full richness and diversity of the Earth, both cultural and biological. This is, perhaps, the most vital challenge before humanity.

Humans have co-evolved with the planet's other life forms and all of their terror, splendor, utility, and wonder. As ecologist E.O. Wilson contends, we have an inborn affinity for them—"an affiliation evoked, according to circumstance, by pleasure, or a sense of security, or awe, or even fascination blended with revulsion" (Wilson, 1994, p. 360). We are *a part* of nature, but it is a nature that we continue to dominate and diminish through our collective efforts to refashion it in our own image. These efforts to distance ourselves from nature, to de-wild and de-sacralize it through continual marginalization and homogenization, may, however, only end up diminishing and de-humanizing us. We might, metaphorically speaking, be sewing the seeds of our own destruction with Round-up Ready Soybeans™, Bt Potatoes, and biopharming. The fatuousness of pursuing this de-wilding strategy to its logical end—setting ourselves *apart* from nature—should have been made vividly clear by

Biosphere 2's manifest dependence on "external" ecosystems services—Biosphere 1<sup>1</sup>. And yet, the essence of our humanity, which is somehow tied to the flourishing of the Earth's richness and diversity, still seems under-appreciated. The future is not yet drawn, but our everyday actions, in ways likely unclear to us now, are adumbrating its contours.

Concern over the health, status, and character of the world, our inheritance and legacy to all the world's future inhabitants, is on many minds and in many hearts. The primatologist Jane Goodall describes her sense of loss for a once fecund and diverse forest and despairs over the cycle of poverty that accompanies its destruction (Goodall, 1994, p. 21):

A little while ago I drove along a road in Tanzania that once ran through miles of forest. Twenty years ago there were lions and elephants, leopards and wild dogs, and a myriad of birds. But now the trees are gone and the road guided us relentlessly, mile after mile, through hot, dusty country, where crops were withered under the glare of the sun and there was no shade. I felt a great melancholy, and also anger. This anger was not directed against the poor farmers who were trying to eke out a livelihood from the inhospitable land, but against mankind in general. We multiply and we destroy, chopping and killing. Now, in this desecrated area, the women searching for firewood must dig up the roots of the trees they have long since cut down to make space for crops.

A quite different view of the "state of the world," from a macro perspective, is offered by the Danish political scientist Bjørn Lomborg (2001, pp. 351-2), the latest author in the tradition of "doomsayer" Julian Simon:

We are actually leaving the world a better place than when we got it and this is the really fantastic point about the real state of the world; that mankind's lot has vastly improved in every significant measurable field and is likely to continue to do so.... [C]hildren born today—in both the industrialized world and developing countries—will live longer and be healthier, they will get more food, a better education, a higher standard of living, more leisure time and far more possibilities—without the global environment being destroyed.

How do we reconcile the conflicting views of Lomborg and Goodall on the state of the world? Are their descriptions of "two" worlds simply the result of viewing a non-homogeneous world from two radically different scales? Or are they the result of fundamentally different perceptions of the same world, based on radically

<sup>1</sup> Biosphere 2 was created to explore the potential of developing self-sustaining environments separate from planet Earth—Biosphere 1. A 1.26 hectare greenhouse was constructed in the Arizona desert near Tucson. The greenhouse, which was designed to be hermetically sealed, was populated with a "representative" sampling of the Earth's major ecosystems, including grasslands, marshlands, ocean complete with coral reef, and a tropical rainforest. In mid-1991 four men and four women were sealed into Biosphere 2 for a two year adventure. A series of unforeseen events rapidly occurred. Oxygen levels dropped precipitously, levels of nitrous oxide spiked, carbon dioxide levels fluctuated dramatically, ecosystems failed, and over-harvesting ensued. In a short time, nineteen of twenty-four vertebrate species were extinct along with all of the nonhuman pollinators. Additional oxygen had to be added from Biosphere 1 (before the two years were out). The Biospherians also began turning the tropical rainforest into a farm and started smuggling in rations from Biosphere 1. While the experiment was ostensibly a failure, it presented us with a sobering clarification of both the significance of *in situ* ecosystem services and how little we understand about what is required to sustain them and us.

different values and distinctly different criteria and standards for judging what is important?

Contemporary sustainability discussions, with their many diverse, competing, and sometimes conflicting perspectives, represent nothing less than impassioned conversations on the human prospect and the fate of the planet. The term "sustainability," in its widest sense, can be conceived as a heuristic device for introducing, exploring, and peeling back the many layers of the human *problématique*. From a meta-perspective, three fundamental questions are suggested. First and foremost, "What makes life worth living—what truly nourishes and fulfills us?" Second, "How *should* we, as individuals and societies, approach the paradox of using but not abusing nature?" And finally, "What is our place on Earth—what are our responsibilities, duties, and obligations toward humans and nonhumans alike?" Exploring these three questions and relating them to the many interpretations of sustainability can help us make sense of the past, claim the present, and plan for the future.

Sustainability is an elusive and inescapably normative term—it involves our values and subjective perceptions about the state of the world, technology, economics, and the value of all life. Characterizations of sustainability are inextricably tied to our views on the existence, or lack thereof, of real physical carrying capacity limits and social or human behavioral constraints that might affect our abilities to acquire and process knowledge, make wise judgments, govern, manage, and plan. For instance, when considering issues such as climate change or biodiversity loss, do we emphasize adaptation and change or conservation of structural characteristics?

Any thoughtful consideration of sustainability demands a careful examination of four key questions. First, *What are we trying to sustain*—the human race, a viable economy, unrestricted technological development, our lifestyle, biodiversity, cultural diversity, ecosystem services, particular species? Second, *For whom*—all living humans, some living humans, future generations, all life? Third, *For how long*—till the sun dies, thousands of years, decades, the weekend? And finally, *Who decides*—who is making the decisions for the *whom*? How did they come to be in this role, and what values and standards will they use to make their decisions?

Two related questions also warrant consideration. First, does "to sustain" merely mean to keep in existence, to persist—regardless of the state of existence? A culture or species could be "kept alive" in a museum or zoo—just as with Ishi or a snow leopard<sup>2</sup>. Is this acceptable? Or by "sustain" do we mean something more akin to the flourishing of cultures and species? Second, does the particular "sustainable" world under consideration constitute a "desirable" world? Would we be spiritually or

<sup>2</sup> Ishi was the lone survivor of the Yahi tribe of Northern California. He lived in the "wild" until 1911, when he was found, emaciated and enervated, in the corral of a slaughterhouse. Ishi was delivered to the University of California's Museum of Anthropology, where he spent the remainder of his life (some five years) under the care of the anthropologist's Thomas Waterman and Alfred Kroeber. Snow leopards (*Panthera uncia*) are solitary and very rare members of the *Felidae* family that are native to the mountains of Central Asia. Unfortunately, their beautiful, creamy gray and black spotted fur is a valuable commodity. They also suffer from habitat loss and fragmentation. Strangely, while they undergo increasing threats in the wild, they continue to breed successfully in zoos around the world.

aesthetically satisfied with a sustainable but much less diverse world of plastic trees and nature DVDs? Must the "sustainable" state also be socially just? What is the cost of going from here to there (or not going)—how are past relationships and traditions altered in the transition? Can it embrace serendipity and is it prepared for the unexpected? As with any complex multicriteria problem there will be competing interests and conflicts regarding the weighing of priorities. Are there provisions for addressing these in an ethically responsible and equitable manner?

This is a representative selection of the many questions that can and should be raised when taking an open-minded, meta-perspective on the sustainability debate. I have coined the term "ecocultural sustainability" to refer to a state and process that is both desirable and ecologically-sound. In my view, realizing a state of ecocultural sustainability requires that we, at a minimum, can support over successive generations: (1) the flourishing of rich cultural and biological diversity; (2) forms of governance that are democratic, open, transparent, and socially just; (3) sufficient, bioregionally-sound, and respectful economies; and (4) accountable and creative economies that keep their ecocultural wake in-check by both learning from and working with nature *and* limiting the total life-cycle costs (social, environmental, and financial) of production and consumption.<sup>3</sup>

But is such concern about the future and the environment only limited to academics in writing chairs? Where does the public stand on these issues? Do they believe that significant environmental problems exist? How do they see the future? What is their stated willingness to trade-off standard of living for quality of life? Are they knowledgeable about the issues and do they possess a sophisticated understanding of them? What are their environmental values?

#### PUBLIC PERCEPTION VERSUS ACTION: A PARADOX OF EPIC PROPORTIONS

In the United States, the public has been surveyed on their perception and knowledge of environmental issues since the late 1960s (Dunlap, 1992; NEETF, 2000, 1998). These surveys indicate a widespread sentiment that environmental quality is deteriorating at all levels—from the local to the global. These surveys also suggest that the public perceives environmental deterioration as posing a growing threat to human health and well-being. They also suggest that the public is willing to make trade-offs to garner improved environmental quality. When posed with a hypothetical choice requiring a trade-off between "economic development" and "environmental protection," seventy-one percent of those surveyed chose "environmental protection" (NEETF, 2000).

Conventional wisdom suggests that the environment is a luxury good—that such views will be limited to the citizens of wealthy, industrialized nations who can afford to be more concerned about environmental problems than citizens of less

<sup>3</sup> This definition of ecocultural sustainability is meant to exist as an ideal, as a state to strive for. It is, however, operationalizable and it is capable of being used in practice to establish a series of objectives and indicators for guiding design, policy, and decision-making *and* monitoring our progress toward or away from these objectives.

economically advantaged, so-called "developing" nations. Gallup's "Health of the Planet" survey, the largest environmental opinion survey ever conducted, suggests that conventional wisdom desperately needs revision (Dunlap et al., 1993a,b; Bloom, 1995). The survey, conducted in 1992, covered twenty-four nations, eleven classified as high income by the World Bank and the remaining thirteen representing high-medium, low-medium, and low income countries. The goal of the survey was to compare citizens' views on the seriousness of environmental problems and gauge their support for environmental protection.

The survey results indicate that concern about environmental problems, while widespread throughout the surveyed countries, is actually more significant among citizens of the "developing" countries. These citizens, who are often more directly dependent on the environment for food, water, fuel, and raw materials for building and clothing, believe environmental problems affect their health now and pose a greater threat for the future. They generally view their nation's environmental quality as worse than those in the wealthy, industrialized countries. And while citizens of the industrialized nations all view their nation's environmental quality as much better than the world average, only one-half of the "developing" countries view their nation's environmental quality as better than the world average. Given the tremendous economic disparities, it is astonishing that in nine of the "developing" countries surveyed, a majority of respondents stated a willingness to give environmental protection priority, even at the risk of slowing economic growth. In addition, in half of the "developing" countries surveyed a majority of respondents stated a willingness to pay higher prices to protect the environment. Finally, when asked, who is "more responsible for today's environmental problems in the world," citizens of the rich and poor nations alike were both willing to assume significant responsibility for the Earth's environmental troubles.

Perhaps most surprising of all, are the non-anthropocentric, non-instrumental expressions of environmental concern. Despite the absence of instrumental gains, a variety of public opinion surveys demonstrate that a growing majority of lay people view the more-than-human world as intrinsically valuable—as having value in its own right—and deserving of moral consideration (Kempton et al., 1995; Dunlap et al., 1993a). The statement, "Plants and animals do not exist primarily to be used by humans" yielded a 69% approval rating in the "Health of the Planet" survey performed by Dunlap et al. (1993a). This viewpoint has also been supported by significant numbers of high-level policy-makers in Norway (Naess, 1986b; 1987) and high level European policy makers in the field of global warming (Glasser et al., 1994). In a small, but unique survey on the perceptions of nature by young adolescents from urban and suburban Detroit metropolitan area schools, Wals (1994, p. 136) concludes that "[a]lthough all students are anthropocentrically concerned about pollution and other environmental issues, there are some students who express concern about the vanishing of nature areas as a result of human activity. These students seem to say that nature and the species that are part of nature have a right to exist on their own." Sadly, while global concern for the environment appears strong, basic knowledge of environmental issues, at least in the U.S., appears woefully inadequate (NEETF, 2000).

We are left with a paradox of epic proportions. Concern over the health, status, and character of the world and stated support for the environment have generally not translated into effective action. Reading over a decade's worth of *State of the World* and *World Resources Institute* reports, it is difficult for me to be as sanguine as Lomborg about the current direction of the world. As sustainability discussions have become more prevalent, many of the planet's vital statistics have shown increasingly downward trends.

We are overmining ancient water supplies; desertifying and salinizing or paving over once productive agricultural lands; overharvesting forests and fisheries; proliferating the planet with toxic wastes and endocrine disrupters; and creating nuclear wastes that must be isolated from living systems for more than ten millennia. We are also now the primary driving force behind a warming climate with more intense storms. In the wake of our production, consumption, and waste generation spree are extirpated cultures, languages, and species as well as increasingly vulnerable communities and degraded, fragmented ecosystems.

In short, we are building on a long-standing, hubris-filled pattern of planning and living that has had little regard for the environmental (and resulting social) consequences of our actions—a pattern that has been implicated in the collapse of societies from ancient Sumer and Rome to Easter Island. What can account for this disjunction between our stated concerns and our environmentally destructive actions?

#### DEEP ECOLOGY: A POTENTIAL STRATEGY FOR WORKING OUR WAY THROUGH THE PARADOX

The term *deep ecology* was introduced by Norwegian philosopher and mountaineer Arne Naess (1912–) in 1972 at the third World Future Research Conference in Bucharest.<sup>4</sup> Naess coined the terms *deep ecology* and *shallow ecology* to juxtapose what he regarded as two radically different approaches for problematizing (*Problematizieren*) and responding to the ecological crisis.<sup>5</sup> Deep ecology calls for expanding our sphere of concern to all living beings—charismatic or dull, gargantuan or tiny, sentient or not. This *wide-identification* is characterized by the perception that all life is interdependent; common goals bind all living beings to the life process. In its most expansive form, wide-identification is the intuition that nature's interests and our own coincide. The purpose of deep ecology as an ecophilosophical approach is to encourage and help individuals to weave together their ultimate beliefs (including wide-identification), their life philosophy, and other descriptive and prescriptive premises about the world and ecological science into

<sup>4</sup> For a discussion of this inaugural presentation of deep ecology, see Naess (1973).

<sup>5</sup> For a more detailed, mature version of deep ecology, see Naess (1986a). For a concise overview of deep ecology that chronicles its key evolutionary changes and identifies the distinctions among the "deep ecology approach to ecophilosophy," the "deep ecology movement," and Naess's "Ecosophy T" (a particular deep ecological total view), see Glasser (2001).

systematic conceptual structures for relating to the world—ecologically inspired *total views* or *ecosophies*.<sup>6</sup>

The "shallow," currently more influential approach to environmentalism is identified with treating the symptoms of the ecological crisis, such as pollution and resource degradation. Its central concern is the health and prosperity of people in the economically privileged countries. This reform-oriented approach is grounded in technological optimism, economic growth, and scientific management, not in ultimate premises that plumb the relationship between humans and nature. A core premise is "*all environmental problems are manageable*"—nature is a puzzle to be deciphered by human ingenuity and manipulated, albeit more efficiently, for human benefit. From this perspective, remedy for environmental problems is limited to economic, technological, and managerial reforms. This effort to palliate human impacts, rather than probe and address their underlying causes, favors a search for "technical" solutions to what are more likely social, political, and ethical problems. By truncating the realm of problematizing, the shallow approach, perhaps inadvertently, prunes the set of conceivable social changes to a feeble incrementalism.

The "deep" approach, on the other hand, while in no way discounting the exigency of addressing pollution and resource degradation, adopts a broader, long-term, more skeptical stance. Doubtful about technological optimism, critical of limitless economic growth, and decidedly against valuing nature in purely instrumental terms, it asks if the shallow approach's proposed solutions take into consideration the complexity and insidiousness of the problems they hope to rectify. Drawing on a wide diversity of philosophical or religious ultimate premises, which acknowledge that every living being has value in itself, the deep approach sees the flourishing of nature and culture as fundamentally intertwined. Nature is viewed as mentor, standard, and partner rather than vassal.

A key premise is that environmental management is much more about managing the habits and desires of humans than attempting to control nature. Remedy for environmental problems is sought by identifying and responding to the complex "root" causes of the ecological crisis, dedicating special attention to protect the wild and free from thoughtless human interference. Taking less for granted, the deep approach calls for the public questioning of every practice, assumption, and value that propels the ecological crisis.

By juxtaposing these two, almost caricatured, perspectives, Naess employs a technique of Gandhian nonviolent communication designed to confront core disagreements. The central premise is that society's potential to overcome the ecological crisis rests on guiding discussion and debate to its root causes. One of the primary root causes, Naess asserts, is the widespread disjunction between people's core beliefs and actions. People, in general, neither comprehend how their practices and everyday lifestyle choices harm the environment, nor recognize how these consequences may be in direct conflict with their core beliefs—this is the primary weakness of the shallow approach. A crucial, underlying hypothesis of the deep

<sup>6</sup> For a detailed discussion of deep ecology as an ecophilosophical approach, with special attention to its policy implications, see Glasser (1996).

approach is that teasing out the presumed inconsistencies between an individual's actions and their fundamental beliefs, while possibly engendering serious ancillary conflict along the way, will ultimately generate progress toward ecocultural sustainability.

Naess argues that humans act as if we have total views whether or not we make such structures explicit. Because our decisions regarding society and nature are guided by our total views, Naess maintains that we should attempt to articulate them. By making these structures explicit, we expand both our opportunities for fruitful debate and interchange and our possibilities for creating policies that are consistent with our collective ultimate beliefs. Total views are dynamic and tentative, as well as adaptive and revisable. They are always fragmentary and incomplete, but this is no justification for abdicating our responsibility for attempting to articulate them. In fact, the goal of ecocultural sustainability hinges on our ability to integrate description with prescription in a manner that relates ethics, norms, rules, and practice. This integration is necessary, in part, because norms like "Respect for all living beings!" cannot prescribe behavior in particular situations. "Respect!" as a norm, neither implies that behavior towards all creatures should be equal nor that some creatures should not be eaten. "Respect!" removed from social context and the vicissitudes of life, cannot dictate conduct.

This focus on praxis (responsibility and action) separates the deep ecology approach from more descriptive inquiries into environmental philosophy that focus on axiological questions, such as extending "rights" to certain nonhumans or grading intrinsic value. The ontologically inspired deep ecology approach attempts to counter the perception of fundamental people/environment and spiritual/physical cleavages. Its primary strategy for overcoming the ecological crisis is to help individuals avoid pseudo-rational thinking.

Naess argues that many regrettable environmental decisions are made in a state of "philosophical stupor," where narrow concerns are confused with, and then substituted for, more fundamental ones. In proposing the deep/shallow contrast, Naess applies his research on empirical semantics, philosophy of science, the inquiring skepticism of Sextus Empiricus, Spinoza, and Gandhian nonviolent communication. His technical semantic distinction is directed at our *level of problematizing*—the extent to which we can, and do, coherently and consistently trace our views, practices, and actions back to our ultimate beliefs or bedrock assumptions.

In relating this notion of persistently asking deeper questions to the ecological crisis, Naess broadens his concept of "depth." In the context of deep ecology as an ecophilosophical approach, depth refers to both the general level of problematizing we employ in seeking out the underlying, coevolving causes of the ecological crisis *and* the extent of our willingness to consider an expansive array of social and policy responses, even if they necessitate changes that constitute a radical departure from the status quo.

Rather than calling for a new environmental ethic or a radical change in fundamental values, Naess's approach to ecophilosophy centers on transforming practice and policy by challenging us to develop more thoroughly reasoned, consistent, and ecologically inspired *total views*. Some will take issue with the core

premise underlying this goal. They counter by asking: Can thoroughly reasoned and consistent positions based on existing wide-identifying ultimate norms actually help to generate policies and actions that conserve the earth's full richness and diversity? Widening identification may serve to moderate technological hubris by rekindling humility, but it cannot eliminate conflicts between humans and nature. Individuals will still choose to fell trees, dam rivers, drive cars, eat animals, use toxic chemicals, procreate, and pollute. Naess's hope, however, is that they will be more mindful of the costs and web of consequences that emerge from these various courses of action.

Expanding our concern to others does not, in any way, imply a consequent disregard or decrease of concern for each other, quite the contrary. As a farmer learns to listen to the land and work it well, the land has a way of bestowing well-being on the farmer. By inspiring love for life, encouraging accountability, and promoting methodical reasoning that integrates our feelings and emotions, the practice of forming a total view may work similarly.

#### THE IMPORTANCE OF EFFECTIVE CHANGE STRATEGIES: FIRST- AND SECOND-ORDER CHANGE

If we place any credence in the public opinion surveys on peoples' perceptions of the environment and we generally embrace the deep/shallow ecology contrast, then the broad-scale persistence of environmentally destructive habits cannot be attributed solely to a basic lack of awareness of environmental degradation. I repeat, the essential problem of continued environmental degradation is not a failure to recognize that there is a problem. Rather, it is what to do about it and how to go about doing it. Concern clearly has not yet translated into effective action.

Why do people say they care about something and then seemingly act hypocritically—pursuing ends that appear counter to previously stated concerns? Explanations abound. Sometimes people are disingenuous or their concerns are superficial.<sup>7</sup> Sometimes people do not recognize how their actions can generate undesirable effects or serious norm conflicts. Sometimes people fail to appreciate the interconnectedness of problems such as consumption, economic growth, population growth, poverty, sprawl, poor health, ennui, and environmental degradation. These issues are exacerbated by the fact that the effects of the environmental problems we create are often separated from us in space and time, uncertain, and indirect—environmental problems often appear unrelated to the actions that engender them, in part because they represent the composite result of thousands or millions of similar actions by others. Sometimes society and government exacerbate these problems by creating perverse incentives (Weizsäcker et al., 1998) and social traps (Costanza, 1987). Other explanations also exist. Sometimes goals are in conflict—people may act "rationally," but simply view other objectives or considerations as more meaningful or more pressing at the time. Finally, sometimes people recognize the importance of change and actually attempt

<sup>7</sup> Our previous discussion of the public's perception of environmental problems and their stated willingness to trade-off standard of living for improved environmental quality demonstrates that the public's concern for the environment is serious and consequential.

it, but get stymied along the way. Change is difficult. This last explanation, which to some extent encompasses many of the others, is the central focus of this section.

In the 1960s and 1970s Paul Watzlawick and his colleagues at the Mental Research Institute in Palo Alto, California, performed ground-breaking research on how problems arise and persist in some cases, yet are resolved in others (Watzlawick et al., 1974). A key insight from this research is that there are two fundamentally different types of change. "First-order" change occurs *within* a given system, which itself remains unchanged. Examples of first-order change include recycling, pollution reduction, and standards to promote increased fuel efficiency. However beneficial any of these changes might be, none of them individually, nor even all of them collectively, can bring an end to the ecological crisis. From the perspective of deep ecology, the shallow ecology approach is constrained to create first-order changes. "Second-order" change, on the other hand, results in a transformation of the system itself. It represents a radical break or logical jump from the status quo, and thus its practical manifestations may appear outlandish, irrational, or paradoxical. An interesting aspect of second-order change is that it is often not necessary or important to deeply understand the fundamental cause of the problematic behavior.<sup>8</sup> The crucial issue is to find a strategy for breaking the problematic behavior pattern and engender a new, more appropriate behavior pattern. A transition from our present state of unsustainability to a state of global sustainability would constitute a second-order change.

Watzlawick and colleagues identified three primary strategies for mishandling change (1974, p. 39). The first is what I refer to as "solution by denial." It involves cases where some form of action is necessary, but none is taken. An example is Bjørn Lomborg's (2001) highly publicized, rosy prognostications about the "real state of the world," which are intended to convince us that environmental quality and quality of life are generally improving and that the environmental community has exaggerated claims to the contrary. If Lomborg's conclusions, which have been widely lauded in the media, were embraced uncritically, the public might be lulled into believing that there are no significant environmental challenges or that the poverty, disease, injustice, and biodiversity loss that spring from them are a mere fabrication of a cynical and self-serving environmental community. Lomborg's cornucopian conclusions, however, are not drawn from a sound blending of science and values, nor are they based on a sophisticated and thorough statistical evaluation of existing data. They are based on what I call the "Don't worry, be happy" theory of human progress. According to this view, things have been good in the past, so they will only get better in the future—the Earth is ever fecund and resilient to assault and, in any case, humans are creative beyond all imagination. What Lomborg is peddling is a sort of "environmental somnambulance"—a strategy for dis-solving the pressing environmental problems before us by sleepwalking our way through

<sup>8</sup> This important and subtle point represents an area where Naess and I may disagree. In my view, the deep ecology approach may help us to resolve the ecological crisis indirectly by focusing our attention on critical issues and stimulating second-order change, but without our ever truly identifying the "root" causes of the ecological crises.

them. He is preying on our seemingly insatiable desire for gratification and our general tendency not to postpone the same for the future or for future generations.

The second strategy for mishandling change is when change is attempted for a problem that is essentially irresolvable or a problem that does not exist. Lomborg and many others argue that pursuing climate mitigation strategies would be an example of this form of mishandling change. Their argument is that the likely effects are uncertain and probably not very severe in any case (at least for wealthy humans). Mitigation measures would be expensive and preclude other much more beneficial investments. Taking a "wait and see" approach and adapting, if necessary, is seen as the only rational strategy from this perspective.

The third and final strategy for mishandling change occurs when change is initiated at the wrong level. Two forms exist. A second-order change may be initiated for a first-order problem or a first-order change strategy may be applied to a second-order problem. In either case an error of logical type is committed and an endless, irresolvable cycle is established. In complex, difficult, or subtle situations, solutions may be initiated that not only do not produce the desired change, but actually exacerbate the problem. This is the insidious danger of the shallow ecology approach, which, on first principles, appears sensible, if not particularly effective, but harmless at worst. The shallow ecology approach represents an example of applying a first-order change strategy to a second-order problem. The general disjunction between people's stated environmental concerns and their actions, which continue to perpetuate a state of global unsustainability, clearly demonstrates the necessity for a second-order approach to this problem. To change the world, we must change ourselves. But how should we proceed?

#### WHY DOES THE PARADOX PERSIST? A DEEP ECOLOGY INSPIRED CRITIQUE OF ORTHODOX HIGHER EDUCATION

To move forward, we must begin working our way through the paradox. We must consider the insights regarding change theory and reexamine the chasm between our stated environmental concerns and our generally unsustainable lifestyles. Now is the time to ask: What is higher education's role in perpetuating the paradox? And how might it help resolve the paradox?

A facile, although not particularly insightful, answer to the first question is that higher education, however well-intentioned, neither prepares us to recognize the distinction between first- and second-order change, nor helps us to contemplate the consequences of our everyday actions. From the standpoint of deep ecology, both of these explanations have merit, but they reveal only part of the story. As with most admonishments, they also belie many commendable efforts to do otherwise. More significantly, however, these explanations only probe the surface.

I offer the following deep ecology inspired critique of orthodox higher education in the United States to highlight three core issues that lie below the surface. The first is higher education's tendency to promote alienation from the non-human world. By focusing on dissecting, subduing, and transcending nature, we have, perhaps inadvertently, come to define ourselves in opposition to it. A consequence of our

anthropocentrism is ennui and estrangement from the world from which we sprang—the world we depend on for sustenance and meaning. Like a root-bound plant, this restriction of a key source of sustenance binds us in a perpetual state of immaturity.

The second issue is higher education's emphasis on producing and regurgitating objective information. This emphasis undervalues the importance of giving information meaning. It also undervalues the importance and excitement of learning how to seek out meaningful information. Amassing facts about the world or creating abstract models, which describe how subsystems in nature work, does not imply that we have an intimate knowledge of the world or the ability to restore what we have impoverished. Academe's effort to neatly separate facts from values leaves us ill-prepared to process and make sense of information. We are left unable to use the information we have wisely—in service of the planet and people.

The third issue is higher education's promotion of passivity in relation to subjective, real-world problems. With regard to environmental problems, higher education prepares us to, at best, document nature's decline or improve our understanding of the causes of the decline. Practical problem solving is generally viewed as mundane and unsuitable for scholars whose primary purpose is contributing to the growth of knowledge. Advocating for or against is seen as compromising one's objectivity as a scholar and is usually looked upon with suspicion, mistrust, and disapproval.

In summary, orthodox higher education and the intellectual tools and skills that it offers provide us with little protection from ourselves. The orthodox approach to higher education is shallow because it does not outfit us with the skills, tools, and vision to probe the depths of our predicament or guide our way to a sustainable future. Two examples underscore the depth of the crisis. Despite high levels of environmental concern, surveys that explore knowledge of environmental issues in the U.S. demonstrate that a profound environmental illiteracy persists (NEETF, 2000; 1998; Kempton et al., 1995). These surveys also indicate that there is very little difference in environmental literacy levels between college graduates and those with a high school education or less (NEETF, 1998). While higher education institutions may be uniquely suited to help usher in a transition to a more sustainable world, a recent study by the National Wildlife Federation demonstrates that few have taken the initiative to actively incorporate sustainability considerations into all aspects of their research, operations, outreach, and teaching (Glasser, 2002).

Finally, in relation to the question of exploring the relevance of second-order change, we must appreciate that academia has a significant investment in perpetuating the status quo. It protects this investment by promoting an ideology of disciplinary idolatry, anthropocentrism, infallibility, invulnerability, and—if all else fails—adaptability. After more than three decades of creating international declarations for environmental sustainability in higher education and nine declarations later, we are still creating new declarations for environmental sustainability in higher education. However insightful the Stockholm, Tbilisi, Tailloires, Swansea, Thessaloniki, and other declarations may be, their ability to facilitate second-order change has been limited (Wright, 2002). Change, especially

second-order change, can be slow and difficult. The need for new, second-order learning strategies cannot be more apparent.

#### SECOND-ORDER LEARNING FOR SECOND-ORDER CHANGE: PEDAGOGY FOR A SUSTAINABLE AND DESIRABLE WORLD

The deep ecology vision for a sustainable and desirable world calls for considerable social, economic, technological, and ideological change.<sup>9</sup> It acknowledges the inadequacy of applying first-order learning to facilitate second-order change. This vision sees academia as a place to: integrate reason and emotion (Naess, 2002), “test drive” new ideas, be captivated by the fervor of learning, develop our appreciation for nature, and learn skills and values that will prepare us to be a positive and creative force on Earth. Distinguishing between preparing people for a job and preparing them for life, it highlights the significance of promoting emotional maturity (Naess, 2002). While not attempting to dictate a particular set of values (except, some form of wide-identification), deep ecology offers three “tools” for helping us to reconsider our value priorities and more consistently relate them to our lifestyles and everyday actions.

The first tool, “deep questioning,” has already been discussed at length. The second is the idea of “vital needs.” It is meant to help us contemplate the relationship between quality of life and standard of living. Beyond a certain point (that of satisfying our vital needs), the acquisition of more things does not generally lead to more satisfaction. Furthermore, the downstream consequences of satisfying these “non-vital needs” often stand in the way of others satisfying their own vital needs. While everyone will have a different concept of what constitute vital needs for their own circumstances, the goal is to have each of us consider the acquisition of every new thing in light of this concept. The third is the “principle of universalizability.” It is meant to help us reflect on the equity implications of our actions and acquisitions. When applied to any act or acquisition, we are to ask ourselves two questions. First, is it both possible and feasible for anyone in the world to perform the same act or acquire the same good or service? And second, what would happen if everyone in the world actually did act in the same fashion or acquire the same good or service?

A final concept that may play a key role in facilitating second-order change, perhaps by serendipity, is Naess's concept of “beautiful action” (1993). Naess's concept is an elaboration of Kant's distinction between “dutiful acts,” which are dictated by respect for the moral law, and “beautiful acts,” which result from inclination. By tapping into our innate affinity for nonhumans (biophilia), we may begin to reduce our dependence on prescriptive laws and regulations and cultivate a global society committed to ecocultural sustainability.<sup>10</sup>

<sup>9</sup> See the Eight Points of the Deep Ecology Platform, particularly Point Six (Naess, 2002, p. 108-109).

<sup>10</sup> For a significant start along this path, see for instance the policy strategies used in the green planning efforts of the Netherlands and New Zealand (Johnson, 1997).

But how can this seemingly disjointed collection of tools and concepts from deep ecology help us with the central question of creating a pedagogy for a sustainable and desirable world? How can deep ecology help us create a learning community that engages the whole person—and the entire academic community—in the challenge of second-order change through second-order learning. Deep ecology can do this by helping us to see sustainability as an outcome and process as well as a catalyst for institutional innovation.

Our earlier discussion on the disjunction between the public's stated environmental concern and their unsustainable actions demonstrated that the paradox does not arise from a simple ignorance of environmental problems—although knowledge of environmental issues does not run particularly deep. The central problem also cannot be attributed to an unwillingness to change—although it is often not clear what to do and we often pursue ineffective change strategies. The solution to the paradox lies in activating and deepening our existing concerns, helping to make our actions more consistent with them, and choosing more effective change strategies, not in creating entirely new values for environmental concern. In order to do so we need to make the consequences of our actions more vivid, critical trade-offs more transparent, and value conflicts more real. We can do this by going back to our roots and creating a new core mission for higher education.

#### ROOTS—Research, Operations, Outreach, and Teaching for Sustainability: A Deep Ecology Inspired Mission for Higher Education

1. Help nurture a sense of wonder and a passion for life-long learning that integrates reason and emotion and stimulates our imaginations.
2. Inspire positive attitudes toward nature.
3. Create opportunities for regular and direct contact with nature.
4. Provide more thorough, sophisticated, and realistic models of nature and models of how the environment functions (this includes understanding the many ways in which ecosystem services provide for our sustenance).
5. Prepare everyone to consider and explore the impacts of everyday actions—on themselves, their families, their communities, and those distant from them in space and time, including nonhumans (this includes understanding how population, consumption, technology, and values interplay to generate impacts).
6. Encourage open-mindedness and non-dogmatism in relation to discussion and problem solving.
7. Develop the skills for wise or mindful decision-making (this includes developing skills in questioning the “taken-for-granted” assumptions about the world and society that currently perpetuate unsustainability). Help prepare people to distinguish between: needs and wants, quality of life and standard of living, benefits and drawbacks of new technologies, etc.
8. Break down barriers of disciplinary idolatry and encourage true interdisciplinary and transdisciplinary thinking. Infuse the entire curriculum, across all colleges, with a discussion of sustainability questions—from the impacts of globalization to the potential effects of a proposed application or policy.

9. Inspire a sense of responsibility and activeness in relation to pressing social and environmental problems. Promote planetary CPR—creativity, prudence, and responsibility in service of people and the planet.
10. Support real-world problem-solving in service of people and the planet.
11. Use the campus and the community as living laboratories. Create opportunities for research on: education for sustainability, sustainable living, ecological engineering, ecological design, ecological economics, sustainability indicators, green building, green business, green planning, sustainable agriculture, renewable energy, industrial ecology, life-cycle analysis, and sustainable water, fisheries, and forest management.
12. Make academic institutions models of sustainability in all aspects of their functioning. Create a Campus Environmental Impact/Sustainability Committee and a Campus Environmental Impact/Sustainability Committee Mission Statement. Perform regular campus sustainability assessments and use these to refine and update campus policies.<sup>11</sup>

The deep ecological vision of higher education entreats us to wake up from our philosophical stupor. It asks us to develop our skills of self-criticism to new, unimagined heights; to distinguish between knowledge and wisdom; and to be active in relation to problems. It helps us to draw conclusions that are consistent with both our core values and a deeper, more informed understanding of the state of the world. And it does this not by demanding obeisance to a particular set of values, but by cultivating our own proclivities for love of life and helping us to integrate our core values with our lifestyles. In doing so, it helps us to resolve the paradox of the disjunction between people's everyday actions and stated environmental concern.

#### CONCLUSION

Whatever our job we need to integrate life theory and life practice, clarify our value priorities, distinguish life quality from mere standard of life, and contribute in our own way to diminish unsustainability (Naess, 1992, p. 303)

Naess is fond of saying that he is pessimistic about the twenty-first century, yet optimistic about the twenty-second. If society is to initiate a paradigm shift toward sustainability and meet Naess's goal, people today will need to do much more than simply muddle along becoming less unsustainable. A world that is less unsustainable is neither sustainable nor a positive vision for the future. Ultimately, we must shift our focus from preventing the destructive, which is a vacuous goal, to promoting the good. By drawing on our strengths as a species—ingenuity, sympathy, optimism, love of wisdom, potential to reason, capacity for transformation—we can inspire joy and hope and stimulate much more powerful, positive motivations.

The practice of creating total views is a strategy for helping us to stay in-touch with how our lifestyles and everyday actions shape the world. Active engagement in the process can help us appreciate the significance and magnitude of the problems

<sup>11</sup> For more information on campus sustainability assessment (CSA), including rationale, trends, best-practice and a searchable database with data on more than 1,100 CSA projects, see the work of the Campus Sustainability Assessment Project (which I direct) at: <http://csap.envs.wmich.edu/>

we create, as well as inspire sensitivity to the dilemma of trying to engineer our way out of them. By highlighting the importance of wide-identification and pointing out its existence in most of the world's religions and many of its philosophical traditions (if only as minority views), deep ecology offers a "middle way" between seeking out entirely new ultimate norms and ethics and presuming that no fundamental changes from the status quo are required.

In the end, deep ecology opens more questions than it answers. Like a koan, this is its allure, frustration, and promise. As a pedagogical strategy, it is subversive. It inculcates a profound open-mindedness and non-dogmatism that builds our potential for creating positive, second-order change.

Imagine that we (and enough others) do believe that the planet was not made for us alone—that we appreciate nature's use value, cherish it as a source of inspiration, and respect its right to live and flourish. Consider what kind of world we might encourage if our actions and lifestyles integrate reason and emotion and are tempered by the intuition that humans are not the center of existence. The idea of humans as "plain planetary citizens," but ones with unique capabilities and profound responsibilities, is not new. It is a thread that appears throughout history in the writings of Buddha, Asoka, St. Francis of Assisi, Aldo Leopold, Arne Naess, and many others. It just has not taken hold—yet. Human influence on the planet may ultimately be judged, not by our potential to transform it in our own image—which is considerable—but by our presence of mind and spirit, both as individuals and as a species, to exercise creativity, compassion, and restraint in service of the planet and ourselves. By choosing to reshape our relationship to the world, the world can be reshaped in positive ways. Our ability to bring about such change is only limited by our imaginations and our desire to learn how to be the change we wish to see.

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## THE CONTRIBUTION OF ECOFEMINIST PERSPECTIVES TO SAINABILITY IN HIGHER EDUCATION

*Annette Gough*

### INTRODUCTION

Higher education institutions are the gatekeepers of knowledge production, accreditation, legitimation and dissemination. What they choose to include, exclude, or denigrate can make all the difference to the cognitive and operational capacities of their students as future citizens (e.g. Maher & Tetreault, 2001; Odora Hoppers, 2001).

In the past, in much of higher education women, as students and academics, have struggled for recognition (Christian-Smith & Kellor, 1999; Currie et al., 2002; Davies et al., 1994; Heilbrun, 2002; Kelly, 1985; Merrill, 1999; Morley, 1999), and women<sup>1</sup> have been overlooked in most sustainability programs through being subsumed into the notion of “universalized people” (Braidotti et al., 1994; Buckingham-Hatfield, 2002; Gough, 1999a; 1999b; Salleh, 1997). However, women have a distinctive contribution to make to sustainability policy, pedagogy and research that needs to be foregrounded. This chapter discusses research into the absences of women’s perspectives from sustainability policies, pedagogy and research and argues that ecofeminist pedagogies and research methodologies suggest new possibilities for the development of sustainability in higher education.

The ecofeminist movement has developed in parallel with the environment and environmental education movements since the 1970s, but there has been little dialogue between it and the other two. Chapter 24 of *Agenda 21* (UNCED, 1992) had as its overall goal, achieving active involvement of women in economic and political decision making, with emphasis on women’s participation in national and international ecosystem management and control of environmental degradation. This perspective has been overlooked to date in most forms and sectors of education, so in this chapter I argue for the power and the promise of adopting such a perspective for the higher education context. At the technical level actions should include

<sup>1</sup> While I recognise that women are one of many marginalised groups in society, and discuss the importance of indigenous knowledge systems later in this chapter, the main emphasis in this chapter is on the contribution of ecofeminist perspectives to sustainability in higher education.