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Bill Devall

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THE DEEP, LONG-RANGE ECOLOGY MOVEMENT

1960–2000—A REVIEW

ABSTRACT

Aarne Naess, in a seminal paper on environmental philosophy, distinguished between two streams of environmental philosophy and activism—shallow and deep. The deep, long-range ecology movement has developed over the past four decades on a variety of fronts. However, in the context of global conferences on development, population, and environment held during the 1990s, even shallow environmentalism seems to have less priority than demands for worldwide economic growth based on trade liberalization and a free market global economy.

“If nature is not a prison and earth a shoddy way-station, we must find the faith and force to affirm its metabolism as our own—or rather, our own as part of it. To do so means nothing less than a shift in our whole frame of reference and our attitude towards life itself, a wider perception of the landscape as a creative, harmonious being where relationships of things are as real as the things. Without losing our sense of a great human destiny and without intellectual surrender, we must affirm that the world is a being, a part of our own body” (Shepard 1969, 3).

When Paul Shepard wrote this passage, he summarized a stream of thought that was developing during the 1960s in the writings of Gary

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Direct all correspondence to: Journals Manager, Indiana University Press, 601 N. Morton St.,
Bloomington, IN 47404 USA journals@indiana.edu

Snyder, Alan Watts, and Rachel Carson, among others. Two books were particularly effective during the 1960s in stimulating conservation activism, Rachel Carson's *Silent Spring* (1962) and Stewart Udall's *The Quiet Crisis* (1963). These books emphasize both the unintended and negative impact that certain human behaviors have on ecological relationships and the philosophy that humans are part of, not apart from, the rest of nature. This stream of thought and activism has been traced to John Muir and Henry David Thoreau and to pre-Socratic Greek philosophers and eventually to the Sumerians in the *Epic of Gilgamesh* at the beginning of civilization (Nash 1989; Oelschlaeger 1991; Sessions 1981; Sessions 1995a).

Professor Arne Naess of the University of Oslo catalyzed discussion of two streams of environmental philosophy when he articulated the distinction between "shallow ecology" and the "deep, long-range ecology movement" (DEM) in a short paper published in 1973. He characterized the shallow ecology movement as "Fight against pollution and resource depletion. Central objective: the health and affluence of people in the developed countries" (Naess 1973).

When Naess outlined principles of the deep, long-range ecology perspective, he included "fight against pollution and resource depletion," but he went beyond that statement to include principles that are not part of the dominant social paradigm. These included "ecocentrism," "wide sustainability," "complexity, not complication," and "rejection of man-in-environment image in favor of a relational, total-field image" (Naess 1973). Naess made it socially acceptable for academics to be activists on conservation issues by relating reflection to action. He also showed how people can move from denial to creative, nonviolent direct action based on their core values.¹

When Naess wrote his original essay on deep ecology, he knew there was limited scientific data available on the impact of industrial civilization on free nature. That is why he was inspired by both the science and the feelings for free nature expressed by Rachel Carson in *Silent Spring*.²

The wave of enthusiasm for the environment that began with Earthday 1970 was reaching a climax in the United States with the passage of the federal Endangered Species Act. Many supporters of deep ecology in the U. S. consider the federal Endangered Species Act to be the most ecocentric environmental legislation because the underlying premise of the act is that humans have no right to willfully cause the extinction of other species, regardless of their value, or lack of value, for humans.

The Endangered Species Act therefore moves us, in the words of Robyn Eckersley, “beyond human racism.” “Green political theorists can make a contribution here in critically exploring and articulating fundamental value orientations and defending principles which enable the mutual satisfaction of human and nonhuman needs. A more proactive task for green political theorists might be to explore how social institutions might be arranged to expand conventional boundaries of care in day to day practices, while also redressing the problems of willful neglect and ignorance of ecosystems. Indeed, in the light of the history of discrimination against nonhuman species, it might even be said that there is now a case for ‘affirmative action’ for nonhuman nature” (Eckersley 1998).

Many researchers have documented the recurring, anthropogenic-caused collapse of natural systems at the regional or landscape level since modern humans began spreading across the planet approximately 35,000 years ago. However, the contemporary environmental crisis is the first planetary-wide anthropogenically caused extinction crisis (Wilson 1992; Bright 1998) and environmental crisis.

Much of the scientific research advanced during the 1970s, which had been proclaimed the “decade of the environment” by President Richard Nixon, is summarized in a report authorized by President Jimmy Carter and published in 1980, *The Global 2000 Report to the President: Entering the Twenty-First Century* (CEQ 1980). This report concluded, “if present trends continue, the world in 2000 will be more crowded, more polluted, less stable ecologically, and more vulnerable to disruption than the world we live in now (i.e., 1980). For hundreds of millions of the desperately poor, the outlook for food and other necessities of life will be no better. For many it will be worse.”

Those trends did continue, and the Global 2000 report was written before the AIDS epidemic and before the emergence of a general agreement among scientists that global warming is occurring, probably at least partially due to anthropogenic causes.

While the Global 2000 report is phrased within the framework of conservation of natural resources for human populations, it foreshadowed reports written from a deep ecology perspective during the past two decades that focus on “wide ecological sustainability.” The well-known equation $I=PAT$ means that human impact on a region, or on the whole planet, is a combination of human population growth, plus affluence (or rate of consumption) and technology.

The Global 2000 report was intended as a warning to humanity to collectively change its behavior, and this warning has been reaffirmed many times during the past two decades. For example, using computer modeling of a simulated world system, the authors of *Beyond the Limits* ran several computer models of the 'world system' varying rates of resources use, industrial output, human population growth, food production, and pollution. Projected from 1900 to 2100, all of the computer runs, using different rates for the different variables, forecast an overshoot of carrying capacity and collapse of the collective human enterprise around 2050 (Meadows, Meadows, and Rander 1992). They argue, however, that collectively the human species can learn to change its behavior in a short (decade) period of time and move into a "sustainable" mode of collective behavior.

A convergence of various trends has led to what is frequently called the "environmental crisis." On a finite planet there is no "new land" available for expansion of industrial civilization. Yet human population has continued to grow; per capita consumption has increased; and technology has been applied on a grand scale. Demographers proclaimed that the six billionth human was born in October 1999. While some people believe that humans will find solutions to many problems through technology, the pace of technological change continues to disrupt the lives of hundreds of millions of people.

The process of worldwide economic integration, called globalization, continues to disrupt the social and economic security of billions of people while global warming, acid rain, destruction of the ozone layer and other effects of industrial civilization undermine the integrity of natural systems across the planet.

William Catton, Jr., a sociologist trained in ecological theory, concluded that there are several modes of adaptation that societies may take to ecologically inexorable change. In many contemporary societies including both developed nations, such as the United Kingdom and the United States as well as so-called Third World nations, such as India and China, many people continue to insist that "sustainable" economic growth is possible. Catton labels this mode of adaptation "ostrichism."

Some proponents of reform environmentalism used the images of earth sent from platforms orbiting the earth in space to argue that "spaceship earth" or the "blue planet" is an appropriate image for "ecological consciousness" as a response to the contemporary environmental crisis. However, critics writing from a deep ecology perspective have warned that, at

best, such metaphors are ambiguous. For example, Wolfgang Sachs concluded that “shooting a satellite into space is perhaps the most radical way of establishing the distance from our world necessary for fantasies of large-scale planning. The image of the Blue Planet—so small and easily comprehensible—suggests that what has hitherto provided the preconditions for diverse forms of human existence may now be planned and managed as a single unit” (Sachs 1994).

In contrast, poet-ecophilosopher Gary Snyder suggests the metaphor of humans singing and dancing around “a little watering hole in deep space.” The choice of metaphors and slogans is crucial for any social movement. When supporters of deep ecology reject the phrase, “spaceship earth,” they are rejecting a mechanistic worldview. When they accept slogans such as “Earth First!” or “thinking like a mountain,” they are rejecting human hubris and placing *Homo sapiens*, as a species, in a more modest position in the cosmos.

In a short essay, “Modesty and the Conquest of Mountains,” Naess reflects that “. . . modesty is of little value if it is not a natural consequence of much deeper feelings, and even more important in our special context, a consequence of a way of understanding ourselves as part of nature in a wide sense of the term. This way is such that the smaller we come to feel ourselves compared to the mountain, the nearer we come to participating in its greatness. I do not know why this is so” (Naess 1979, 16).

In the face of a crisis of planetary scale, some radical environmentalists argue that mild reforms in public policy and practices are basically useless. Deep changes in society require a ‘paradigm shift’ from the dominant modern paradigm of industrial civilization to a “new environmental paradigm” or “new ecological paradigm” (Catton 1980b; Drengson 1980).

THE ROLE OF THE DEEP, LONG-RANGE ECOLOGY MOVEMENT IN PROMOTING SOCIAL CHANGE

Several scholarly summaries of themes in the emerging DEM and the deep ecology perspective show the intellectual development of the movement over the past four decades (Devall 1979, 1980, 1991, 1995a, 1995b; LaChapelle 1988; Sessions 1981). Anthologies drawing from the deep ecology literature include those edited by Sessions (1995a) and Drengson (1995).

In 1984, while camping together in the California desert, Arne Naess and George Sessions compiled the platform for the deep, long-range ecology movement. Some supporters of the DEM assert that the ‘platform’ is

the “heart of deep ecology” (McLaughlin 1993). Other supporters of the DEM disagree, arguing that the gestalt of deep ecology, the intuition of deep ecology, is the heart of the movement (Glasser 1997).

Naess said his purpose in developing this ‘platform’ was ‘modest’, that is, to develop a set of very general principles or statements upon which supporters of deep ecology could comment and discuss. Naess’s goal is to help people articulate their own deep ecological total view. The deep ecology “platform” therefore is a pedagogical tool to assist people in the process of developing their own statement of ecosophy and as a device to stimulate dialogue between supporters of and critics of the DEM.

PLATFORM OF DEEP ECOLOGY

1. The well-being and flourishing of human and nonhuman life on Earth have value in themselves (synonyms: inherent worth; intrinsic value, inherent value). These values are independent of the usefulness of the nonhuman world for human purposes.
2. Richness and diversity of life forms contribute to the realization of these values and are also values in themselves.
3. Humans have no right to reduce this richness and diversity except to satisfy vital needs.
4. The flourishing of human life and cultures is compatible with a substantial decrease of the human population. The flourishing of nonhuman life requires such a decrease.
5. Present human interference with nonhuman world is excessive, and the situation is rapidly worsening.
6. Policies must therefore be changed. The changes in policies affect basic economic, technological, and ideological structures. The resulting state of affairs will be deeply different from the present.
7. The ideological change is mainly that of appreciating life quality (dwelling in situations of inherent worth) rather than adhering to an increasingly higher standard of living. There will be a profound awareness of the difference between big and great.
8. Those who subscribe to the foregoing points have an obligation directly or indirectly to participate in the attempt to implement the necessary changes (this version of the deep ecology ‘platform’ is found in Devall 1988).

The DEM is based on radical pluralism in ‘foundational’ beliefs. Bud-

dhists, Christians, Jews, Moslems, pantheists, agnostics, and materialists can come to a kind of deep ecology position or perspective both from their own experience (which Naess calls 'the intuition of deep ecology') and from historic philosophic and religious traditions (Naess 1989).

Naess defines ecosophy as ". . . a philosophy of ecological harmony or equilibrium. A philosophy as a kind of sofia (or) wisdom, is openly normative, it contains both norms, rules, postulates, value priority announcements and hypotheses concerning the state of affairs of our universe. Wisdom is policy wisdom, prescription, not only scientific description and prediction. The details of an ecosophy will show many variations due to significant differences concerning not only the 'fact' of pollution, resources, population, etc., but also value priorities' (in Sessions 1995a).

Thus, when individuals and communities articulate their own authentic ecosophy they provide an intellectual and emotional basis for their practice of deep ecology. Arne Naess calls his version "ecosophy T." His philosophical reflection on his own ecosophy is based on his experiences in a mountain hut in Norway where he has worked for many decades. A complimentary statement of ecosophy by Vice President Albert Gore, Jr. is developed in his book, *Earth in the Balance* (Gore 1992). Although Gore devotes a few paragraphs in his book to denouncing "deep ecology" based on misconceptions of the movement, his own ecosophy is grounded in deep ecology kind of thinking (Glasser 1996; Carmer 1998).

The slogan, "simple in means, rich in ends," emphasizes that the DEM encourages rich experiences, and rich experience includes experiences in free nature. As modern life continues to encroach on our daily lives, millions and millions of people are less and less able to have rich experiences in free nature. The importance of such experience is emphasized in the growing field of ecopsychology.

For Naess, rich experiences in free nature contributes to a sense of maturity. Both Dolores LaChapelle (1988) and Paul Shepard (1973, 1998) have contributed thoughtful commentary on the usefulness of looking at other cultures, especially primal cultures, for models of appropriate experiences that encourage greater human maturity.

The practice of deep ecology includes both personal lifestyles and community lifestyles (Devall 1993). In the United States several organizations have arisen to assist individuals and communities who want to change their lifestyles to incorporate simple means and rich experiences.³

Some supporters of the DEM see a need to develop more emphasis on

developing public policy initiatives from a deep ecology perspective. A recent study of the impact of deep ecology perspectives on public policy in the United States concludes, "The deep ecology movement continues to struggle against its critics with hopes of one day transforming society and politics. Though deep ecologists have enjoyed success in developing an alternative political and social vision from their deep respect for nature, they have had only limited success in advancing their agenda" (Cramer 1998, 226). However, many supporters of the DEM remain quite active in politics. For example, Arne Naess who is in his 80s, continues to engage in political action. The development of argumentation based on Naess's principles provides a way of getting the camel through the eye of the needle in making public policy decisions by establishing priorities for policy and action (Glasser 1996).

Naess concludes that the DEM has a special role in political life. "For one, it rejects the monopoly of narrowly human and short-term argumentation patterns in favor of life-centered long-term arguments. It also rejects the human-in-environment metaphor in favor of a more realistic human-in-ecosystems and politics-in-ecosystems one. It generalizes most ecopolitical issues: from 'resources' to 'resources for . . .'; from 'life quality' to 'life quality for . . .'; from 'consumption' to 'consumption for . . .'; where 'for . . .' is, we insert 'not only humans, but other living beings'. Supporters of the Deep Ecology movement have, as a main source of motivation and perseverance, a philosophical/ecological total view (an ecosophy) that includes beliefs concerning fundamental goals and values in life which it applies to political argumentation. That is, it uses not only arguments of the usual rather narrow kind, but also arguments from the level of a deep total view and with the ecological crisis in mind. But supporters of the Deep Ecology movement do not consider the ecological crisis to be the only global crisis; there are also crises of social justice, and of war and organized violence. And there are, of course, political problems which are only distantly related to ecology. Nevertheless, the supporters of the Deep Ecology movement have something important to contribute to the solution of these crises: they provide an example of the nonviolent activism needed in the years to come" (in Sessions 1995, 452).

Naess continues to emphasize that most of supporters of the DEM are not intellectuals nor ideologues but ordinary people who continue to struggle to find a way to live based on their core beliefs and values. However, even when people want to "do the right thing" they are hamstrung by

force of habit, a sense of despair, lack of community support for change, and institutional constraints. Anthropological research in the U. S. has found widespread acceptance of major principles in the 'platform' of deep ecology across a wide spectrum of the population including labor union members, rural and urban residents, as well as members of conservation organizations (Kempton et al. 1995).

Some researchers suggest the "biophilia hypothesis" provides a socio-biology explanation for agape, love of nature as something more than a social construction, although a biologically-based love of nature is constantly mediated by socio-psychological expressions of biophilia (Kellert 1993).

The translation of values and the 'intuition' of deep ecology into action in the midst of industrial civilization requires purposeful, collective action and attention to "ecological self." The "ecological self," defined by Naess as "broad identification" with nature, whether based on biophilia or on experiences in the "wildness" of nature, has stimulated some of the most provocative theories developed from a deep ecology perspective (see for example Mathews 1991; Everden 1993; Macy 1991; Fox 1990). When people have gone from denial to despair, how do they recatalyze energy to respond effectively and creatively to the environmental crisis? Teachers such as John Seed and Joanna Macy have pioneered in developing experiential workshops where participants are invited to explore "broader identification" through a "council of all beings" (Seed 1988). At least one researcher has concluded that experiences individuals have during a "council of all beings" can assist in helping participants engage in nonviolent direct action based on their awareness of their "ecological self" as part of an unfolding, interdependent "net" of relationships (Bragg 1995).

Joanna Macy, and other teachers who are supporters of the DEM, have demonstrated that participation in the "council of all beings" and other rituals and exercises designed to explore the "ecological self," is effective cross-culturally. Macy herself has led such exercises in Russia, Australia, several European nations, as well as in the United States with participants from culturally diverse backgrounds.⁴

Since many supporters of the DEM have been critical of some of major assumptions of modernity, it is not surprising that deep ecology has been greeted with hostility both by some critics on the left and critics on the right, as well as post-modern theorists (for example, van Wyck 1997). However, as Glasser has documented, some of the criticism of deep ecol-

ogy perspectives is the result of misconceptions and fallacies committed by the critics. It is difficult to speak across paradigms when the basic approach of different paradigms is phrased in language that is incommensurable (Glasser 1998). The “Eight points” platform of the DEM formulated by Arne Naess and George Sessions does not concern the question of what is the main cause of the ecological crisis. There are a variety of views about causes such as those advanced by social ecologists and ecofeminists. Supporters of the DEM can also support social ecology and ecofeminism and vice versa.⁵

Some postmodern critics have had special difficulties with the DEM. But Charlene Spretnak, a scholar who has specialized in the development of ‘green’ politics, concludes that ‘deconstructionist postmodernism’ should not be confused with ‘ecological postmodernism’ (Drengson 1996; Spretnak 1997). The key metaphor of ‘ecological postmodernism’ is ecology and the primary truth is ‘particular-in-context’, or bioregionalism.

Naess asserts that there are three great social movements of the 20th century—the ecology movement, the peace movement, and the social justice movement. These three movements speak to our yearning for liberation and can be compatible with each other in specific political campaigns. However, in situations of conflict, priorities must be established.

Soon after Earthday 1970, commentators were warning of possible conflicts between environment and civil rights (Hutchins 1976) and between economic growth and environmental quality (Heller 1973). As the deep ecology perspective became more widely discussed during the 1980s, critics from postmodern schools of thought, feminism, and social ecology argued strenuously for nonessentialist, anthropocentric approaches to environmental ethics. Supporters of the DEM demonstrated that there are parallels between ecofeminism and deep ecology (Fox 1989; Plumwood 1992).

Some critics assume that the DEM is inappropriate for the Third World because the Third World must address problems of militarism, poverty, food supply, and demands for gender equality (Guha 1989). On the contrary, supporters of the DEM conclude it is most appropriate for the Third World because of its emphasis on long-range sustainability of natural systems within which humans as well as all other species must dwell (Naess 1995; Cafaro 1998).

During the 1980s and 1990s, shallow or reform environmental movements continued to emphasize the tenet that “sustainable economic growth and development” for both developed and “underdeveloped” societies is

desirable, and indeed necessary, in order to achieve goals of cleaner air and water as well as protection of natural resources for sustained use by a growing human population (see the Bruntland Report, *Our Common Future* 1987, and Agenda 21 approved by the Rio Summit on Development and the Environment 1992). The subtext of all the major documents, based on reform environmentalism, is that an increasing population of humans will “sustainably” use increasing amounts of “natural resources” by efficiently using evolving technologies such as biotechnology, computer technology, nanotechnology, and energy technology.

Most of the documents issued at world conferences on the environment fail to clearly answer the questions “what is being sustained,” “how long is it being sustained,” and “how will conflicts between priorities or between the short-term interests of various categories of people be resolved?” “How will priorities of the current generation of humans and future generations be resolved?”

Supporters of the DEM recognize the need to address the great disparity between the opportunities of people living in the Third World to sustain their vital needs and people living in Japan, the United States, Canada, and the European Union. Much effort has been given by supporters of the DEM to addressing issues of environmental justice raised by a globalizing economy and the impact of free trade treaties such as NAFTA (and the WTO) on our ability to speak for the protection of wild species and their habitat, as well as the impact that global financial structures have on the lives of ordinary people around the world (Mander 1991).

When the demands for redistribution of money, power, and wealth, in the short-term, between more wealthy and less wealthy societies, between genders, between age groups, between politically defined ethnic groups, and so forth, become the primary agenda of social activists, there is a danger, as George Sessions has concluded, of “the demise of the ecology movement” because social justice concerns frequently replace concern for the ecological integrity of the Earth (Sessions 1995b, 1995c). While many social issues can be addressed simultaneously, even if a utopian social justice society could be established, it may be on a planet that is rapidly losing biodiversity, primary forests, and free nature.

WARNINGS TO HUMANITY

Before the Rio Summit on Development and the Environment in 1992, the Union of Concerned Scientists circulated the World Scientists’ Warn-

ing to Humanity, signed by over 1,700 scientists, including 104 Nobel laureates. The Warning stated, in part, “Human beings and the natural world are on a collision course . . . A great change in our stewardship of the earth and the life on it is required, if vast human misery is to be avoided and our global home on the planet is not to be irretrievably mutilated . . . No more than one or a few decades remain before the chance to avert the threats we now confront will be lost” (Ehrlich 1996, Appendix B).

In April 1999, the World Commission on Forests, created after the Rio Summit of 1992, concluded that nearly 15 million hectares of primary forests, an area the size of England and Wales, have been lost due to logging and other human activities each year since 1980. Original frontier forests have all but disappeared in 76 countries, and declined by at least 95 % in 11 countries. The planet’s original forest cover of 6 billion hectares has been reduced to 3.6 billion hectares (World Commission on Forests 1999).

During the 1980s some commentators suggested that the 1990s would be a “turnaround decade” or a “turning point” where rapid changes would encourage the emergence of a new social paradigm or a new type of social organization based on ecology (Capra 1982). Has a paradigm shift occurred, or is it occurring on a planetary scale at the beginning of the 21st century?

It is widely accepted that reform environmentalism is now part of the political agenda of most nations. Politicians are expected to include “the environment” as part of their campaign promises and public policy objectives. Many governments of developing nations are willing to participate in conservation programs—if they are given cash in exchange for their participation, such as the “debt for nature” agreements reached with some nations in South America. Findings from cross-cultural surveys indicate that even in poor nations, there is widespread awareness of and concern with environmental issues (Brechin 1994). Radical grassroots environmental movements have developed in many Third World nations (Taylor 1995). Whether or not motivated by deep ecology or reform environmental perspective or demands for tribal or First Nations sovereignty from national governments, grassroots movements have irritated governments, some corporations, and other economic and political interest groups who ignited a backlash against radical environmentalism both in the United States and in many developing nations. Campaigns of suppression, detention, and even murder of grassroots radical environmentalists have been extensively documented (Rowell 1996).

Leaders of all the major world religions including Native American pantheism, Orthodox Christianity, Roman Catholic, Buddhism, Islam, and Judaism have presented statements that echo the World Scientists' Warning to Humanity. Religious leaders have presented statements affirming that conservation is part of their ethical teachings and that humans have no right to destroy the integrity of natural systems (Oelschlaeger 1994).

In 1982, the United Nations General Assembly passed the World Charter for Nature, sponsored by a Third World nation—Zaire—with only one dissenting vote, the United States. The World Charter contains significant deep ecology statements including,

1. Nature shall be respected and its essential processes shall not be disrupted.
2. The genetic viability on the earth shall not be compromised; the population level of all life forms, wild and domesticated, must be at least sufficient for their survival, and to this end necessary habitats shall be maintained.
3. All areas, both land and sea, shall be subject to these principles of conservation; special protection shall be given to unique areas, representative sample of all ecosystems and the habitats of rare and endangered species.
4. Ecosystems and organisms, as well as land, marine and atmospheric resources which are utilized by man shall be managed to achieve and maintain optimum sustainable productivity, but not in such a way as to endanger the integrity of those other ecosystems or species with which they coexist.
5. Nature shall be secured against degradation caused by warfare or other hostile activities.

The Charter challenges national and local governments to select the appropriate mix of social, political, and economic methods to achieve their goals (Wood 1985). However, the major world environmental conferences held during the 1990s, including the Rio Summit on Development and the Environment (1992) and the Kyoto Conference on Global Warming (1998), presented documents that retreated from deep ecological statements found in the World Charter for Nature.

Even by their own anthropocentric criteria, the world environmental conferences of the 1990s have had limited success. Five years after the Rio summit, the United Nations Environmental Programme issued a report,

The Global Environmental Outlook. The report concludes that “significant progress has been made in confronting environmental challenges. Nevertheless, the environment has continued to degrade in nations of all regions. Progress toward a sustainable future has simply been too slow” (UNEP 1997).

Agenda 21, the document approved by governments attending the Rio Summit, clearly states that sustainable development would be achieved through trade liberalization. Since the Rio Summit, forest destruction from Mexico to Siberia and from Brazil to Indonesia has increased due to the impetus provided by “free trade” and globalization of the timber trade (Menotti 1998).

An Earth Charter was to have guided the Rio Summit on Environment and Development, but governments could not agree on such a statement of ethical principles. However, nongovernmental organizations (NGOs) were interested in the idea and formed a network of NGOs to develop a citizens’ Earth Charter. In early 1997, an Earth Charter Commission composed of distinguished persons from each continent was appointed at a meeting of international NGOs to draft a citizens’ Earth Charter.

A Draft Earth Charter was released in March 1997 at the Rio+5 Forum. The Earth Charter is supposed to provide “an ethical framework for decision making on all matters of environment and development.” The Draft Earth Charter contains eighteen planks. The first plank says, “Respect Earth and all life. Earth, each life form, and all living beings possess intrinsic value and warrant respect independent of their utilitarian value to humanity,” and plank 2, “Care for Earth, protecting and restoring the diversity, integrity, and beauty of the planet’s ecosystems. Where there is risk of irreversible or serious damage to the environment, precautionary action must be taken to prevent harm.”

The clear statement that ecological sustainability must take precedence in all policy decisions in the citizens’ Draft Earth Charter contrasts starkly with the development tone of official Agenda 21 documents released through the United Nations.

The United Nations sponsored Cairo conference on Development and Population in 1994 presented documents primarily devoted to development of women’s opportunities to participate in economic growth in Third World nations. Decline in birth rates was linked to “empowerment” of women and to “economic opportunities” for women in a growing economy. It was assumed that if women participate in economic growth under capi-

talism, have access to contraceptives and choice on abortions, and are more educated, that the birth rate will fall. Some critics of the Cairo conference statement, including representatives of Moslem nations and the Catholic church, noted the ideological tone of the Cairo statement and failure of the Cairo statement to respect cultural diversity. Five years after the Cairo conference, at a world conference of governments and nongovernmental organizations called to assess the outcomes of the Cairo conference, the political consensus of 1994 was in disarray. The environmental caucus of Cairo+5 in particular insisted that “we cannot address access to food, water safety, and migration without addressing the environment as well. A healthy environment should be a priority when seeking to address human health and welfare.”⁶ It was also unclear if contributing nations would raise the programmed \$10 billion a year for implementation of the Cairo agreement and the anticipated \$22 billion a year that will be needed by 2015.

The United Nations Conference on Women held in Beijing in 1995 included “environment” as one of the twelve planks in its “platform for action.” However, that plank read, “Eliminate all obstacles to women’s full and equal participation in sustainable development with equal access to and control over resources; integrate rural women’s traditional knowledge and practices into environmental management programs; support women’s consumer initiatives by promoting recycling, organic food production and marketing and product labeling that is clear to the illiterate.”

There was no plank in the women’s platform that emphasized the role of women in maintaining wide ecological sustainability by responsibly limiting the number of children they have, nor any support for intrinsic values of other species, nor support for programs that protect the habitat of native species in each bioregion. In commenting on this platform, a British writer, Sandy Irvine, concludes, “. . . Some fundamental aspects of the eco-crisis, particularly overpopulation, are ignored or denied. Organisations such as the Women’s Environment Movement specifically deny that existing human numbers are already too great for the global ecosystem to sustain” (Irvine 1995).

With the prospect of a conscious, collective movement of rapid social turnaround fading, some supporters of the DEM suggest that the human species has exceeded the limits of natural systems to respond to anthropogenic changes, and that radical changes in human society will occur during the 21st century because “nature bats last” (Catton 1980a; Meadows et al. 1992).

In his 1971 book, *The Closing Circle*, Barry Commoner summarized these 'laws' of ecology: Nature is more complex than we know, and probably more complex than we can know. Everything has to go somewhere. There is no such thing as a free lunch. And, the most controversial 'law', Nature knows best (Commoner 1971). Some commentators conclude that humans in industrial civilization have become like a cancer on the planet, killing the host organism.

Other visionary writers hypothesize that as a species *Homo sapiens* is evolving toward a planetary civilization that “. . . will come from the synergy of the collective experience and wisdom of the entire human family—the entire species. The world has become so interdependent that we must make it together, transcending differences of race, ethnicity, geography, religion, politics, and gender. It is the human species that must learn to live together as a civilized and mutually supportive community. To focus on the development of civility among the human species is not to inflate unduly the importance of humanity within the ecosystem of life on Earth; rather it is to recognize how dangerous the human race is to the viability of the Earth's ecosystem. Humanity must begin consciously to develop a planetary-scale, species-civilization that is able to live in a harmonious relationship with the rest of the web of life” (Elgin 1993, 14).

Philosopher Thomas Berry calls this project the “great work” of humans. Berry concludes that humans live in a “moment of grace” as we move into the 21st century which enables humanity to “be present to the planet in a mutually beneficial way” (Berry 1999). Others believe that Gaia herself, a conscious, self-organizing system, will regulate such an unruly species as *Homo sapiens*. The Gaia hypothesis has stimulated not only controversy among scientists but also has stimulated numerous religious, mystical, and feminist responses that indicate a yearning for integration with the “Earth Mother.”⁷

Naess himself says he remains an optimist “for the 22nd century.” “There is no time for overly pessimistic statements that can be exploited by passivists and those who promote complacency. The realization of what we call wide ecological sustainability of the human enterprise on this unique planet may take a long time, but the more we increase unsustainability this year, and in the years to come, the longer it will take. . . . The Deep Ecology movement is concerned with what can be done today, but I foresee no definite victories scarcely before the twenty-second century” (in Sessions 1995a, 464).

The resurgence of interest in bioregionalism, restoration, locally-based agriculture, and new initiatives to establish huge nature reserves in many nations indicates that supporters of the DEM will continue to be leaders in developing new agendas for the conservation movement as we move into the 21st century. For example, there is a growing number of alliances between conservation groups and tribal or First Nation peoples (a designation most commonly used in Canada) with the objective of assisting traditional cultures and protecting wildness. From Ecuador to British Columbia, numerous NGOs continue to implement projects with tribal and First Nation peoples.⁸

Yet, since liberals and conservatives, capitalists and socialists, as well as green parties in Europe, Japan, and North America, have found it difficult to integrate a deep ecology perspective and environmental justice agenda into their political agendas, it is difficult to see where the political momentum for radical social change based on the norm of wide ecological sustainability will arise. Fritjof Capra, however, concludes that “while the transformation (from one paradigm to another) is taking place, the declining culture refuses to change, clinging ever more rigidly to its outdated ideas; nor will the dominant social institutions hand over their leading roles to the new cultural forces. But they will inevitably go on to decline and disintegrate while the rising culture will continue to rise, and eventually will assume its leading role. As the turning point approaches, the realization that evolutionary changes of this magnitude cannot be prevented by short-term political activities provides our strongest hope for the future” (Capra 1982, 419).

Joanna Macy, and other visionary scholar/teachers who are supporters of the deep, long-range ecology movement and who utilize system theory approaches in their teaching, emphasize that emergent forms of social organization that arise out of the chaos and breakdown of current social systems may be very different from present forms of social organization and cannot be predicted based on linear trend analysis.

CONCLUSION

Ecological systems approaches to global modeling and analysis have developed extensively over the past several decades to the extent that some scientists are calling for “international ecosystem assessment.” These scientists argue that an international system of ecosystem modelling and monitoring, integrating the many differing factors—climate change, biodiversity loss, food supply and demand, forest loss, water availability and

quality—is urgently needed. The magnitude of human impacts on ecosystems is escalating. One-third of global land cover will be transformed in the next hundred years. In twenty years world demand for rice, wheat, and maize will rise by 40%. Demands for water and wood will double over the next half-century. At the turn of the millennium, they argue, we need to undertake the first global assessment of the condition and future prospects of global ecosystems (Ayensu 1999).

The continuing collective efforts to change human behavior to forestall global warming indicates that some attempts at effective political action in the face of a “global environmental crisis” are being made (Depledge 1999). Deep ecology perspectives and the DEM have contributed to the development of ecophilosophy, ecopsychology, and intellectual discussions of these issues over the past four decades, in particular by helping people articulate and develop their own ecosophy both individually and as part of a community (Glasser 1996). However, how the planet as an interdependent ecosystem, subject to increasing and generally negative human interventions, will fare in the 21st century remains an open question.

There are those who see hope for the future of *Homo sapiens* living in harmony with the rest of nature. They maintain that *Homo sapiens* have the capacity to develop into mature human beings both as individuals and collectively if humanity practices CPE on the earth—conservation, preservation, restoration (Brower 1995). Others, seeing that even small populations of *Homo sapiens* armed with simple but very effective technology of fire and stone arrowhead have, over the past 35,000 years, had immense impact on landscapes of whole continents (such as Australia), and conclude that at best *Homo sapiens* can be seen as an auto immune disease on the world system, on Gaia, or as a cancer on the world system that at this time has begun to destroy the vital organs of the planet.

Another forecast is presented by Bill Joy, chief engineer for Sun Electronics and one of the creators of Java for the Internet. He begins with Murphy’s Law, “Anything that can go wrong, will go wrong,” and with the premise from systems theory that when systems involved are complex, involving interaction among and feedback between many parts, any changes in such a system will cascade in ways that are difficult to predict; this is especially true when human actions are involved. Joy explores the unintended consequence of developing the new fields of technology including robotics, genetic engineering, and nanotechnology.

Since “biological species almost never survive encounters with superior competitors” and given that robotics, at the current rate of develop-

ment, could be superior in intelligence to *Homo sapiens* within fifty years, and could self-replicate, it is likely that cyborgs will out-compete current *Homo sapiens* and win control of the planet. For Joy, the only hope for *Homo sapiens* in the 21st century is if, as a species, we relinquish research on robotics, genetic engineering, and nanotechnology. Exploring the love and compassion that is more basic to our humanness than the “will to power” in capitalist, free-market economies based on exponential growth of technology, humans can enter a path toward a utopia based on altruism (Joy 2000).

We are left to contemplate the question asked by John Muir, considered by many historians to be the founder of the American conservation movement, in 1875. Returning to the Central Valley of California, after spending another summer meditating in the Sierra Nevada, Muir wrote in his journal:

Every sense is satisfied. For us there is no past, no future—we live only in the present and are full. No room for hungry hopes—none for regrets—none for exaltation—none for fears.

Enlarge sphere of ideas. The mind invigorated by the acquisition of new ideas. Flexibility, elasticity.

I often wonder what men will do with the mountains. That is, with their utilizable, destructable garments. Will he cut down all, and make ships and houses with the trees? If so, what will be the final and far upshot? Will human destruction, like those of Nature—fire, flood, and avalanche—work out a higher good, a finer beauty. Will a better civilization come, in accord with obvious nature, and all this wild beauty be set to human poetry? Another outpouring of lava or the coming of the glacial period could scarce wipe out the flowers and flowering shrubs more effectively than do the sheep. And what then is coming—what is the human part of the mountain's destiny? (Engberg and Wesling 1980, 162)

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NOTES

1. The Selected Works of Arne Naess, edited by Harold Glasser and published by Kluwer Academic Publishers, will be available in early 2001. Information concerning the current status of this project is available from the Foundation for Deep Ecology, Building 1062, Ft. Cronkhite, Sausalito, CA 94965.

2. Naess frequently uses the term “free nature” to refer to landscapes that are relatively unmodified by human activities. Other supporters of the DEM frequently use the term “wild nature” to refer to landscapes that may contain human communities such as tribal societies, but are relatively untrammelled by industrial civilization, agriculture, roads, cattle, or sheep grazing. Henry David Thoreau expressed one of the central axioms of the modern conservation movement when he wrote “in wildness is the preservation of the world.”
 Virtually all regions of the planet are currently impacted by planetary industrial civilization as witnessed by “global warming,” the “hole in the ozone layer,” and massive deforestation of all the primary forests on the planet (World Commission on Forests 1999).
3. See, for example, the Northwest Earth Institute, Suite 1100, 506 SW 6th St., Portland, OR 97205.
4. Recent educational material on the deep, long-range ecology movement includes the 13-part radio series, “Deep Ecology for the 21st Century,” available from New Dimensions Broadcasting Network, P.O. Box 569, Ukiah CA 95482. Two videos highlight the work of Arne Naess in articulating deep ecology; “Crossing the Stones,” produced by Norwegian Broadcasting Corporation in 1992 and available in the United States from Bullfrog Films, Oley PA; and “The Call of the Mountain,” produced by ReRun Produkties in 1997, distributed in the United States by the Foundation for Deep Ecology, Building 1062, Ft. Cronkhite, Sausalito, CA 94965.
5. The International Forum on Globalization, Building 1062, Ft. Cronkhite, Sausalito, CA 94965, provides books, articles and other material on the environmental and social impacts of globalization.
6. Population and Habitat Update: Cario+5: Identifying Successes, New Challenges: National Audubon Society’s Population and Habitat Campaign, May/June 1999.
7. When James Lovelock and Lynn Margulis presented the Gaia Hypothesis, it was embraced by the broader public before it was embraced by the community of scientists (Lovelock 1987). Surfing through Amazon.com, I found more than 120 books that use the word Gaia in titles published after 1988. These included “a guided meditation for vibrational medicine cards and Gaia matrix oracle,” “from eros to Gaia,” “Gaia and God: an ecofeminist theology of earth healing,” “gay and Gaia, ethics, ecology, and the erotic,” and “the goddess in the office: a personal energy guide for the spiritual warrior at work.”
8. The agenda of the DEM now includes “rewilding,” a term not yet found in the dictionaries. According to Michael Soule, author of numerous books on biodiversity and president of The Wildlands Project, rewilding means “the process of protecting Nature by putting all the ecological pieces back together and restoring the landscape to its full glory and building a network of conservation reserves—cores, corridors, and mixed-use buffers—with enough land to allow wolves, jaguars, bears and other large carnivores to move freely and reclaim a part of their former range” (Soule 1998).

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