

CHAPTER 6
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SOME SOURCES OF
THE DEEP ECOLOGY
PERSPECTIVE

Although ecology may be treated as a science, its greater and overriding wisdom is universal. That wisdom can be approached mathematically, chemically, or it can be danced or told as a myth. . . . It is manifest, for example, among pre-Classical Greeks, in Navajo religion and social orientation, in romantic poetry of the eighteenth and nineteenth centuries, in Chinese landscape painting of the eleventh century, in current Whiteheadian philosophy, in Zen Buddhism, in the worldview of the cult of the Cretan Great Mother, in the ceremonials of Bushman hunters, and in the medieval Christian metaphysics of light. What is common among all of them is a deep sense of engagement with the landscape, with profound connections to surroundings and to natural processes central to all life.

—Paul Shepard, *The Subversive Science* (1969)

Deep ecology is radically conservative in that it articulates a long-established minority stream of religion and philosophy in Western Europe, North America, and the Orient. It also has strong parallels and shared insights with many religious and philosophical positions of primal peoples (including Native Americans). In a certain sense it can be interpreted as remembering wisdom which men once knew.

In this chapter some of the sources of deep ecology are briefly described. This chapter is intended to help the reader place what seem like diverse and disparate writings into an ecological context.

Deep ecology derives its essence from the following traditions and philosophies which are mentioned in this chapter: the perennial philosophy, the pastoral/naturalist literary tradition, the science of ecology, the "new physics," some Christian sources, feminism, the philosophies of primal (or native) peoples, and some Eastern spiritual traditions. The writings of Martin Heidegger, Gary Snyder, Robinson Jeffers, John Muir, and David Brower have also contributed greatly to the deep ecology perspective. The reader is encouraged to explore further the sources of deep ecology in the essay on Baruch Spinoza and Western process metaphysics in appendix D.

I. THE PERENNIAL PHILOSOPHY

In *The Perennial Philosophy* (1945), Aldous Huxley surveyed many of the religions and philosophies of the world looking for common themes. He found that they characteristically began with a metaphysical account of the world or reality which placed humans in the wider scheme of things. Human psychology was then understood in terms of adjusting to this larger reality. Finally, a system of ethics or a way of life was the end result of the perennial philosophy approach. Spiritual growth and human maturity developed from the "enlightenment" of realizing that our narrow isolated socialized self is an illusion—that in reality, we are intimately connected with all the natural processes around us. Many people are familiar with these ideas from the Eastern traditions, but fail to realize that the perennial philosophy tradition also existed in the West for millennia. Good examples from Western philosophy include the systems of Pythagoras and Plato (see especially his "allegory of the cave" in the *Republic*) and the more Nature-oriented system of Spinoza. Philosopher Jacob Needleman discusses the Gnostic and other Western religious perennial philosophy traditions in *Lost Christianity* (1980) and *The Heart of Philosophy*

(1981), as does Roszak in *Where the Wasteland Ends* (1972), and *The Unfinished Animal* (1977).

The perennial philosophy tradition has direct relevance for us today for several reasons. Modern Western academic philosophy in the twentieth century has become very wedded to mechanistic science as its touchstone for reality and knowledge, along with a narrow preoccupation with the analysis of language, and has all but lost sight of the wisdom tradition in philosophy. Specialists in philosophy now, for example, do ethical theory entirely divorced from its metaphysical underpinnings or an awareness of the deep assumptions they are making. Philosophical specialists also ignore the history of philosophy and the cultural contexts in which the theories and ideas have arisen. All of this in its way tends to reinforce anthropocentrism and the existing technocratic-industrial society. Such specialists are of little help in developing the deep ecology worldview now needed.

Similarly, much of modern psychology has lost touch with the wisdom traditions and presents us with oversimplified and distorted socially oriented models of healthy mature human beings. Much of the interest in Eastern philosophy and psychology and techniques for spiritual development is an attempt to correct the impoverishment of Western philosophy and psychology.¹ The revival of the perennial philosophy tradition again unites metaphysics, psychology, theory of knowledge, ethics, and social and political theory to help provide us with a coherent and integrated view of the world and the meaning of human life.

Aldous Huxley points out that, "In all the historic formulations of the perennial philosophy it is axiomatic that the end of human life . . . is the direct and intuitive awareness of God; that action is the means to that end." Many Westerners see contemplation or meditation as mostly inactive sitting or an inward withdrawal from the world and its problems. But there is a very active strain to contemplative living which results from greater self-knowledge and integration of the person. Those who perform actions without a genuine awareness of their vital needs and real motives may actually be quite passive individuals. In Spinoza's version of perennial philosophy, the whole key to human maturity and freedom is an understanding of the world and ourselves which allows us to move from passive unreflective conditioned behavior to an active relationship with the world around us.

An appropriate metaphysics for the emerging ecological perennial philosophy would provide a structural account of the basic unity and

interrelatedness of the universe, while at the same time accounting for the importance and uniqueness of individual beings. Similarly, this metaphysics of interrelatedness helps us realize that the natural world and other species are inextricably a part of us, and us of them (a mutual reciprocity). The truly active person will take direct action to help preserve the natural world, for in a profound mature sense, one sees that such preservation is in one's self/Self interest.

Western civilization as a whole now finds itself between dreams . . . [much as during the Renaissance when] Western man found himself between two dreams: behind him the dream of a Christianized world, before him the dream of the conquest of nature. The crisis of ecology, the threat of atomic war, and the disruption of the patterns of human life by advanced technology . . . [have resulted in the fact that] the lullaby of scientific progress, the dream of manipulating nature to suit our egoistic purposes, is ended.

—Jacob Needleman, *A Sense of the Cosmos* (1975)

II. THE LITERARY TRADITION OF NATURALISM AND PASTORALISM IN AMERICA

While a great deal of modern literature has the anthropocentric focus of humans coping with urban lifestyles and their inherent problems, there is also a rich pastoral and naturalist literary tradition in Europe and America that provides a source for deep ecological consciousness. The European Romantic movement, beginning with Jean-Jacques Rousseau's challenge to an overly civilized and refined Europe, and continuing with Goethe and the Romantic poets (Blake, Wordsworth, Coleridge, Shelley, etc.) can be viewed as a counterforce to the narrow scientism and industrialism of the modern world. This movement continued in America with Walt Whitman, the Transcendentalist Emerson, and Thoreau and Muir.

Literary critic Leo Marx (*The Machine in the Garden*, 1964) referred to this tradition during the excitement of Earth Day, when he criticized the scientific establishment for being so conservative and for not properly evaluating the severity of the environmental crisis.² Marx found the ecological perspective expressed in much of the American pastoral writing including Cooper, Emerson, Thoreau, Melville, Whit-

man, Twain and others. He claimed that the awareness of ecological interpenetration in these writers, together with a "sense of place," often produced "a kind of visionary experience, couched in a language of such intense, extreme, even mystical feeling that it is difficult for many readers (though not, significantly, for adherents of the [1960s] youth culture) to take it seriously."

In many ways, Melville's *Moby Dick* can be seen as the classic allegory of the West's (and particularly America's) self-destructive attempt to conquer Nature. Ahab as the captain of industry becomes increasingly insane in his efforts to outsmart and destroy Nature in the form of Moby Dick, the great white whale. But the hunter becomes the hunted and the whale destroys its tormentor.

This literary tradition, which also includes Mary Austin, D. H. Lawrence, Aldous Huxley, Robinson Jeffers, William Faulkner, Joseph Wood Krutch, Henry Beston, Anne Dillard, Wallace Stegner, Sigurd Olson, Frank Waters, Wendell Berry, Edward Abbey, Barry Lopez, Gary Snyder, and others, has called to us to reject the technocratic-industrial worldview and reestablish our roots in Mother Gaia.³

While some of the Romantic and Transcendentalist writers were overly subjective and sentimental about the goodness of Nature and primal peoples (the "myth of the Noble Savage"), writers beginning with John Muir and Robinson Jeffers and continuing with Gary Snyder have developed a more objective view of humans and Nature. For example, D. H. Lawrence in his outstanding essay "Pan in America" (1924) surveys the overly sentimental pantheism of the European Romantics and then provides wonderful insight into the more realistic mystical sense of interrelatedness of the Native Americans of New Mexico.⁴

Among contemporary writers, no one has done more than Gary Snyder to shape the sensibilities of the deep ecology movement. In both his poetry and essays, Snyder has been laying the foundations for the "real work" of reinhabiting this continent. Fellow poet William Everson claimed in *Archetype West* (1976) that "Snyder has for two dozen years been hewing out the guidelines along which the greening of America must proceed, and his work has not been in vain."

In 1975, Snyder was awarded the Pulitzer Prize in Poetry for his book, *Turtle Island*, which contains some of his finest poems and most important essays and statements linking Zen Buddhism, the American Indian tradition, and deep ecology.

In his insightful essay, "Gary Snyder's Descent to Turtle Island," Edwin Folsom points out that as the Western frontier was closed, some

poets began looking for a new direction for Americans. It became apparent that the religious/economic vision of urban-industrialism had destroyed the ecology and wildlife of this continent while also diminishing our lives. Snyder followed the lead of poets William Carlos Williams and Hart Crane, who suggested that we get in touch with the land itself and with the vision and traditions of early American primal peoples who lived in harmony with the land. Snyder has provided a well-rounded vision for a new tribe of "White Indians" to reinhabit the land based upon the "old ways." Folsom claims that:

*Snyder's major accomplishment, then, is a rediscovery and reaffirmation of wilderness, a clear rejection of Turner's (and America's) closure of the frontier. Snyder announces the opening of the frontier again and attempts to push it eastward, to reverse America's historical process, to urge the wilderness to grow back into civilization, to release the stored energy from layers below us.*⁵

Through the ancient enchanting use of the poetic voice, Snyder becomes the spokesman for Mother Gaia and all of her living creatures, calling upon us to return to sanity and "right livelihood" by readopting the old ways. This is the path of freedom for humans and the planet. In Snyder's words:

"Old" means true, right, normal: in the flow of the universe. Old also because it is the basic way to live—Taoism, Hinduism, Buddhism, are the younger brothers, slightly confused because passing through the temporary turbulence called civilization . . . People and places that will not be managed—they are called "wild" . . . "Self-thus," Chinese word for nature—not programmed—generating its own rules from within.

Readers are encouraged to further explore Snyder's ideas in his books listed in the bibliography.

Bob Steuding, in *Gary Snyder* (1976), makes a distinction between Romantic and ecological perspectives:

The theories of the contemporary poets, such as Snyder, seem distinctly non-Romantic in essence. These poets have an entirely different perception of Nature than that of the Romantics . . . the Romantics asked many valid questions, but they were unable to decode the answers they received because of clinging Judeo-Christian bias, a humanistic view of the universe; and, most importantly, lack of scientific knowledge. . . . The Transcendentalists read the Orientals, and agreed, as does Snyder, that all was interrelated. Yet they stood aside, viewing what they called "Nature" as something other than themselves. . . . In contrast to the

perception of the world projected in Snyder's later work, the Romantics never *saw* nature. They were looking at their own minds.

III. THE SCIENCE OF ECOLOGY

The major contribution of the science of ecology to deep ecology has been the rediscovery within the modern scientific context that everything is connected to everything else. Thus, as a science, ecology provided a view of Nature that was lacking in the discrete, reductionist approach to Nature of the other sciences.

Furthermore, in the work of some ecologists and natural historians including Rachel Carson, F. Fraser Darling, Charles Elton, Aldo Leopold, Paul Sears, William Vogt, Eugene Odum, Frank Egler and others, deep ecological consciousness has existed side by side with the more narrow definition of ecology as the "study of natural interrelationships." Many of these ecologists were to develop in their own philosophies some version of a biocentric perspective on the equality of all nonhumans and humans.

Another contribution of the science of ecology was to encourage students to go into the field and really *see* interrelationships rather than just study them in textbooks or laboratories. Thus the scientist had to become a vital participant in the process. From the work of English pastor Gilbert White, through Thoreau, Muir, Charles Darwin, and others in the nineteenth century, to the more "radical" ecologists—Marston Bates, Frank Egler, Paul Ehrlich and others—ecologists have understood the need to go beyond the narrow definition of scientific data and look to their own consciousness to develop their own sense of place.⁶

In the 1920s and '30s, Aldo Leopold underwent a dramatic conversion from the "stewardship" resources management mentality to what he called an *ecological conscience*. His influential statement of ecological consciousness and the land ethic occurs in the now classic *Sand County Almanac* (1949). Leopold's biocentric equality is expressed in the claim that "we are only fellow-voyagers with other creatures in the odyssey of evolution." An adoption of the ecological conscience, he says, "changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such."

Leopold claimed that “the biotic mechanism is so complex that its working may never be fully understood,” thus undercutting the possibility of its total successful domination and control by humans, and thereby also stressing the essential mysteriousness of the biotic process. Leopold also pointed to the contrasts between “man the conqueror *versus* man the biotic citizen; science the sharpener of his sword *versus* science the searchlight on his universe; land the slave and servant *versus* land the collective organism.” He asserted:

. . . *that man is, in fact, only a member of the biotic team is shown by an ecological interpretation of history . . . the combined evidence of history and ecology seems to support one general deduction: the less violent the man-made changes, the greater the probability of successful readjustment of the (ecological) pyramid.*

Leopold was one of the first to formulate an egalitarian ecosystem ethic: “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”

Leopold’s ideas are truly subversive and constitute a landmark in the development of the biocentric position. Conservationists have paid lip service to Leopold’s outlook, but until recently, only a few other ecologists seem to have grasped the full impact of the radical nature of Leopold’s ecological conscience.⁷

In the early 1960s, Paul Sears called ecology a “subversive subject” while other radical ecologists such as Frank Egler began looking to Eastern religions for an appropriate metaphysics of interrelatedness for ecology and the West.⁸ Many radical ecologists who perceived this deep ecological insight began engaging in educational programs and public policy debates to protect ecological diversity for its own sake and for the connection humans have with the ongoing process. In particular, Marston Bates, John Livingston, David Ehrenfeld and Paul Ehrlich were active in exposing some of the basic assumptions of the dominant worldview and calling for political action to protect wilderness and other species.

John Livingston tried to come to grips with the tremendous failure to protect wildlife through public policy during this century. The arguments used in public debate, he saw, were all “rational,” meaning based upon narrowly conceived human interests. Plants and animals were treated, in theory and practice, as only actual or potential resources to be consumed in various ways. In *The Fallacy of Wildlife Conservation* (1981) and his earlier *One Cosmic Instant* (1973), Livingston argued that without a major change in consciousness, a profound and inti-

mate sense of interrelatedness with the nonhuman world, there is no hope for turning the situation around and protecting wildlife from human destruction.

David Ehrenfeld made a major contribution in his criticism of the dominant worldview approach to management of wildlife and its technological solutions. In *The Arrogance of Humanism* (1978) he shows that the danger to civilization is the human-caused destruction of the natural world which he explains as being a logical outcome of acting under the dominant worldview assumptions. He proceeds to critically evaluate the practicality of these assumptions. Ehrenfeld was one of the first major ecologists to systematically look at the worldview from a perspective that is close to deep ecology in that he calls for a biocentric equality position.

Paul Ehrlich showed the way to political activism in the 1960s and ’70s, bringing other professional biologists and ecologists into the political arena, working for the protection of natural diversity and postulating both the human values which are served by maintaining biological diversity and the inherent value of forest and ocean ecosystems.

Biologist Barry Commoner went even further than other ecologists in his social activism by becoming a candidate for president of the United States in 1980, running on a platform of changing the whole direction of environmental policies in the federal government, although he never explicitly stated the deep ecology perspective.

One of Commoner’s major contributions was to summarize for an audience of laypeople the major “laws” of ecology which inform deep ecology perspectives. In *The Closing Circle* (1971) he listed these laws:

1. Everything is connected to everything else.
2. Everything must go somewhere.
3. Nature knows best.
4. There is no such thing as a free lunch, or everything has to go somewhere.

Barry Commoner comments on the Third Law of Ecology, “Nature Knows Best”:

In my experience this principle is likely to encounter considerable resistance, for it appears to contradict a deeply held idea about the unique competence of human beings. One of the most pervasive features of modern technology is the notion that it is intended to “improve on nature”—to provide food, clothing, shelter, and means of communication and expression which are superior to those available to man in nature.

Stated boldly, the third law of ecology holds that any major man-made change in a natural system is likely to be *detrimental* to that system. This is a rather extreme claim; nevertheless I believe it has a good deal of merit if understood in a properly defined context.

I have found it useful to explain this principle by an analogy . . . in biological systems. It is possible to induce a certain range of random, inherited changes in a living thing by treating it with an agent, such as X-irradiation, that increases the frequency of mutations. Generally, exposure to X-rays increases the frequency of all mutations which have been observed, albeit very infrequently, in nature and can therefore be regarded as *possible* changes. What is significant, for our purposes, is the universal observation that when mutation frequency is enhanced by X-rays or other means, nearly all the mutations are harmful to the organisms and the great majority so damaging as to kill the organism before it is fully formed.

IV. THE "NEW PHYSICS" AND DEEP ECOLOGY

The guiding model for what a science should be from the seventeenth century onward has been physics. As architects of the Scientific Revolution, René Descartes and Isaac Newton envisioned the universe to be a gigantic machine explainable in simple linear cause-and-effect terms. According to Pierre LaPlace and others, it was just a matter of time before everything in the universe could be totally explained in these terms. The biological world could be explained by the principles of physics. The social sciences, including psychology and sociology, believed that in order to be respectable sciences, they too would have to model themselves after physics. The dominant Western metaphysics, from Democritus and Aristotle to the present, has viewed the world as a collection of discrete entities or substances. Modern physics was erected on this metaphysical view of reality as tiny bits of isolated matter—atoms. In addition, the objectivity of scientific knowledge was to be maintained by keeping the scientist distanced from what he was observing so that his emotions and subjective bias would not influence his findings.

With the "new physics" this whole picture of reality has been shattered, although the message has been slow to work its way out to the social (human) sciences.⁹ The idea of discrete material, subatomic particles, is being abandoned for the view of Nature as a constant flux or flow of energy transformations. In a similar vein, the idea that

the scientist can totally separate himself from the experiment or observation being conducted is also being abandoned as an illusion. It is important that Thoreau and Muir consciously rejected mechanistic scientific method in the nineteenth century and conducted participatory scientific studies. Michael Cohen in his outstanding book, *The Pathless Way*, explains how Muir arrived at his glacial theory of the formation of the Sierra Nevada by lying down on the glacial polished granite in order to "think like a glacier." The approaches of Thoreau, D. H. Lawrence, and Gary Snyder are also very sensuous, as well as participative.¹⁰

Theoretical physicist Fritjof Capra in *The Tao of Physics* (1975) has done an outstanding job of explaining the revolution of the new physics and how this has resulted in a metaphysical view of reality similar to those of Eastern religions and ecological interrelatedness. In *The Turning Point* (1982), Capra carries this new view of metaphysical interrelatedness on to an examination of the changes which need to be made in our social structures. He suggests that deep ecology would be the appropriate framework for future human societies.

If the new worldview and metaphysics of interrelatedness resulting from a deeper understanding of ecology is valid, then we should expect to see this same view of reality emerging in other fields. Medicine is an example where the "discrete problem" approach to illness is giving way to more holistic conceptions of health. We are now aware that physical health cannot be separated from mental health, and the health of the individual cannot be separated from the health of the environment.¹¹

Morris Berman, author of *The Reenchantment of the World* (1981), sees some serious pitfalls to certain versions of the interconnected view of reality, especially as interpreted by New Age thinkers and proponents of the new physics, such as David Bohm. Berman claims that the process metaphysics which they expound, based on cybernetics systems theory, threatens to be disembodied. The sensuousness of the natural world is left out of their purely formal, computerized or mathematical abstractions. Much of scientific ecological theory is based on cybernetics systems theory—a continuation of the Cartesian seventeenth-century view of the universe as a machine—and should be held suspect for that reason. Similarly, attempts to model ecosystems by the use of computers inevitably distort the living reality. As the saying goes, "The map is not the territory." We believe the Earth is a living organism and should be treated and understood accordingly. There are no technological shortcuts to direct organic experiencing.

But most dangerous of all, in Berman's estimation, is that the New Age consciousness threatens to be "computer consciousness," just another abstract machine view of reality.¹²

Both the mystical traditions and the "new physics" serve to generate what we now call "ecological awareness," that is, awareness of the fundamental interrelatedness of all things—or, more accurately, all events.

—Warwick Fox, "The Intuition of Deep Ecology" in *The Ecologist* (1984)

I think what physics can do is help generate ecological awareness. You see, in my view now the Western version of mystical awareness, our version of Buddhism or Taoism, will be ecological awareness.

—Fritjof Capra, quoted in Warwick Fox, "The Intuition of Deep Ecology"

Our culture is starting, without much questioning or critical evaluation, to acquire a kind of "computer consciousness" . . . both video games and home computers create a similar view of the world for millions of people . . . both convey the notion that reality is a function of programming, and children as well as adults pick up a certain type of vocabulary from their use. The general result, I suspect, is a vast subculture that lives entirely in its head, that sees reality as essentially neutral, value-free, and especially disembodied, a form of pure mental process.

—Morris Berman, "The Cybernetic Dream of the 21st Century" (unpublished, 1984)

V. CHRISTIANITY AND DEEP ECOLOGY

Several thinkers in the Christian tradition are a source for the deep ecology perspective of organic wholeness and biocentric equality. In particular, St. Francis of Assisi (1181-1226) and Giordano Bruno (1548-1600) advocated this perspective.

Lynn White, Jr., in his article "The Historical Roots of our Ecologic Crisis," calls St. Francis the greatest spiritual revolutionary since Christ and suggests that he become the patron saint of ecology. White concludes:

The greatest spiritual revolutionary in Western history, Saint Francis, proposed what he thought was an alternative Christian view of nature and man's relationship to it; he tried to substitute the idea of the equal-

ity of all creatures, including man, for the idea of man's limitless rule of creation. . . .

The key to an understanding of Francis is his belief in the virtue of humility—not merely for the individual but for man as a species. Francis tried to depose man from his monarchy over creation and set up a democracy of all God's creatures.¹³

Francis's famous Canticle, "Brother Sun, Sister Moon," has a celebratory quality, acknowledging the equality of all God's creation.

Giordano Bruno's philosophy was based on a view of an infinite universe of vast interrelationships throughout time and space, including all phenomena, material and spiritual. Each part of the infinitely numerous worlds Bruno conceived to be moving on its own course, impelled by its own two-fold nature as part of the whole as an individual in relation to other worlds.

Before he was burned at the stake by the Inquisition for his heresy in expressing this kind of biocentric equality in the Square of the Flowers in Rome in 1600, Bruno had written in his major work, "So that the hindrance to natural knowledge and the main foundation of ignorance is the failure to perceive in things the harmony between substances, motions and qualities. . . . It is these things, many of which when seen from afar may be deemed absurd and odious, but if observed more nearly they will be found beautiful and true, and when known very closely they will be wholly approved, most lovely and certain withal. . . ."

A definitive statement of deep ecology from a Christian perspective has yet to be written, but the place to begin is in Scripture and tradition. A celebratory deep ecology, drawing from Scripture, might begin with a passage such as this:

*But ask now the beasts,
and they shall teach thee;
and the fowls of the air,
and they shall teach thee;
Or speak to the earth,
and it shall teach thee;
And the fishes of the sea
shall declare unto thee.
(Job 12:7-8)*

 CANTICLE OF BROTHER SUN, SISTER MOON

Most high, omnipotent,
 good Lord,
 Thine are all praise, glory, honor and
 all benedictions.
 To Thee alone, Most High, do they belong
 And no man is worthy to name Thee.

Praise be to Thee, My Lord, with all
 Thy creatures,
 Especially Brother Sun,
 Who is our day and lightens us
 therewith.
 Beautiful is he and radiant with great
 splendor;
 Of Thee, Most High, he bears expression.

Praise be to Thee, my Lord, for Sister
 Moon, and for the stars
 In the heavens which Thou has formed
 bright, precious and fair.

Praise be to Thee, my Lord, for
 Brother Wind,
 And for the air and the cloud of fair
 and all weather
 Through which Thou givest
 sustenance to Thy creatures.

Praise be, my Lord, for Sister Water.
 Who is most useful, humble, precious
 and chaste.

Praise be, my Lord, for Brother Fire,
 By whom Thou lightest up the night:
 He is beautiful, merry, robust and strong.

Praise be, my Lord, for our sister,
 Mother Earth,
 Who sustains and governs us
 And brings forth diverse fruits with
 many-hued flowers and grass.
 — St. Francis

VI. FEMINISM AND DEEP ECOLOGY

There are important parallels between the themes of some feminist writers and social activists and the ultimate norms and principles of deep ecology. Indeed, some feminists claim that deep ecology is an intellectual articulation of insights that many females have known for centuries.

Some feminist writers have provided intensive, critical examinations of major assumptions of the dominant worldview. In particular, persons such as Elizabeth Dodson Gray in *Green Paradise Lost* criticize the view of reality as “masculine” and the myth that Nature and human society are hierarchical.¹⁴

By calling us to mend our personal relationships, to examine more deeply how dominant modes of thinking in our culture condition us to egoism, competition, abstraction, and domination, and by bringing forth a “voice for nature” for itself rather than just for its utility to humans, feminists deepen our sense of wonder in our lives and our commitment to creative, nonviolent, empowering social activism.

Three women from different generations especially exemplify the cultivation of ecological consciousness through sophisticated articulation of their ecological insights, and in social activism, practicing from deep principles: Mary Austin, Rachel Carson, and Dolores LaChapelle.

Mary Austin (1868-1934), author of *Land of Little Rain* (1902), *The Basket Woman* (1904), and many other books set in the California desert country, has what her biographer called a “startling relevance for the late twentieth century.”¹⁵ Austin was a writer, naturalist and feminist who interpreted our abiding responsibility to and relationship with the Earth in eloquent prose and with deep understanding.

If one is inclined to wonder at first how so many dwellers came to be in the loneliest land that ever came out of God's hands, what they do there and why stay, one does not wonder so much after having lived there. None other than this long brown land lays such a hold on the affections. The rainbow hills, the tender bluish mists, the luminous radiance of the spring, have the lotus charm. They trick the sense of

time, so that once inhabiting there you always mean to go away without quite realizing that you have not done it.

—Mary Austin, *Land of Little Rain*

Rachel Carson (1907-1964) combined contemporary scientific training in biology and ecology with a deeper ecological sensibility and sensitivity. In her books, *The Sea Around Us* (1950) and *Under the Sea Wind* (1941), she extolled the intrinsic value of oceans. She was alarmed at the use of science to further exploit the seas as natural resources. Ecology, for her, was the recognition of the organic, interconnected and interactive meaning of living within Nature. She provided classic tales of humility and attentive listening to rhythms larger than our own.¹⁶

Finally, Carson engaged in debate over public policies concerning Resource Conservation and Development with her book on the ecological consequences of widespread use of pesticides, *Silent Spring* (1962). This book can probably date the beginnings of the “Age of Ecology.” Her willingness to engage in public debate inspired a generation of social activists to ask important questions concerning the then taken-for-granted assumptions of the use of pesticides and herbicides. Carson’s writings also directly affected many European ecoactivists, including Arne Naess.

The “control of nature” is a phrase conceived in arrogance, born of the Neanderthal age of biology and philosophy, when it was supposed that nature exists for the convenience of man. The concepts and practices of applied entomology for the most part date from that Stone Age of science. It is our alarming misfortune that so primitive a science has armed itself with the most modern and terrible weapons, and that in turning them against the insects it has also turned them against the earth.

—Rachel Carson, *Silent Spring*

The ecofeminist connection to deep ecology is well exemplified by Dolores LaChapelle, who teaches and writes on deep ecology from

the Way of the Mountain Center in Silverton, Colorado. Mountaineer, skier, ritualist, and author, LaChapelle has devoted her life to reestablishing the old ways of communicating with Nature. In the preface to *Earth Wisdom*, she writes that “communication, at its best, is called love; when it breaks down completely, we call it war. And it is a sort of war that is going on now between human beings and the earth. It’s not that nature refuses to communicate with us, but that we no longer have a way to communicate with it. For millennia, primitives communicated with the earth and all its beings by means of rituals and festivals where all levels of the human were open to all levels of Nature.”

Through her experiential education of walking and climbing in the mountains, teaching Tai Chi and drumming, and through her intellectual insights in various publications, LaChapelle is taking the beginning steps of restoring this lost communication into contemporary, damaged societies.

She leads rituals in Earth bonding and has written on the meaning of ritual in contemporary, Earth-alienated cultures. She provides the intellectual justification for doing what the Sierra Club and other reform environmental groups have been most reluctant to admit, that all the “information” on acid rain and deforestation will not provide the experiential linkage necessary for damaged people to reconnect with the land. Her essay “Ritual Is Essential” is reprinted in appendix F.¹⁷

In sum, the emergence of feminist-ecoactivist connections, through conferences, coalitions with reform environmental groups and antinuclear groups, in the writings of women such as LaChapelle, Carson, and Austin, as well as Carolyn Merchant, Anne Dillard, Susan Griffin and Elizabeth Gray, indicates that the process of exploring these connections to deep ecology is a very potent force for the future. Carolyn Merchant has researched the history of science (*The Death of Nature*, 1980) and the contribution of women to the environmental/ecology movement. In her essay, “Feminism and Ecology” (see appendix B), she uses Commoner’s laws of ecology and makes explicit linkages between them and feminist concerns.

VII. PRIMAL PEOPLES AND DEEP ECOLOGY

*The great sea
Has sent me adrift
It moves me
As the weed in a great river
Earth and the great weather
Move me
Have carried me away
And move my inward parts with joy.*

When an Eskimo woman shaman, Uvavnuk, sings this song, the intuition of deep ecology, of connectedness, moves through it.

As deep ecologists reevaluate primal peoples, including the diverse nations and tribes of Native Americans, they seek not a revival of the Romantic version of primal peoples as “noble savages,” but a basis for philosophy, religion, cosmology, and conservation practices that can be applied to our own society.

Indians have spoken of the *great spirit* and have given moving evocations to the land, to a sense of place. Chief Seattle, for example, in his famous surrender speech of 1851, said “One thing we know for sure. The earth was not made for man, man was made for the earth.” But Europeans, and Western intellectuals, have not listened very carefully.

Supporters of deep ecology find much to inspire them in Native American thought and perception. As historian J. Donald Hughes concludes in his chapter on “Indian Wisdom for Today”: “One of the inescapable facts which emerges when we contrast the Indian past with the present is that the American Indians’ cultural patterns, based on careful hunting and agriculture carried on according to spiritual perceptions of nature, actually preserved the earth and life on the earth.”¹⁸

Natural changes, cycles, rhythms, earthquakes, floods, mini ice ages all influenced the place in which Native Americans lived, but the people persisted in their spiritual ecology. Richard Nelson, in *Make Prayers to the Raven*, a study of the native natural history of the Koyukon of Alaska, says that the spiritual awareness of native peoples draws us into myth time. The Koyukon live in a world that watches. “The surroundings are aware, sensate, personified. They feel. They can be offended. And they must, at every moment, be treated with respect.” The central assumption of the Koyukon worldview is that the natural

and supernatural worlds are inseparable; each is intrinsically a part of the other. Humans and natural entities are in constant spiritual interchange and reciprocity.¹⁹

Native Americans and other primal peoples can teach us reverence for the land, the *place* of being. Nature was used — beaver, bison, etc. — for sustenance, but richness of ends was achieved with material technology that was elegant, sophisticated, appropriate, and controlled within the context of a traditional society.

Native Americans also teach us the viability of communal societies based on mutual aid between people and bonding with nonhuman Nature. The modern, Western version of isolated individuals forever competitive, aggressive, and untrusting of other people is not the best of “human nature.”

The Hopis prophesied in the 1600s that the whites would come and destroy the land and themselves, according to anthropologist Stan Steiner. The Indians would try to tell the whites how to live in peace and harmony with the land, but the whites would not, or could not, hear. Steiner explains the basic Indian philosophy of the sacred Circle of Life: “In the Circle of Life every being is no more, or less, than any other. We are all Sisters and Brothers. Life is shared with the bird, bear, insects, plants, mountains, clouds, stars, sun. To be in harmony with the natural world, one must live within the cycles of life.” Steiner sensitively discusses the movement on the part of many American Indians to return to the old ways of life and to defend their land against ever-increasing industrial destruction.²⁰

Evidence indicates that the primal mind holds the totality of human-centered artifacts, such as language, social organization, norms, shared meanings, and magic, within the first world of Nature. For the primal mind there is no sharp break between humans and the rest of Nature. Many deep ecologists feel sympathetic to the rhythm and ways of being experienced by primal peoples. Supporters of deep ecology do not advocate “going back to the stone age,” but seek inspiration from primal traditions.

. . . the American Indians’ cultural patterns, based on careful hunting and agriculture carried on according to spiritual perceptions of nature, actually preserved the earth and life on earth. . . . Indian conceptions of the universe and nature must be examined seriously, as valid ways of relating to the world, and not as superstitious, primitive, or unevolved. . . . Perhaps the most important insight which can be gained

from the Indian heritage is reverence for the earth and life. . . . It is important for us to learn from nature as the early Indians did, to keep an ear to the earth, and regain our perspective by frequent experiences with the non-artificial world, with animals and wild land. . . . The traditional Indian view valued people, the interrelated social group living in harmony with nature. . . .

—J. Donald Hughes, *American Indian Ecology* (1983)

VIII. MARTIN HEIDEGGER

*When the early morning light quietly
grows above the mountains . . .*

*The world's darkening never reaches
to the light of Being.*

*We are too late for the gods and too
early for Being. Being's poem,
just begun, is man.*

—Martin Heidegger

Martin Heidegger made three contributions to the deep, long-range ecology literature. First, he provided a major critique and indictment of the development of Western philosophy since Plato. He concluded that this anthropocentric development paved the way for the technocratic mentality which espouses domination over Nature. *Being*, a key ontological concept for Heidegger, was constrained into narrow Christian paths or into secular, humanistic, technological philosophy in the West.

Second, Heidegger called his readers to the “dangerous field of thinking.” Thinking, for Heidegger, was closer to the Taoist process of contemplation than to Western analytical thinking.

Third, Heidegger called us to dwell authentically on this Earth, parallel to our call to dwell in our bioregion and to dwell with alertness to the natural processes.

Vincent Vycinas concisely translated Heidegger's meaning of dwelling:

*Dwelling is not primarily inhabiting but taking care of and creating
that space within which something comes into its own and flourishes.*

Dwelling is primarily saving, in the older sense of setting something free to become itself, what it essentially is. . . . Dwelling is that which cares for things so that they essentially presence and come into their own. . . .

Heidegger called his readers to step back to a “reversal” of our usual analytical thinking and to use our intuitive power. By stepping back we may open the way for releasement of Being.

Heidegger drew intellectual inspiration from the pre-Socratic philosophers whom he saw as closer to the primal mind, and from Nature, from his own relationship with the fields and forests near his home. He seems to have had great difficulty in explaining to rationalist philosophers and Christian theologians his approach to thinking. Contemporary ecophilosophers face this same problem when constrained to use only the concepts and language of the rationalist Western philosophical tradition. Near the end of his life, Heidegger realized that the poetic voice was a clearer expression of intuition than formal philosophy. He arrived at a biocentric position in which humans would “let beings be.”

Heidegger wrote:

Mortals dwell in that they receive the sky as sky. They leave to the sun and the moon their journey, to the stars their courses, to the seasons their blessing and their inclemency; they do not turn night into day nor day into a harassed unrest.

When through a rent in the rain-clouded
sky a ray of the sun suddenly glides
over the gloom of the meadows . . .

We never come to thoughts. They come
to us.

That is the proper hour of discourse.

—Martin Heidegger

ON MARTIN HEIDEGGER'S
DEEP ECOLOGICAL PHILOSOPHY
Michael Zimmerman

Heidegger claims that the “essence” of technology is not technological devices, but the disclosure to man of all beings whatsoever as objective,

calculable, quantifiable, disposable raw material which is of value only insofar as it contributes to the enhancement of human power. Heidegger says that the revelation of all beings as raw material for man is the culmination of the history of Western civilization and philosophy and at the same time it is the triumph of nihilism. It is this complex interrelationship of philosophy, technology, and nihilism that we must explore. . . .

This [new way of thinking about beings] would allow man to dwell within the world *not* as its master . . . being able to let the beings of the world display themselves in all their glory. . . . Heidegger agreed with many of the aims of the new [ecological] conscience, including its desire to halt the senseless pillaging of nature for profit. But he was more radical than most ecological thinkers, who continue to look upon man as “husbander” of nature, in the sense of having the “right” to manipulate nature as long as he does not cause too much damage in the process. For this still fails to see that the most important threat of the technological view is not a physical one, but a spiritual one.²¹

IX. EASTERN SPIRITUAL PROCESS TRADITIONS

Eastern sources include both Taoist and Buddhist writings. In particular, contemporary deep ecologists have found inspiration in the Taoist classic, the *Tao Te Ching*, and the writings of the thirteenth-century Japanese Buddhist teacher, Dōgen.

Eastern traditions express organic unity, address what we have called the minority tradition, and express acceptance of biocentric equality in some traditions. Furthermore, these sources relate to the process of becoming more mature, of awakening from illusion and delusion.

These traditions have also had a traceable influence in American intellectual development. Emerson and Thoreau were touched by the Eastern traditions and through them these traditions were transferred to Muir. The Eastern influence has been perpetuated in twentieth-century America in the works of F. C. S. Northrup, D. T. Suzuki, Alan Watts, Allen Ginsberg, Paul Goodman, Gary Snyder, and many others.

In the 1950s, the so-called Beat poets such as Ginsberg and Snyder began translating Japanese and Chinese poetry based on their own developing ecological consciousness. The poems and prose of Dōgen, Chuang-Tzu, Hua-yen and other Indian, Chinese and Japanese classic

writers were taken down from the dusty shelves of libraries and out from the isolated classes on Eastern Philosophy or Chinese Writing and brought to groups of people engaged in the “real work” of cultivating their own ecological consciousness.

Writing on “Sattva: Enlightenment for Plants and Trees in Buddhism” in *CoEvolution*, William R. LaFleur concluded: “The point here, of course, is not to portray a sharp dichotomy between East and West. Neither the human mind nor historical accuracy can tolerate that. But there are materials and insights . . . which may be of use in coping with a set of crises given us and our world by men both in the East and the West of today.”²²

Zen master Robert Aitken Roshi has written an essay, “Gandhi, Dōgen and Deep Ecology,” which clearly shows the connection between Gandhi’s mature social activism, the meditations of Dōgen and the insights and ultimate norms of deep ecology. (See appendix C.)

X. ROBINSON JEFFERS

Robinson Jeffers dwelled on the California coastline near Big Sur for most of his long and productive life. He gave voice to the rivers, mountains and hawks of that coastline and placed twentieth-century human “achievements” in the cosmic context. Humans with their intellectual systems, nuclear bombs, and grand designs had become “a little too abstract, a little too wise. It is time for us to kiss the earth again.” He clearly rejected anthropocentric subjectivism, or what he called *human solipsism*, and strove instead for objective truth.

Jeffers’s deep ecology perspective is found in a statement of religious-scientific pantheism written in 1934:

I believe that the universe is one being, all its parts are different expressions of the same energy, and they are all in communication with each other, therefore parts of one organic whole. (This is physics, I believe, as well as religion.) The parts change and pass, or die, people and races and rocks and stars; none of them seems to me important in itself, but only the whole. This whole is in all its parts so beautiful, and is felt by me to be so intensely in earnest, that I am compelled to love it, and to think of it as divine. It seems to me that this whole alone is worthy of the deeper sort of love; and that there is peace, freedom, I might say a kind of salvation, in turning one’s affections outward toward this one God, rather than inwards on one’s self, or on

humanity, or on human imaginations and abstractions—the world of spirits.

I think that it is our privilege and felicity to love God for his beauty, without claiming or expecting love from him. We are not important to him, but he to us.

I think that one may contribute (ever so slightly) to the beauty of things by making one's own life and environment beautiful, so far as one's power reaches.

Jeffers has been called by one critic "Spinoza's twentieth-century evangelist." His poetry is actually an expression of the psychology of the emotions. It alternates between joyous works describing the active emotion of increasing one's self-realization as part of the greater Self-realization by an identification with the totality of God/Nature, and dark tragedies of incest, murder and other calamities which beset those who are driven to their fiery destruction by overwhelming passions.

Jeffers involves humans in the spiritual quest for freedom in the whole of Nature/God, from galaxies to subatomic particles, but especially in the organic world of his immediate existence. This is clear in Jeffers's explanation of one of his most famous poems, "The Tower Beyond Tragedy":²³

Orestes, in the poem, identifies himself with the whole divine nature of things: earth, man, and stars, the mountain forest and the running streams; they are all one existence, one organism. He perceives this, and that himself is included in it, identical with it. This perception is his tower beyond the reach of tragedy; because, whatever may happen, the great organism will remain forever immortal and immortally beautiful. Orestes has "fallen in love outward" not with a human creature, not with a limited cause, but with the universal God. That is the meaning of my poem.

Ecological consciousness seems most vibrant in the poetic mode. The poetic voices of Jeffers and Snyder, so rare in modern poetry but frequently found in primal people's oral tradition, are a virtual cascade of celebration of Nature/God and being.

Jeffers's poem, "Oh, Lovely Rock" from *Selected Poetry* (1938), illustrates that looking and seeing deeply are quite different. We can begin seeing ordinary things in their extraordinary perspective.

OH, LOVELY ROCK

We stayed the night in the pathless gorge of Ventana
Creek, up the east fork.
The rock walls and the mountain ridges hung forest
on forest above our heads, maple and redwood,
Laurel, oak, madrone, up to the high and slender
Santa Lucian firs that stare up the cataracts
Of slide-rock to the star-color precipices.
We lay on gravel and kept a little campfire for warmth.
Past midnight only two or three coals glowed red in
the cooling darkness; I laid a clutch of dead bay leaves
On the ember ends and felted dry sticks across them
and lay down again. The revived flame
Lighted my sleeping son's face and his companion's, and the vertical
face of the great gorge-wall
Across the stream. Light leaves overhead danced in the fire's breath,
tree-trunks were seen; it was the rock wall
That fascinated my eyes and mind. Nothing strange: light gray
diorite with two or three slanting seams in it,
Smooth-polished by the endless attrition of slides and
floods; no fern nor lichen, pure naked rock . . . as
if I were
Seeing rock for the first time. As if I were seeing
through the flame-lit surface into the real and bodily
And living rock. Nothing strange . . . I cannot
Tell you how strange: the silent passion, the deep
nobility and childlike loveliness: this fate going on
Outside our fates. It is here in the mountain like a
grave smiling child. I shall die and my boys
Will live and die, our world will go on through its
rapid agonies of change and discovery, this age will die,
And wolves have howled in the snow around a new
Bethlehem: this rock will be here, grave, earnest,
not passive: the energies
That are its atoms will still be bearing the whole
mountain above: and I, many packed centuries ago
Felt its intense reality with love and wonder, this
lonely rock.

XI. JOHN MUIR

John Muir's legacy to the deep, long-range ecology movement is his vision of the essential oneness of the Earth, his sense of participatory science, his expression of biocentric equality and his active leadership in issues of public policy affecting wild places.²⁴

Again and again the reform and deep ecology movements have returned to the insights expressed by John Muir in these quotes:²⁵

Let the Christian hunter go to the Lord's woods and kill his well-kept beasts, or wild Indians, and it is well; but let an enterprising specimen of these proper, predestined victims go to houses and fields and kill the most worthless person of the vertical godlike killers—oh! that is horribly unorthodox, and on the part of the Indians atrocious murder! Well, I have precious little sympathy for the selfish propriety of civilized man, and if a war of races should occur between the wild beasts and Lord Man, I would be tempted to sympathize with the bears. . . .

The world we are told was made for man. A presumption that is totally unsupported by facts. There is a very numerous class of men who are cast into painful fits of astonishment whenever they find anything, living or dead, in all God's universe, which they cannot eat or render in some way what they call useful to themselves. . . . Not content with taking all of earth, they also claim the celestial country as if the only ones who possess the kind of souls for which that imponderable empire was planned. . . .

Nature's object in making animals and plants might possibly be first of all the happiness of each one of them, not the creation of all for the happiness of one. Why ought man to value himself as more than an infinitely small composing unit of the one great unit of creation? . . . The universe would be incomplete without man; but it would also be incomplete without the smallest transmicroscopic creature that dwells beyond our conceitful eyes and knowledge.

In the conflict over building a dam inside the boundary of Yosemite National Park, at a place called Hetch Hetchy, Muir and his allies saw the broader implications of this dam while proponents of the dam saw only the narrower context of providing water to the expanding urban center of San Francisco.

In fighting for the protection of Yosemite Park, Muir was led into what he called the "political quag" and was later to write in his journal, "This playing at politics saps at the very foundation of righteous-

ness." But he took direct action because he saw such action was necessary. In the 1980s the further damming and diversion of water from the Tuolumne River below Hetch Hetchy remains a controversial issue.

Muir's writings express his deep ecology principles, but he had difficulty writing for a general audience about his direct experiences in the Sierra. His reception by critics demonstrates a continuing dilemma for deep ecologists. The difficulty, as we see it, is the difference in perspective between the narrow definition of rational in the modern Western worldview and the deeper objectivism of Muir, Jeffers and the Eastern traditions discussed earlier in this chapter.

Michael Cohen in *The Pathless Way* discusses Muir's "stormy sermons" and his difficulties with the compromising political process of liberal-democratic societies where "interest group politics" means "power politics" (the mobilization of money and constituencies to influence legislators through numbers, not principles).²⁶

Finally, Muir inspired the deep ecology movement by asking significant questions of his own life and of the human species. Can humans limit themselves and reverse the path of destruction done in the name of progress, exploitive economic development, and warfare on Nature itself? The word *ecocide* had not been coined during Muir's lifetime, but he certainly understood the concept and its implications.

In 1875, after spending several years roaming in the Sierra, exploring the glaciers and mountains and studying the increasing human impact of grazing domestic sheep on mountain meadows, Muir wrote in his journal:

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?"²⁷

XII. DAVID BROWER

David Brower has been at the cutting edge of reform environmental politics for over thirty years. First as executive director of the Sierra

Club (1952-1969), then as founder and president of Friends of the Earth (1969-79), Brower has played an active role in some of the major public policy decisions concerning natural resources in the United States, including the controversy over Echo Park Dam in the early 1950s, the battles over dams on the Colorado River in the Grand Canyon in the 1960s, the legislation to create a National Wilderness Preservation System, the reform of the U.S. Forest Service, the creation of the Environmental Protection Agency and the many events, conferences and activities which internationalized the environmental movement during the 1970s.

In his public career and in his private intellectual/emotional growth, Brower showed the sometimes difficult interplay between reformist political action and the deeper ecological context. He grounded his philosophy in Jeffers's deep ecological insight that humans are only a small part of the biosphere, not lord and master of all. And he spoke frequently of the "rights of future generations" of humans and other beings to a "healthy environment."

In the foreword to *This Is The American Earth* (1961), David Brower wrote:

Although Thomas Jefferson argued that no one generation has a right to encroach upon another generation's freedom, the future's right to know the freedom of wilderness is going fast. And it need not go at all. A tragic loss could be prevented if only there could be broader understanding of this: that the resources of the earth do not exist just to be spent for the comfort, pleasure, or convenience of the generation or two who first learn how to spend them; that some of the resources exist for saving, and what diminishes them diminishes all mankind; that one of these is wilderness, wherein the flow of life, in its myriad forms, has gone on since the beginning of life, essentially uninterrupted by man and his technology; that this wilderness is worth saving for what it can mean to itself as part of the conservation ethic; that the saving is imperative to civilization and all mankind, whether or not all men yet know it.

Brower contributed especially to the deep ecology movement in two ways. First, he showed that environmental/ecology issues transcend political parties, transcend the expert opinion of Resource Conservation ideology and transcend nationalism. Second, through his publishing efforts he brought deeper ecological messages to two generations of readers.

Brower suggested in the 1950s that a broad coalition of environmental groups be formed. In the 1980s he took up the task of uniting the peace movement and the environmental movement. He created several Fate of the Earth conferences and sought "to evoke ecological conscience in all sectors of society, a few at a time." When asked if he thought John Muir would approve of this direction for the environmental movement, Brower responded with a quote from Muir: "When we try to pick out anything by itself, we find it hitched to everything else in the universe."

Through the Sierra Club and Friends of the Earth, Brower helped popularize deep ecology ideas by publishing beautiful exhibit format books on Thoreau, Muir, and Jeffers. He encouraged Paul Ehrlich to write *The Population Bomb*. The anthologies which Brower collected from the proceedings of the Sierra Club wilderness conferences of the 1960s often provided major statements of biocentric equality and the meaning of the wilderness experience as a vital human need.²⁸

Finally, Brower contributed by questioning some of the assumptions of the dominant, modern worldview, especially the faith in unlimited technology. His own "conversion," as he called it, to the role of skeptic of unlimited technology he traced to the issue of siting a nuclear reactor at Diablo Canyon on the California coastline. Listening to scientists and technologists at several conferences, he realized that they did not have objective, neutral answers to technical problems and that they did not discuss ethical issues. In the issue of the Diablo Canyon reactor, Brower saw, over a twenty-year period, continuing deceit, fraud and manipulation of data by scientists to serve the corporate interests of a giant utility company. He further saw, in the political processes, a continuing pattern of compromise and supposed tradeoffs to "make a deal" which later had to be rectified as the failures of the decision-making process became more and more obvious. This has resulted in the continuing "radicalization" of Brower—"America's foremost conservationist."²⁹

In sum, there are many diverse sources of the deep ecology perspective. The group of ideas which make up deep ecology are still being nourished by further understanding of the wisdom of the traditions discussed in this chapter. Historians, philosophers, and social scientists can contribute to the articulation of the deep ecology aspects of these traditions and suggest ways of cultivating ecological consciousness and ways to act from deep ecological principles in our own culture.

The mountains, the teacher says, are walking. . . . They are constantly at rest and constantly walking. We must devote ourselves to a detailed study of this virtue of walking. . . . He who doubts that mountains walk does not yet understand his own walking.

—Dōgen, “The Mountains and Rivers Sutra”

WHY WILDERNESS IN THE NUCLEAR AGE?

What I have been preparing to say is this, in wilderness is the preservation of the world. . . . Life consists of wildness. The most alive is the wildest. Not yet subdued to man, its presence refreshes him. . . . When I would re-create myself, I seek the darkest wood, the thickest and most interminable and to the citizen, most dismal, swamp. I enter as a sacred place, a Sanctum sanctorum. There is the strength, the marrow, of Nature. In short, all good things are wild and free.

—Henry David Thoreau (1851)

For an advocate of deep ecology, wilderness is a landscape or ecosystem that has been minimally disrupted by the intervention of humans, especially the destructive technology of modern societies. The legal definition of section numbers and parcels is less relevant than the wild quality of the landscape.²

In this chapter we discuss the contact which humans can experience in undeveloped spaces, the intuitions of organic wholeness which many experience in such places, and the “rational” arguments which take place within the dominant worldview and which are presented in public policy debates over allocation of public lands to “wilderness” or “nonwilderness” designations in the law.

I. EXPERIENCING THE WILDERNESS

Experiencing the wilderness or the wildness of a place, from a deep ecology perspective, is a process of 1) developing a sense of place, 2) redefining the heroic person from conquerer of the land to the person fully experiencing the natural place, 3) cultivating the virtues of modesty and humility and 4) realizing how the mountains and rivers, fish and bears are continuing their own actualizing processes. The prototypical outcome of the active engagement between the mind and wilderness is seen in John Muir’s encounter with the Sierra.

In the early 1870s, after spending several seasons in the high country, Muir was more fully realizing the supreme lesson that Nature is one living, pulsing organism. Theoretically he had believed in this unity before. Now he was experiencing it. He wrote at this time, “The whole wilderness is unity and interrelation, is alive and familiar . . . the very stones are talkative, sympathetic, brotherly. . . . No particle is ever wasted or worn out by externally flowing from use to use.”³

Muir’s intuition of unity influenced his study of Nature. For Muir, as for the process philosophers and contemporary ecologists, the purpose of science is not just to classify and manipulate bits and pieces of the planet, but to explain while fully experiencing. As a deeper ecologist, informed by his quest for ecosophy or ecowisdom, Muir was looking into the landscape, not just at it. He began to understand grasshoppers; pine trees and rocks were not to be understood just as separate entities but interwoven.

In his studies in the Sierra, Muir struggled to express his intuition in the form acceptable to his materialist-reductionist contemporaries. First he used the metaphor of an *open book* but found that too static and fixed in the past. Then he attempted to view Nature as a path

or several paths but he came to realize that true wilderness is pathless. He had been following, he realized, the pathless way.⁴

On his extensive questing in the Sierra, Muir sometimes took only bread, tea and an overcoat to keep him warm during storms. He loved storms of all sorts and was especially alert to their possibilities. He went to free-flowing Nature, to wild mountain landscapes, rivers and valleys, “. . . not as a mere sport or plaything excursion, but to find the law that governs the relations subsisting between humans and Nature.”⁵

This type of approach to wild places is in sharp contrast with much contemporary recreation — especially what is called “outdoor recreation,” with its emphasis on easy access to some lake or river, comfort and convenience for the traveler, and extensive focus on recreational equipment such as all-terrain vehicles or snowmobiles.

We suggest that humans have a vital need for wilderness, wild places, to help us become more mature; but beyond our psychological needs, wilderness is the habitat of other beings which have a right to live and blossom for themselves (inherent value). Thus on both the grounds of self-realization and biocentric equality, the wilderness issue as public policy decision and as re-creative experience assumes great importance from a deep ecology perspective.

There is a great deal of talk these days about saving the environment. We must, for the environment sustains our bodies. But as humans we also require support for our spirits, and this is what certain kinds of places provide. The catalyst that converts any physical location — any environment if you will — into a place, is the process of experiencing deeply. A place is a piece of the whole environment that has been claimed by feelings. Viewed simply as a life-support system, the earth is an environment. Viewed as a resource that sustains our humanity, the earth is a collection of places. We never speak, for example, of an environment we have known; it is always places we have known — and recall. We are homesick for places, we are reminded of places, it is the sounds and smells and sights of places which haunts us and against which we often measure our present.

—Alan Gussow, “A Sense of Place” (1971)⁶

The question concerning wilderness is part of the larger question, “How shall we live and what shall we live for?”

Presented with the question from the resource economist, "Why not plastic trees?" the deep ecologist responds, "That's absurd," or he tries to show the benefits in dollar terms of setting aside some parcel of land as "designated wilderness." But he intuitively feels that there is greater meaning and importance to the quality of wildness than can be described by the calculations of resource economists.

In our technocratic-industrial society there are many who share these deep intuitions and the experience of the ritual journey into wilderness as *sacred space*. And this journey has been shared by many people in diverse cultures and times. People in primal cultures, dwelling in ecosystems, bonded to place, having communion with wild animals and realizing that spirit and matter are not inherently separated, have experienced this deeper sense of place.

Paul Shepard in his essay on sense of place describes the ritualistic journeying of the Australian:

In going on the pilgrimage called walkabout, the Aborigine travels to a succession of named places, each familiar from childhood and each the place of some episode in the story of creation. The sacred qualities of each are heightened by symbolic art forms and religious relics. The journey is into the interior in every sense, as myth is the dramatic externalization of the events of an inner history. To the archive where the individual moves simultaneously through his personal and tribal past, renewing contact with crucial points, a journey into time and space refreshing the meaning of his own being.⁷

This questing includes appreciation of nonhuman self, and for some, experiential understanding that mountains and rivers are actualizing. Mountains actualizing may be a most difficult concept, at least for modern persons. Yet Leopold's evocative phrase "thinking like a mountain" calls up this consciousness. To paraphrase Leopold, we might say, "I dreamed I was thinking like a mountain but when I awoke I did not know if I was a man thinking like a mountain or a mountain thinking like a man."

In his famous essay, "Mountains and Rivers Sutra," Dōgen says: *As for mountains, there are mountains hidden in jewels; there are mountains hidden in marshes, mountains hidden in the sky; there are mountains hidden in mountains. There is a study of mountains hidden in hiddenness. An ancient Buddha said, "Mountains are mountains and*

*rivers are rivers." The meaning of these words is not that mountains are mountains, but that mountains are mountains. Therefore, we should thoroughly study these mountains. When we thoroughly study the mountains, this is mountain training. Such mountains and rivers themselves spontaneously become wise men and sages.*⁸

Without such depths of consciousness as Dōgen expresses, perhaps, but with elan for the physical excitement, open vistas and flow of intuition, the contemporary wilderness traveler has some sense of following the simple way to richer ends.

Statements by two persons who have experienced wilderness and who have worked to defend wilderness areas in the arena of public policy are worth quoting. The first is Dolores LaChapelle's description of powder skiing, the second is David Brower's recounting of his trips in the Sierra during the 1920s:⁹

Long before I had heard of Martin Heidegger . . . I was experiencing what he calls the "round dance of appropriation," the interrelationship of the fourfold: earth, sky, gods, and mortals in *my* world of powder snow skiing—one of the few sub-cultures in modern industrial society still open to the fourfold. . . .

In an authentic "world," the mortals are in togetherness not only with the others of the fourfold—the earth, the sky, and the gods; but mortals are together with one another. The freedom, grace, and joy of this togetherness in the powder "world" occurs in response to the gift of the sky: unbroken snow. This is most easily skied in direct response to the earth's gravity—down the fall line—but the dips and contours of the earth automatically lay out the "way" to follow; and for the skillful skiers, there is only one best "way" for each, so all can ski together at top speed and still flow with one another and with the earth. . . . Just as in a flight of birds turning through the air, no *one* is the leader and none are the followers, yet all are together; so also the powder snow skiers are all together effortlessly, because they are appropriating, responsively conforming themselves to the earth and sky in their "world," thus there are no collisions. Each human *being* is free to follow his own path.

—Dolores LaChapelle, *Earth Wisdom* (1978)

I am partial . . . to the moving trip that can give the visitor the feel of a big, continuous wilderness—one in which you can cross pass after pass and know that on the other side you don't drop into civilization, but stay in wilderness instead. In big wilderness you learn how important size itself is to the viability of the wilderness. It needs enough buffer to keep its heartland essentially free from the pervasive influences of technology. Such big wilderness is scarce, and is vanishing at the rate of

about a million acres a year, chiefly to the chainsaw. People who know it can save it. No one else.

—David Brower, in his tribute to John Muir, in *Gentle Wilderness* (1968)¹⁰

But we live, as Thoreau said, a “sort of border life” between the first world of Nature and the second world of technocratic-industrial society. And, Thoreau continued, “you never gain something but that you lose something.” As some humans greatly increase their analytical power and their power to dominate landscapes with vast construction projects, missile systems, etc., they seem to lose some of their power of understanding, of thoughtfulness and meditative dancing in the wonder of the cosmos. Even to mention this joyful wonderment and sense of place within the narrowly defined constraints and constructs of the resource economist and materialist is seen by some people as heresy, or overly sentimental.¹¹

So arguments for and against wilderness preservation are usually presented within the confines of the dominant worldview. In the following section of this chapter we look at some of the major wilderness-related arguments within the dominant worldview and criticize them from a deep ecology perspective.

Only by going alone in silence, without baggage, can one truly get into the heart of the wilderness. All other travel is mere dust and hotels and baggage and chatter.

—John Muir

II. WILDERNESS ARGUMENTS WITHIN THE DOMINANT SOCIAL WORLDVIEW

The most frequently used legal definition of wilderness is contained in the Wilderness Act of 1964:

A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further

defined to mean in the Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvement of human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological or other features of scientific, educational, scenic or historical value.

It is within the framework of this legal definition, or some adaptation of it, that arguments are formed in the political arena of the United States.

1. Resource Economists Look at Wilderness (But Are Not Seeing It)

The Resource Conservation and Development ideology has been defined as that ideology which sees Nature as material for human use, consumption and development. Nature is primarily a storehouse of natural resources for humans. The intrinsic value of Nature, or the spirit of a place, has no sanction in this ideology.

Designating certain areas or parcels of land, rivers, islands or oceans as “official wilderness” is a bone that sticks in the throat of those natural resource economists who favor rapid economic development based on narrowly perceived human needs and wants. When wilderness is included in the calculations of these resource economists, some incommensurables enter into the equation. Preservation of any area as wilderness is based on a convoluted economic argument. Different goals may not be qualitatively comparable. When the economist tries to put value on some area by adding the dollar values of use by snowmobilers, backpackers, Native American shamans using the area to “make medicine,” and the market value of timber, then those commodities with high market value win. As John Rodman concludes, “When recreation, scenic beauty, wilderness and wildlife habitat protection were incorporated by the Conservationist as resource uses, the result was not only subtly to degrade wilderness to the status of something useful but also to introduce something alien, ultimately indigestible into the body of Resource Conservation.”¹²

Even welfare economists who have attempted to use the tools of economic rationality to defend a wilderness, such as the free-flowing

Snake River in Hell's Canyon, Idaho, eventually are unable to defend anything but a degraded concept of wilderness. John Krutilla, for example, argues that present value should be determined by future benefits. He begins with the assumption that Nature is irreproducible as compared to the commodities which can be obtained from Nature (timber and water, for example). Materials can be substituted for each other, but the supply of natural environments which can be designated wilderness will remain constant or decrease if existing wild areas are converted into intensely managed "tree farms," or dams are built on the few still free-flowing rivers in North America or vast ecosystems are massively altered by humans during a short time frame. In more economically developed nations, at least, the demand for wilderness-dependent recreation will increase in the future, assuming larger populations of humans want a wilderness experience. Because it is possible to find substitutes for materials derived from wilderness areas but difficult to create a wilderness, the reproducibility cost is much higher than the benefits of logging a wilderness old-growth forest. Because it is assumed people will pay to have a wilderness experience in the future, preservation for the future keeps the options open of using that wilderness area for recreation or for extracting resources with more advanced and less environmentally impacting technology in the future.¹³

But this argument in favor of wilderness for small areas (less than ten percent of the Federal lands in the lower forty-eight states in the United States is even considered for wilderness designation) is discounted by other economists who argue that the amenity values are not as valuable as commodities. Refraining from current use, they argue, is costly, and Nature is reproducible. Some argue that natural "appearances" can be restored "so that nobody will even know the difference."

Another critic of the welfare economist's arguments in favor of wilderness argues that there is no intrinsic value in "rare" landscapes and that "the supply" of natural environments is affected by technology in that with technology humans can manipulate both biological processes and information and significance.¹⁴

Roderick Nash, author of *Wilderness and the American Mind*, has developed a theory of "exporting wilderness," in which more affluent persons in economically developed nations could contribute money through some appropriate organization (such as World Wildlife Fund) or through buying touristic experiences in Third World nations. If tourists spend money to see wildlife in its habitat then the reserves

would be converted to a higher economic value rather than using them for grazing of domestic livestock, which might yield a lower "rate of return" on investment.¹⁵

The difficulty with this argument is that it still is based on a definition of preservation within a short-term, narrowly conceived human economy. If some mineral were discovered in a Nature reserve in Brazil, for example, which was used by tourists from the United States (spending their money to see wildlife in habitat) but the mineral would yield X times more money on the world market if extracted than tourism does, then the economically rational action would be to extract the mineral even if it disrupted the habitat of wildlife and drastically reduced the income derived from tourists.

In sum, there is no consideration of intrinsic worth for wild Nature in the calculus of Resource Conservation and Development. And there is no permanent assurance of protection for wilderness and wildlife since it all depends on the fluctuations of the world economy and transient subjective tastes. At best, some of the worst abuses of the market could be mitigated by exposing low cost/benefit ratios of development. But the assumptions of this ideology rest on the assertion of human chauvinism. Even extended utilitarian arguments that try to place a dollar value on the clean air and water derived from wilderness for the benefit of humans assume that Earth exists primarily for human use.

The deep ecology perspective on natural resource economics is quite different for it involves questions of inherent value and right livelihood. A system of economics consistent with deep ecology principles needs to be developed but is beyond the scope of the introduction to deep ecology in this book.

However, E. F. Schumacher provides an example of what we mean when he contrasts the conventional economist with what he calls the *Buddhist economist*.¹⁶ The Buddhist economist sees "the essence of civilization not in the multiplication of wants but in the purification of human character." And, Schumacher continues, "While the materialist is mainly interested in goods, the Buddhist is mainly interested in liberation. . . . The study of Buddhist economics could be recommended even to those who believe that economic growth is more important than any spiritual or religious values. It is not a question of choosing between 'modern growth' and 'traditional stagnation.' It is a question of finding the right path of development, the Middle Way between materialist heedlessness and traditional immobility, in short, of finding 'Right Livelihood.'"

The only acceptable strategy of economic development is *ecodevelopment*, a strategy that flows with the natural processes of a specific bioregion and leaves vast areas free as untrammelled wild places.¹⁷

2. *Wilderness as National Heritage*

In technocratic-industrial societies, only a few places have secular, symbolic value and are in some cases “saved” from massive resource extraction projects. In the United States such places include the Grand Canyon of the Colorado River, Yosemite Valley, Death Valley, and the Florida Everglades. But all these places have been and are being severely impacted by land use patterns outside the artificial boundaries of the national parks—strip mining, diversion of rivers, oil and gas extraction, housing developments, industrial tourism, and so on.

The cultural embodiment or national heritage argument is deeper than the economist’s argument that land is “created” by people who seek personal profit and have no goals besides maximizing profit. People who identify with a place, with Yosemite Valley or some very small local valley or mountain, could speak of “our river” or “our mountains” and could oppose damming the river or strip mining the mountain.¹⁸

We seek a renewed stirring of love for the earth
 We plead that what we are capable of doing is
 not always what we ought to do.
 We urge that all people now determine
 that a wide untrammelled freedom shall remain
 to testify that this generation has love for the next.
 If we want to succeed in that, we might show, meanwhile,
 a little more love for this one, and for each other.
 —Nancy Newhall, *This Is The American Earth* (1961)

Some leaders of environmental organizations have encouraged reservation of special places which are part of the world cultural heritage. UNESCO and the International Union for the Conservation of Nature through their world biosphere program have institutionalized this concept by listing “significant” areas or places, including Redwood National Park in northern California. National governments are called

upon to protect these places for future generations of world citizens. Such places are established by “popular demand.” If enough people lobby the Congress of the U.S. to “set aside” a place as a park, through the political process, then it can be saved from logging or massive mining projects or other development.

Critics of this argument assert that national and international symbols are arbitrary and easily changed. Resource economist Martin Krieger in his article, “What’s Wrong with Plastic Trees?” presents almost a manual for the destruction of a sense of place. “It is possible,” he asserts, “that by manipulating memory through the rewriting of history, environments will come to have new meaning. Finally, we may want to create proxy environments by means of substitution and simulation. In order to create substitutes, we must endow new objects with significance by means of advertising and social practice.” Krieger’s vision is one of dystopia. “Artificial prairies and wildernesses have been created, and there is no reason to believe that these artificial environments need be unsatisfactory for those who experience them. . . . We will have to realize that the way in which we experience nature is conditioned by our society—which more and more is seen to be receptive to responsible interventions.”¹⁹

Something like this is occurring during the years of the Reagan administration in the United States, as national leaders call upon symbolic fears and values such as national energy self-sufficiency and national security and economic growth to manipulate citizens to fear the “locking up” of resources in designated wilderness areas.

The propaganda of the modern worldview for human domination of vast ecosystems and for scientific management indicates the power of those who influence the mass media and teaching institutions in modern nations. Some corporations and New Age thinkers look to the Disney Enterprises’ “prototype community of tomorrow” carved out of the swamps of central Florida as the visionary goal of a corporate state where wild Nature is reduced to simulated experiences and plastic alligators.²⁰

Krieger is certainly correct in pointing out that the dominant institutions of modern societies, including churches, corporations with their ability to condition the public with constantly repeated advertisements, leaders of government, and most teachers in public schools and colleges, are propagandizing for more and more humanization of the planet. When children enthusiastically troop off to computer camps during the summer rather than take backpacking trips in the mountains or practice river running in kayaks, then indeed there is

little possibility they will engage in the process of bonding during their formative years. Rather, we should be encouraging those recreational activities which will help the child and adult be in balance with the Earth. Krieger's arguments against the wilderness as cultural embodiment actually tend to highlight the intense alienation of many urbanites from a sense of place, and the pathological elements of personal development in technocratic-industrial societies (discussed further in chapter ten).

3. *Obligations to Future Generations* (of All Creatures, Rocks and Trees)

In a previous section we discussed the economist's view that preservation of wilderness presents "opportunity costs" for a present generation and that wilderness may not even be desired by near or far-future generations. Indeed, if future generations have no wilderness then they will never experience the loss of wilderness that is so intensely traumatic to many persons in the present generation. For example, the destruction of wildness in East Africa could be seen as of little importance to future generations.²¹

But for the deep ecologist, preservation of the flow of wildness demonstrates hope and faith that humans have a future and that humans can show some restraint on the will to power, to dominate and destroy. It would seem that deep ecologists are more hopeful concerning the future than many leaders of modern nations. Keep the wildness wild, a reserve of species diversity and genetic heritage for future generations of humans who will have the opportunity to experience unspoiled Nature. This view is expressed by David Brower in his introduction to *Galápagos: The Flow of Wildness*. Brower's concern is that civilization is a thin veneer over man's biological heritage. He chose the Galápagos Islands in the South Pacific, made famous by Charles Darwin's visit in 1835 where Darwin found inspiration for his ecological theory of evolution, for recognition as an Earth International Park.²²

4. *Wise Stewardship*

The wise steward argument has several variations which can be classified under four headings: Narrow Christian Version, Revised Christian Version, Secular Version Based on the Gaia Hypothesis, and the New Age/Aquarian Conspiracy Version. A response from a deep ecological viewpoint is then offered.

A. Narrow Christian Version

In the narrow Christian version, there is little place for wilderness. Furthermore, humans are considered superior to other species, and

separate from the rest of Nature. The domination of Nature is tempered only by the responsibility of the herdsman. The herdsman protects "his sheep," his domesticated livestock, from wolves or coyotes.

The steward is not just interested in maximizing short-term profit from "his land." He is interested in sustainability of the resource base. He, of course, may take a *noblesse oblige* approach as suggested by biologist René Dubos and "enhance" the productivity of the land for human purposes or even plant "genetically superior" trees and breed "genetically superior" animals. There are anthropocentric reasons for preserving some margins or "ecological islands of species diversity" for those plants and animals which contribute to the health of a bioregion upon which the farmer depends. Furthermore, wilderness is looked upon as a reminder of the natural world "out of which humans emerged."

Thus the first world of Nature, in the wise steward argument, is only a backdrop for humans, whereas in the second world of high technology, humans have the aristocrat's responsibility as "managers of Nature."

In the introduction to *Galápagos: The Flow of Wilderness* (1968), David Brower wrote:

Man is prolific enough to explore across the land, but he can only do so at the expense of the organic diversity essential to the only world that he can live upon. . . . Man needs an Earth International Park, to protect on this planet what he has not destroyed and what need not be destroyed. In this action, all nations could unite against the one real enemy—Rampant Technology. Here might be rescued, for the improved men we should hope will be born in centuries and millennia to come, the natural places where answers can always be sought to questions man may one day be wise enough to ask.

During the flurry of environmental concern of the 1970s, David Brower worried that not enough attention was being paid to wilderness protection. Attention was narrowly focused on pollution and urban problems. But the failure to recognize the importance of wilderness protection has also come from those advocating rural reform.

Wendell Berry is an eloquent spokesman against the evils of modern industrial society and for a return to an agrarian America based on the organic ecological farm. In his *The Unsettling of America* (1977),

Berry was one of the first to point to the ecological crisis as primarily a crisis of character and culture. But in his focus on the Jeffersonian agrarian model, he fails to see the ecological necessity for large wilderness areas.²³

Berry presents an excellent critique of reform environmental organizations such as the Sierra Club for its elitism in wanting to preserve wilderness as “scenery” and as places to take vacations and escape the city. These anthropocentric reasons merely perpetuate the industrial way of life and the lack of rootedness and a sense of place in modern America. But Berry misses the deeper ecological reasons for wilderness preservation held by John Muir and modern ecologists such as Paul Ehrlich.

Berry is very much in the Christian stewardship tradition when he argues that the land must be “used” by humans. While he argues that we should consider “the good of the whole of Creation, the world and *all* its creatures together” (emphasis added), he also holds that we can’t preserve “more than a small portion of the land in wilderness.” But wilderness or near-wilderness is required as habitat for *all* of the Earth’s wild creatures. Berry apparently fails to see the contradiction and falls short of deep ecological awareness.

Saint Benedict is frequently cited as the patron saint of narrow Christian stewardship. René Dubos, in *A God Within* (1972), describes Benedictine stewardship:

Benedict of Nursia . . . can be regarded as the patron saint of those who believe that true conservation means not only protecting nature against human misbehavior but also developing human activities which favor a creative, harmonious relationship between man and nature. . . . The first chapter of Genesis speaks of man’s dominion over nature. The Benedictine rule in contrast seems inspired rather from the second chapter, in which the Good Lord placed man in the Garden of Eden not as a master but rather in the spirit of stewardship. Throughout the history of the Benedictine order, its monks have actively intervened in nature—as farmers, builders, and scholars. . . . Saint Bernard believed that it was the duty of the monks to work as partners of God in improving his creation or at least in giving it a more human expression. Implicit in his writings is the thought that labor is like a prayer which helps in recreating paradise out of chaotic wilderness.

B. Revised Christian Stewardship

A revised Christian version of stewardship suggests that the rights of all God’s creation be respected.

For example, Jeremy Rifkin has called for a “second Christian Reformation,” a radical reevaluation of the stewardship doctrine based on ecological principles of diversity, interdependence, and decentralization:

*Maintenance replaces the notion of progress, stewardship replaces ownership, and nurturing replaces engineering. Biological limits to both production and consumption are acknowledged. . . . If the Christian community fails to embrace the concept of a New Covenant vision of stewardship, it is possible that the emerging religious fervor could be taken over and ruthlessly exploited by right-wing and corporate interests.*²⁴

This version of stewardship comes close to a deep ecology perspective, provided that the necessity for vast unmanaged wilderness areas is recognized.

C. Gaia Hypothesis

The third stewardship version is presented by James Lovelock, based on his Gaia hypothesis (the Earth as living organism) which “. . . postulates that the physical and chemical condition of the surface of the Earth, of the atmosphere and of the oceans has been and is actively made fit and comfortable by the presence of life itself. This is in contrast to the conventional wisdom which held that life adapted to the planetary conditions as it and they evolved their separate ways.”²⁵

During the last three hundred years, the human species and its domesticated livestock have grown substantially as a proportion of the total biomass. Human-induced pollution and interventions into bioregions (such as massive clearing of tropical rain forests) disrupt the delicate homeostasis of the Earth. Lovelock suggests that some parts of the Earth organism are “vital organs” which, if disrupted, would cause the whole Earth (Gaia) to malfunction. Humans, says Lovelock, should live in Gaia as wise stewards by restraining human activities that impair her functioning. He concludes:

It seems therefore that the principal dangers to our planet arising from man’s activities may not be the special and singular evils of his urbanized industrial existence. When urban industrial man does something ecologically bad he notices it and tends to put things right again. The really critical areas which need careful watching are more likely to be the tropics and the seas close to the continental shores. It is in these regions, where few do watch, that harmful practices may be pur-

sued to the point of no-return before their dangers are recognized; and so it is from these regions that unpleasant surprises are most likely to emerge. Here man may sap the vitality of Gaia by reducing and by deleting key species in her life-support system; and he may then exacerbate the situation by releasing into the air or the sea abnormal quantities of compounds which are potentially dangerous on a global scale."²⁶

Lovelock seems overly optimistic about the ability of industrial man to solve his problems. The "wise husbandry" or wise management of the Earth therefore requires large regions to be left as margins. Zoned or designated as "Earth international conservation areas" or "Nature preserves," these areas would be off limits to urban industrial development.

Philosopher/ecologist John Phillips gives a succinct statement of this approach:

The biosphere as a whole should be zoned, in order to protect it from the human impact. We must strictly confine the Urban-Industrial Zone, and the Production Zone (agriculture, grazing, fishing), enlarge the Compromise Zone, and drastically expand the Protection Zone, i.e., wilderness, wild rivers. Great expanses of seacoast and estuaries must be included in the Protection Zone, along with forests, prairies, and various habitat types. We must learn that the multiple-use Compromise Zone is no substitute, with its mining, lumbering, grazing, and recreation in the national forests, for the scientific, aesthetic, and genetic pool values of the Protection Zone. Such zoning, if carried out in time, may be the only way to limit the destructive impact of our technocratic-industrial-agri-business complex on earth.

D. New Age/Aquarian Conspiracy Version of Stewardship

The fourth version of stewardship is that of the New Age/Aquarian Conspiracy, which carries the stewardship argument to its logical extreme. This New Age ideology is more thoroughly discussed in the next chapter. Briefly, however, for the proponents of this position, there are virtually no ethical restraints on human manipulation of the biosphere. The Earth is not God's and humans are not trustees of the Kingdom, keeping their own demands small in terms of the larger Creation. The only restraints are technical, political and economic (lack of capital for development of projects).

Some areas of the Earth, perhaps Antarctica or the Amazon Basin, could temporarily be placed off limits to massive human interventions (clear cutting the forests of the Amazon, for example) until the

managers develop ways to "manage" the area productively for human economy and develop the technology for extraction. For example, some industry spokespeople, testifying on development of mineral resources on the continental shelf of the United States, said that they wanted the territory to explore for minerals, but would not have the technology to "develop the resources" until at least the year 2000. The implication was that the resources would be developed when there was a demand in the market for them, when capital was available for drilling and when the technology came "on line."

The major metaphor of New Age is that the Earth is a spaceship and technologically advanced humans have a destiny to become "copilots" of the spaceship. Teilhard de Chardin claimed that the destiny of humans in this generation would be to "seize the tiller of creation."

E. Deep Ecological Response to Stewardship

The deep ecologist response to the revised Christian version of stewardship and to Lovelock's version is to agree in some respects on practical grounds but not on philosophical grounds.

In Lovelock's proposal, vast areas of the Earth might be zoned off limits for further human intervention on a massive scale. The polar regions, the Amazon Basin, vast portions of the ocean estuaries, shallow water areas of the continental shelf, and possibly the great mountain systems of the Earth could be designated wilderness. No massive weather modification experiments, dumping of nuclear wastes, further deforestation of tropical rain forests, massive dam construction in the Amazon Basin or huge and disruptive mineral development projects would be allowed. The krill and marine environment around the Antarctic continent could be zoned wilderness to protect the chain of life which ecologists have identified as dependent on that marine area.

If margins are defined very widely, then riparian, or streamside habitat, and large portions of all variety of ecosystems from mountains to deserts would have strict legal protection from logging, farming, or energy development projects. Much of the American southwest, now regarded as roadless, might be designated as official wilderness.

One major philosophical disagreement with the wise steward position is that it still incorporates the premise of instrumental rationality—the narrowly utilitarian view—of natural resources primarily for human use, and fails to distinguish vital human needs from mere desires, egotistical arrogance and adventurism in technology ("if we have the technology, let's use it").

Zoning in the interim could be supported while recognizing that, over the long run, zoning by national and international agencies is not consistent with the minority tradition whereby local communities (bioregional in nature), which appreciate and respect the vital needs of nonhumans, reach decisions by consensus.

For the supporter of deep ecology, however, the most damaging aspect of the wise steward argument is the continued radical separation of person from wilderness (wild Nature, the flow of wilderness). It is in all versions anthropocentric and dualistic. "We have emerged from the first world of Nature," the wise steward seems to say, "and can never return to our place crackling with spirit." There is no norm of biocentric equality. The major implication for wilderness is to leave smaller and smaller areas wild as public policy while we have more and more technocratic-industrial "solutions" to the contradictions and convolutions of the economy.

5. *The Ecologist's Imperative of Protecting Habitats of Nonhuman Beings*

As we have indicated in previous chapters, ecologists are warning us of the unprecedented rate of species extinction due to massive human interventions in their habitats.²⁷ The concern with endangered species is now widely understood. Several types of programs have been proposed to protect genetic diversity and to propagate specific species. But habitat preservation, or wilderness preservation, is the only possible way to protect the flow of wildness, species diversity, genetic diversity, and ongoing intermingling of species-in-habitat. Species diversity and the processes of evolution *cannot* be maintained by keeping plants and animals in zoos and laboratories. Old-growth forests are necessary for the survival of many species and to maintain genetic diversity.

The biocentric intuition that species have a right to exist and follow their own evolutionary destinies was established in the United States in the Endangered Species Act of 1973. This Act has been severely attacked by those who defend the belief that the Earth exists for human use. But the Endangered Species Act still has major limitations. The Act includes complex procedures for designating a species endangered, although it rejects the economist's narrow approach of a cost/benefit analysis on each species. Nevertheless, it includes the concept of balance between human needs and species habitat preservation. Ecologists who seek to defend the California condor or the snail darter are asked to justify habitat preservation based on the prin-

ciple of equity for some landowner of the habitat and balance between economic growth and preservation of a "useless" species. Economizing ecology within the dominant worldview only leads to either a technocratic solution (such as artificial breeding programs for condors) or to benign neglect (allowing certain species of flora or fauna to go into extinction). In the balance, humans are valued more highly individually and collectively (a corporation owning lands which are California condor habitat, for example) than is the endangered species.

Excessive human intervention in natural processes has led other species to near-extinction. For deep ecologists the balance has long since been tipped in favor of humans. Now we must shift the balance back to protect the habitat of other species.

Protection of wilderness and near-wilderness is imperative. While primal peoples lived in sustainable communities for tens of thousands of years without impairing the viability of ecosystems, modern technocratic-industrial society threatens every ecosystem on Earth and may even be threatening to drastically change the pattern of weather in the biosphere as a whole.

Technocratic-industrial society is moving into areas of the planet never inhabited by humans before, including the oceans and the Antarctic continent. Tropical rain forests in Asia, Africa, South and Central America, Oceania and Australia are under attack by an unprecedented array of technology and plans for exploitation and development.²⁸ Tropical rain forests contain the greatest biological diversity of any type of ecosystem on Earth. *The Eleventh Annual Environmental Report to the President* (1980) concluded:

*A most serious threat to the biosphere is the rapid disappearance of tropical forests. In many tropical forests, the soils, terrain, temperature, patterns of rainfall, and distribution of nutrients are in precarious balance. When these forests are disturbed by extensive cutting, neither trees nor productive grasses will grow again. Even where conditions are more favorable to regrowth, extensive clearance destroys the ecological diversity of tropical forests. These forests are habitat for the richest variety of plant and animal species on earth.*²⁹

Wilderness preservation is necessary to preserve the process of species formation, the flow of wildness and the natural evolutionary process itself. There is no substitute for wilderness preservation. Zoos, botanical gardens, artificial insemination and breeding programs for endangered species, small enclaves of parks in the midst of large-scale mining or other industrialized processes, gene banks where genes of endangered species are frozen for later possible use, and captive

breeding programs are all completely unsatisfactory to meet the challenge of protecting biological diversity.

In the United States various wilderness acts setting aside some public lands as designated wilderness have been enacted by Congress during the 1970s and 80s. All of these are weak compromises. Boundaries of designated wilderness areas are more the product of political dealing than for the protection of the integrity of old-growth forests, deserts, and other types of ecosystems. The more extensive wilderness proposals for North America made by the environmental group Earth First! provide a realistic base to begin the real process of protecting wilderness on this continent. Reform environmental groups must recognize that the "problem of wilderness" is not solved by the passage of compromised, weak and inadequate wilderness legislation by the U.S. Congress.

Until the dominant, modern worldview changes in the direction of deep ecology, perhaps the most important priority for reform environmentalist efforts is the protection of wilderness. Biologists, anthropologists, soil scientists and others are beginning to realize that they must lobby in the political arena for protection of habitat. In many cases the population of animals or plants, natural processes, and even the preliterate or primal human populations they were studying have been destroyed by technocratic-industrial society before they have completed their study. Dian Fossey, author of *Gorillas in the Mist* (1983), for example, recorded the complete destruction of one of her study groups in Africa, apparently as the result of a collection effort. Anne Ehrlich comments on this collection effort of gorillas: "Since it is estimated that only a fraction of the infants captured in this way survive to reach their destination zoo, each successfully collected specimen may have cost the lives of ten to twenty gorillas and the destruction of several family groups."³⁰

While Africa has been spotlighted in many news stories, the threat to marine environments is less noticed. The fate of the great whales aroused public opinion worldwide, but international organizations, such as the International Whaling Commission, continue to offer only weak alternatives to a total ban on commercial whaling.³¹

All of the oceans of the world face enormous problems with pollution, harvesting of fish and mineral exploration and development. The establishment by the Reagan administration of a 200 mile "Exclusive Economic Zone" around all United States territory without adequate consideration for marine environment preservation is viewed with alarm by many environmentalists.³² In Australia, deep ecologists

continue to focus on protecting remnant rain forests in New South Wales and Queensland and protection of the Great Barrier Reef.³³

Scientists working in Antarctica conclude that it is a fragile ecosystem subject to disruption by humans who build airports, scientific study stations and other structures. Many of the scientists who have conducted studies of Antarctica as well as ecoactivists working through ecological groups such as Greenpeace (formed in the 1960s) are actively lobbying the signatory nations of the Antarctic Treaty to establish designated wilderness on that continent and its marine waters.³⁴

The full powers of national law, international treaties and United Nations efforts should be directed to the protection of world wilderness areas. In principle, no further massive developments should be allowed at all. Bioregional development serving the demonstrated vital needs of local residents which will not impair biological diversity and natural processes is the only type of development that is consistent with preservation of the flow of wilderness.

No testing of nuclear weapons or disposal of nuclear reactor wastes should be permitted in wilderness areas, on land or water. Effective efforts to drastically reduce acid rain generated from sources in technocratic-industrial societies should be undertaken immediately.

On balance, biocentric principles should be followed in deciding issues of public policy affecting biological diversity, wilderness preservation and economic development.

I swear I see what is better than to tell the best.

It is always to leave the best untold.

—Walt Whitman, *A Song of the Rolling Earth*