

**THE ENVIRONMENTAL SPIRIT**  

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**PAST, PRESENT & PROSPECTS**

**CONFERENCE PAPERS**



**EDITED BY JOHN F. KEILCH**

**APRIL 13-15, 1995**  
**SYMPOSIUM & CONFERENCE**  
**UNIVERSITY OF CALIFORNIA, BERKELEY**  
**MARKING THE 25TH ANNIVERSARY OF EARTH DAY**

## THE ENVIRONMENTAL SPIRIT

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Our own interest lay in relationships of animal to animal.

If one observes in this relational sense, it seems apparent that species are only commas in a sentence, that each species is at once the point and the base of a pyramid . . . .

One merges into another, groups melt into ecological groups until the time when what we know as life meets and enters what we think of as non-life: barnacle and rock, rock and earth, earth and tree, tree and rain and air.

And the units nestle into the whole and are inseparable from it . . . .

It is a strange thing that most of the feeling we call religious, most of the mystical outcrying which is one of the most prized and used and desired reactions of our species, is really the understanding and the attempt to say that man is related to the whole thing, related inextricably to all reality, known as unknowable.

This is a simple thing to say, but the profound feeling of it made a Jesus, a St. Augustine, a St. Francis, a Roger Bacon, a Charles Darwin, and an Einstein.

Each of them in his own tempo and with his own voice discovered and reaffirmed with astonishment the knowledge that all things are one thing and that one thing is all things—plankton, a shimmering phosphorescence on the sea and the spinning planets and an expanding universe, all bound together by the elastic string of time.

It is advisable to look from the tide pool to the stars and then back to the tide pool again.



From *The Sea of Cortez*, by John Steinbeck and Edward F. Ricketts, inhabitants of a California community, companions in exploration.

Issued for the Environmental Spirit Conference, April 13-15, 1995, held on the campus of the University of California, Berkeley, marking the 25th anniversary of Earth Day.

Printed by New Earth Press on recycled paper with soy-based ink.

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GE 42  
ES44  
1995  
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## Chaos, Gaia, and Partnership Ethics

By Carolyn Merchant  
Environmental Science, Policy, and Management  
University of California, Berkeley

Excerpted from Earthcare: Women and the Environment (New York: Routledge, 1995), chapters 1, 2, and conclusion, in press.

"Gaia (also called Ge) is the ancient earth-mother who brought forth the world and the human race from 'the gaping void, Chaos.' . . . Long before she herself was regarded as the mother of the powerful deities, she herself was the powerful deity." So Charlene Spretnak began her 1978 Lost Goddesses of Early Greece.<sup>1</sup> Spretnak, whose research was initiated in 1975 after a summer seminar on "Women and Mythology," wished to reclaim the pre-Hellenic goddess myths that existed prior to the transformation of Greece by barbarian invaders (the Ionians, Achaeans, and Dorians) and their patriarchal codification in the seventh century B.C. by Hesiod and Homer.<sup>2</sup> Her endeavor to reclaim Gaia as an earth-mother was part of an effort among feminists of the 1970s to create a new earth-based form of spirituality rooted in ancient traditions that revered both the earth and female deities. She drew on the work of women writing in the early twentieth century, such as Jane Ellen Harrison (1903), Helen Diner (1929), and Esther Harding (1955), as well as male pioneers such as Johann Jacob Bachofen (1854) and Robert Briffault (1927).<sup>3</sup> She composed a myth about Gaia that began:

From the eternal Void, Gaia danced forth and rolled Herself into a spinning ball. She molded mountains along Her spine, valleys in the hollows of Her flesh. A rhythm of hills and stretching plains followed Her contours. From Her warm moisture She bore a flow of gentle rain that fed Her surface and brought life.<sup>4</sup>

Spretnak later incorporated the Gaia creation story into ecofeminism. Nature and women could be liberated through the recognition of Gaia as both the earth and the female aspect

of the godhead coupled with the removal of patriarchal constructions of "women as Other and men as godlike and inherently superior."<sup>5</sup>

Spretnak's identification of Gaia as a powerful feminist and ecological symbol was followed in 1979 by James Lovelock's scientific popularization in his book, Gaia: A New Look at Life on Earth. Lovelock, whose work began with papers on "Gaia as Seen Through the Atmosphere" in 1972 and on the "Gaia Hypothesis" and homeostasis in 1973 with Lynn Margulis, drew scientific attention to the concept of the earth as a living organism. The "Gaia hypothesis" proposed that "the entire range of living matter on Earth, from whales to viruses, and from oaks to algae, could be regarded as constituting a single living entity, capable of manipulating the earth's atmosphere to suit its overall needs and endowed with faculties and powers far beyond those of its constituent parts." Like Spretnak, Lovelock saw Gaia as part of a religious reverence for the earth: "The concept of Mother Earth, or, as the Greeks called her long ago, Gaia, has been widely held throughout history and has been the basis of a belief which still coexists with the great religions."<sup>6</sup>

Together the two approaches of feminist spirituality and scientific theory recast Gaia as a powerful metaphor for a new understanding of and reverence for life on earth. The concept of "Mother Earth" revived by feminists and central to the cultures of indigenous peoples was now reinforced by science. The idea took hold in the public imagination when it became the theme for Paul Winter's "Missa Gaia: The Earth Mass" in 1981 and concerts were held in the cathedral of St. John the Divine in New York City and in the Grand Canyon. A National Audubon Society Expeditions symposium, "Is the Earth a Living Organism?" that included scientists, historians, poets, and American Indians was held in 1985, and the concept received scientific scrutiny through an American Geophysical Union Conference in 1988. Concerts, poetry, statues of Gaia, Gaia bookstores, whole earth images, and catalogues, as well as numerous books and

scientific conferences followed during the 1980s and '90s. A powerful metaphor for a postmodern age seemed to be in the making.<sup>7</sup>

Yet, however unifying, Gaia is also a problematical image for both environmentalists and feminists. Its message carries cultural baggage that undercuts its inspirational power. If Gaia is a self-regulating homeostatic system, then "she" can correct problems caused by humans or even find humans expendable. Or, as Lovelock queried, "[Which] regions of the earth are vital to Gaia's well being? Which ones could she do without?" These implications undercut environmental caretaking vital to maintaining life as we know it, as well as social justice issues relating to the diversity of peoples and regions. There are also problems for feminists. As Spretnak herself pointed out at the Audubon conference on Gaia, "Men in this society have this deeply imbedded idea that Mom always comes along and cleans up after them." Or, as Australian ecofeminist Val Plumwood argues, because nature and women provide the background support for men in patriarchal society, people should keep Gaia in a good mood and not allow the planet to get out of control. Even worse, she points out, Gaia is actually a "super servant" who will keep the planet clean for humans: "It does not matter if we do not wash our dishes and throw our dirty linen on the floor because Gaia, a super housekeeping goddess operating with whiter than white homeostatic detergent, will clean it all up after us."<sup>8</sup> In the Gaia hypothesis, humans are subordinate to nonhuman nature and represent only one species among a multitude of other living and nonliving things. These observations about Gaia, both positive and problematic, exemplify the idea of nature as an actor, a return of older ideas about nature as alive, active, and responsive, but also free and independent of human intervention.

#### Chaos

The return of chaos in late twentieth century science likewise recalls the idea of nature as actor. Chaos is both a spontaneous emergence of order out of disorder and a descent to the deep structures of order within disorderly systems. As orderly disorder, it



implies both renewal and surprise, nonlinearity and unpredictability. In Greek mythology, Chaos and Eros are the primal forces of the world. Chaos theory suggests the possibility of a new birth, a new world, a new millennium beginning in the twenty-first century, the order out of chaos narrative of Ilya Prigogine and Isabelle Stengers. In ecology, chaos implies both a renewal of nature and a sense of caution that small causes can lead to large effects and unwelcome surprises. Chaos theory offers an opportunity for human to rethink ways of relating to nature, especially ways of managing it.<sup>9</sup>

Chaos theory questions the linearity that underlies modern representations of nature. Mechanistic science, progress, and capitalism all draw power from the linear functions of mathematical equations--the upward and downward slopes of straight lines and curves. To the extent that these linear slopes intersect with a real material world, they refer to a limited domain only. Chaos theory and complexity theory suggest that only the unusual domain of mechanistic science can be described by linear differential equations. The usual, that is the domain of everyday occurrences, such as the weather, turbulence, the shapes of coastlines, the arrhythmic fibrillations of the human heart cannot be so easily described. The world is more complex than we know or indeed can ever know. The comfortable predictability of the linear slips away into the uncertainty of the indeterminate, discordant harmonies, and disorderly order.

Chaos theory challenges two basic assumptions of ecology as it developed in the 1960s and 1970s and formed the basis of environmental management--the ideas of the balance of nature and the diversity-stability hypothesis. The historical concept of a balance of nature which humans could disrupt implied that people could repair damaged ecosystems with better practices. The idea that biodiversity led to ecosystem stability meant that species conservation and ecological restoration could improve ecosystem health. Yet chaos theory suggests that natural disturbances and mosaic patches that do not exhibit regular or predictable patterns are the norm rather than the aberration. Moreover, the seemingly stable world that is the object of socially-constructed

representations can be destabilized by human social practices (as when pesticides produce mutant insects or antibiotics produce resistant bacteria). Such theories reinforce the idea that predictability, while still useful, is more limited than previously assumed and that nature, while a human construct and a representation, is also a real, material, autonomous agent. A postclassical, postmodern science is a science of limited knowledge, of the primacy of process over parts, and of imbedded contexts within complex, open ecological systems.<sup>10</sup>

This disorderly, ordered world of nonhuman nature must be acknowledged as a free autonomous actor, just as humans are free autonomous agents. But Nature limits human freedom to totally dominate and control it, just as human power limits Nature's and other humans' freedom. Science and technology can tell us that an event such as a hurricane, earthquake, flood, or fire is likely to happen in a certain locale, but not when it will happen. Because nature is fundamentally chaotic, it must be respected and related to as an active partner through a partnership ethic. Although both Chaos and Gaia imply that nature is an actor, the Gaia hypothesis positions humans as subordinate to Nature, while Chaos theory suggests the possibility of an equal partnership between humans and the nonhuman world.

#### Partnership Ethics

A partnership ethic sees the human community and the biotic community in a mutual relationship with each other. It states that "the greatest good for the human and the nonhuman community is to be found in their mutual, living interdependence, locality, and specificity."

The term partnership avoids gendering nature as a mother or a goddess (sex-typing the planet), avoids endowing either males or females with a special relationship to nature or to each other (essentialism), while admitting the anthropogenic, or human-generated (but not anthropocentric, or human-centered) nature of environmental ethics and metaphor. A partnership ethic of earthcare means that both women and men can

enter into mutual relationships with each other and the planet independently of gender and does not hold women alone responsible for "cleaning up the mess" made by male-dominated science, technology and capitalism."

Partnership ethics is grounded in the concept of relation. A relation is a mode of connection. This connection may be between people or kin in the same family or community, between men and women, between people, other organisms, and inorganic entities, or between specific places and the rest of the earth. A relation is also a narrative; to relate is to narrate. A narrative connects people to a place, to its history, and to its multileveled meanings. It is a story that is recounted and told, in which connections are made, alliances and associations established. A partnership ethic of earthcare is an ethic of the connections between a human and a nonhuman community. The relationship is situational and contextual within the local community, but the community is also embedded in and connected to the wider earth, especially national and global economies.<sup>11</sup>

A partnership ethic has four precepts:

1. Equity between the human and nonhuman communities.
2. Moral consideration for humans and nonhuman nature.
3. Respect for cultural diversity and biodiversity.
4. Inclusion of women, minorities, and nonhuman nature in the code of ethical accountability.

A partnership ethic recognizes both continuities and differences between humans and nonhuman nature. It admits that humans are dependent on nonhuman nature and that nonhuman nature has preceded and will postdate human nature. But also it recognizes that humans now have the power, knowledge, and technology to destroy life as we know it today.

For millennia, Nature held the upper hand over humans. People were subordinate to nature and fatalistically accepted the hand that Nature dealt. Since the seventeenth

century, the balance of power has shifted and humans have gained the upper hand over Nature. We have an increasing ability to destroy nature as we know it through mechanistic science, technology, capitalism, and the Baconian hubris that the human race should have dominion over the entire universe. In the late twentieth century, however, the environmental crisis and developments in postmodern science and philosophy have called into the question the efficacy of the mechanistic worldview, the idea of Enlightenment progress, and the ethics of unrestrained development as a means of dominating nature.

A partnership ethic calls for a new balance in which both humans and nonhuman nature are equal partners, neither having the upper hand, yet cooperating with each other. Both humans and nature are active agents. Both the needs of nature to continue to exist and the basic needs of human beings must be considered. A partnership ethic would bring humans and nonhuman nature into a dynamically-balanced, more nearly equal relationship. Humans, as the bearers of ethics, would acknowledge nonhuman nature as an autonomous actor which cannot be predicted or controlled except in very limited domains. We would also acknowledge that we have the potential to destroy life as we currently know it through nuclear power, pesticides, toxic chemicals, and unrestrained economic development, and exercise specific restraints on that ability. We would cease to create profit for the few at the expense of the many. We would instead organize our economic and political forces to fulfill peoples' basic needs for food, clothing, shelter, energy, and to provide security for health, jobs, education, children, and old-age. Such forms of security would rapidly reduce population growth rates since a major means of providing security would not depend on having large numbers of children, especially boys.

A partnership ethic would be a relationship between a human community and a nonhuman community in a particular place, a place that recognizes its connections to the larger world through economic and ecological exchanges. It would be an ethic in which

humans act to fulfill both human needs and nature's needs by restraining human hubris. Guided by a partnership ethic, people would select technologies that sustained the natural environment by becoming co-workers and partners with nonhuman nature, not dominators over it.

A partnership ethic implies a new narrative. Each earthly place would be a home, or community, to be shared with other living and nonliving things. The needs of both humans and nonhumans would be dynamically balanced. If such a story can be rewritten or experienced, it will be the product of many new voices and will have a complex plot and a different ending. Women and the earth, along with men, will be active agents. But the new story can be rewritten only through action.

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 Notes

- 1 Charlene Spretnak, Lost Goddesses of Early Greece: A Collection of Pre-Hellenic Mythology (Ann Arbor, Mi: Moon Books, 1978), pp. 30-1.
- 2 Spretnak wrote, "The seeds for this book were planted several years ago when I began reading of certain archaeological and anthropological discoveries. In the summer of 1975, I attended a weekend gathering on "Women and Mythology" conducted by Hallie Inglehart. She showed slides of ancient goddess statues and artifacts from the Mediterranean area and the Near East. . . ." Spretnack, Lost Goddesses, p. 23. In 1985, she wrote, "I remember exactly the moment when I first heard about the Gaia hypothesis. It was in 1978 that a friend told me about this scientific theory. I was quite delighted because at that time I was steeped in my research into the pre-Hellenic goddesses; the pre-Indo European religion of Europe," in Spretnak, "The Concept of Earth as Bountiful Goddess in Pre-Indo-European Cultures of Old Europe," Conference Proceedings, National Audubon Society Expedition Institute. "Is the Earth a Living Organism?" held August 1985" (Sharon, Ct.: Northeast Audubon Center, 1985), p. 62-1.
- 3 Spretnak drew on the following early works by women: Jane Ellen Harrison, Prolegomena to the Study of Greek Religion (Cambridge: Cambridge University Press, 1922; originally published, 1903); The Religion of Ancient Greece (London: Archibald Constable, 1905; Myths of Greece and Rome (London: Ernest Benn, 1927); Themis. A Study of the Social Origins of Greek Religion (Cambridge: Cambridge University Press, 1912); Mythology (New York: Harcourt, Brace & World/Harbinger books, 1963; originally published 1924); Helen Diner, Mothers and Amazons: The first Feminine History of Culture (New York: Anchor Press/Doubleday, 1973; originally published 1929); M. Esther Harding, Women's Mysteries, Ancient and

Modern (London: Rider, 1971; originally published 1955). Other feminists whose work in the 1970s focused on a reclaiming of ancient female earth deities included: Elizabeth Gould Davis, The First Sex (Baltimore: Penguin Books, 1972; originally published 1971); Adrienne Rich, Of Woman Born (New York: W.W. Norton, 1976); Merlin Stone, When God Was a Woman (New York: The Dial Press, 1976); Maria Gimbutas, The Gods and Goddesses of Old Europe, 7000-3500 BC (Berkeley, Ca: University of California Press, 1974; second edition as The Goddesses and Gods of Old Europe, 1982).

- <sup>4</sup> Spretnak, Lost Goddesses, p. 33.
- <sup>5</sup> Charlene Spretnak, The Spiritual Dimension of Green Politics (Santa Fe, N.M.: Bear and Co., 1986), quotation on p. 63; Spretnak, "Our Roots and Our Flowering," in Irene Diamond and Gloria Orenstein, eds. Reweaving the World: The Emergence of Ecofeminism (San Francisco: Sierra Club Books, 1990), pp. 3-14, see p. 5; Spretnak, States of Grace: The Recovery of Meaning in the Postmodern Age (San Francisco: Harper and Row, 1991), pp. 112-3; 127-49.
- <sup>6</sup> J. E. Lovelock, Gaia: A New Look at Life on Earth (New York: Oxford, 1979), quotation on p. 9; J. E. Lovelock, "Gaia as Seen Through the Atmosphere," Atmospheric Environment, 6 (1972): 579; J. E. Lovelock and Lynn Margulis, "Atmospheric Homeostasis by and for the Biosphere: The Gaia Hypothesis," Tellus, 26 (1973): 2; Lynn Margulis and J. E. Lovelock, "Biological Modulation of the Earth's Atmosphere," Icarus, 21 (1974): 471; J. E. Lovelock and S. R. Epton, "The Quest for Gaia," New Scientist, 6 (February 1975): 304; James Lovelock, The Ages of Gaia: A Biography of Our Living Earth (New York: Bantam Books, 1988); Glenda Chui, "The Mother Earth Theory," San Jose Mercury News, March 8, 1988, 1C, 2C.
- <sup>7</sup> Music and poetry by Paul Winter and Kim Oler, "Missa Gaia: The Earth Mass" (Sausalito, Ca: Living Music Records, 1982); J. Donald Hughes, "Gaia: an Ancient

View of Our Planet," Environmental Review, 6, no. 2 (1982); Norman Meyers, ed. The Gaia Atlas of Planet Management (New York: Doubleday Anchor, 1984); William Irwin Thompson, ed., Gaia: A New Way of Knowing (Great Barrington, Ma.: Lindisfarne Press, 1987); Elisabet Sahtouris, Gaia: The Human Journey from Chaos to Cosmos (New York: Simon and Schuster Pocket Books, 1989); Michael Allaby, A Guide to Gaia: A Survey of the New Science of Our Living Earth (New York: Dutton, 1989); Joseph Lawrence, Gaia: The Growth of an Idea (New York: St. Martin's Press, 1990); Alan Miller, Gaia Connections: An Introduction to Ecology, Ecoethics, and Economics (Savage, Md.: Rowman & Littlefield, 1990).

- <sup>8</sup> Spretnak, "The Concept of Earth as Bountiful Goddess," p. 62-4, quote attributed to Elizabeth Dodson Gray; Val Plumwood, "Gaia and Greenhouse: How Helpful is the Use of Feminine Imagery for Nature?" in Ken Dyer and John Young, ed. Changing Directions: The Proceedings of Ecopolitics IV (Adelaide, Australia: Graduate Centre for Environmental Studies, University of Adelaide, 1990), pp. 622-28, quotation on p. 625.
- <sup>9</sup> Ilya Prigogine and Isabelle Stengers, Order out of Chaos: Man's New Dialogue with Nature (New York: Bantam, 1984); N. Katherine Hayles, Chaos bound: Orderly Disorder in Contemporary Literature and Science (Ithaca, N.Y.: Cornell University Press, 1990); Ralph Abraham, Chaos, Gaia, Eros (San Francisco: Harper and Row, 1994).
- <sup>10</sup> For the diversity-stability hypothesis, see Eugene P. Odum, Fundamentals of Ecology (1953) and Odum, "The Strategy of ecosystem Development," Science, 164 (1969): 262-70. On shortcomings of equilibrium theories in ecology, see Seth R. Reice, "Nonequilibrium Determinants of Biological Community Structure," American Scientist, 82 (September-October 1994): 424-35. On the history and disruption of the balance of nature theory see, Daniel Botkin, Discordant Harmonies (New York:



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Oxford University Press, 1990); S.T.A. Pickett and P. S. White, ed., The Ecology of Natural Disturbance and Patch Dynamics (Orlando, FL.: Academic Press, 1985). On the problem of a stable world behind socially constructed representations, see Elizabeth Ann R. Bird, "The Social Construction of Nature: Theoretical Approaches to the History of Environmental Problems," Environmental Review, 11, no. 4 (Winter 1987): 255-64. On the history of chaos theory in ecology see Donald Worster, "Ecology of Order and Chaos," Environmental History Review, 14, no. 1-2 (Spring/Summer 1990): 4-16.

- 11 The idea of a partnership between women and men as the basis for a new society, but without explicit attention to environmental ethics, has been developed by Riane Eisler in The Chalice and the Blade (San Francisco: Harper and Row, 1988). The concept of relation as a foundation for ecofeminism and the relational self has been developed by Val Plumwood in Feminism and the Mastery of Nature (London: Routledge, 1993). On the connections between ethics and narrative, see Jim Cheney, "Postmodern Environmental Ethics: Ethics as Bioregional Narrative," Environmental Ethics, 11 (1989): 117-34. On the importance of seeing the local community as connected to a global capitalist system see, James O'Connor, "Socialism and Ecology," Capitalism, Nature, Socialism, (1991?):