

Platonic Cosmology: A Terrestrial Pedagogy

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William L. Craig defines cosmology as “*a posterior* argument for a cause or reason for the cosmos.”¹ As *a posterior* argument, cosmology first assures the existence of the cosmos and then articulates the reason for the co-existence of the cosmos with human beings. In other words, a posterior cosmological argument offers both descriptive and prescriptive account of the relationship between human beings and the cosmos. To a large extent, such cosmological arguments shape and reflect our attitudes and actions toward the cosmos — the world we inhabit. Within such *a posterior* framework, Platonic cosmology attempts to provide a reasonable account of the origin and purpose of the cosmos as related to human existence. Plato states: “now every thing that becomes or is created must of necessity be created by some cause, for without a cause nothing can be created.”² On the one hand, Platonic cosmology embraces an organic worldview. In his own words, the whole cosmos is “a living creature containing within itself all living creatures, mortal and immortal” (*Timaeus* 69c). The well-ordered and harmonious cosmos described by Plato can be compared to a balanced ecosystem widely endorsed by contemporary environmental ethicists. On the other hand, since the doctrine of Forms is the cornerstone of Platonism, it is common to overlook such ecologically congenial aspect of Platonic cosmology. After all, this living world is merely an image of the world of Forms. Thus, contemporary environmental ethicists such as J. Baird Callicott regard Platonic dualism (the transcendent world vs. physical world) as one of the conceptual roots of environmental problems.³ More specifically, the doctrine of Platonic Forms appears to suggest that rational human beings are the agents that superimpose a rational order upon the passive and chaotic natural world. It is not surprising that Al Gore claims that “the Platonic assumption” is that human beings as “disembodied spiritual intellects hovering above the material world” need not care about the world of nature.⁴

The paradoxical nature of Platonic cosmology reflects our ambivalent attitudes toward the earth — the living world. While we recognize that we are all terrestrials, we are also inclined to reify our extra-terrestrial existence. The dualistic construction of the transcendent vs. the immanent, the mind-body split, and the polarization of nature and culture especially reveal our desire to dismiss our bonding with the earth. In response to today’s ecological problems, many concerned educators are in support of David Orr’s claim that “all education is environmental education.”⁵ The advocacy of environmental education grows out of a widespread belief that schools, as socially responsive institutions, must render crucial support to social reforms, such as the ecological movement. To a large extent, such educational endeavors must rectify the flaws of the dualistic, atomistic, and materialistic world-view deeply embedded in formal education in many modern societies.⁶ In other words, environmental education represents a pedagogical effort to articulate cogent *a posteriori* cosmological arguments that could resolve our incongruous ethical attitudes toward our terrestrial responsibilities.

Within this context, I re-examine the metaphorical features of the Platonic cosmos that shed light on our pedagogical efforts to re-orient our self-destructive action against our terrestrial existence. I argue that Platonic cosmology stresses a correspondence between this living world and the world of Forms. In other words, this living cosmos is an everlasting world that reflects the eternality, perfection, and intelligibility of the world of Forms. It follows that the supremacy of human rationality lies in a comprehension of the harmonious cosmic order rather than imposing artificial order on the cosmos. In order to redress the ongoing ecological degradation, environmental education therefore must attend and attest to the interrelations between the cosmic order and human morality, as suggested by Platonic cosmology.

A RE-EXAMINATION OF THE METAPHORICAL FEATURES OF PLATONIC COSMOS

J. A. Stewart points out that myth, as an organic part of the Platonic dialogue, “appeals to that major part of men’s nature which is not articulate and logical, but feels, and wills, and acts.”⁷ In *Timaeus*, myth especially plays a key role in conveying Plato’s cosmological argument. Thus, this paper will focus on the metaphoric features of the Platonic cosmos rather than on developing a detailed exegetical analysis of Plato’s cosmological arguments. Specifically, I will examine the following metaphoric features of the Platonic cosmos: craftsmanship, the world-body and the world-soul, and the tripartite nature of the Platonic cosmos.

CRAFTSMANSHIP

In the prelude to *Timaeus*, Plato postulates that the creation of this living world is modeled after an eternal and unchangeable world of Forms. The world of Forms is everlasting; thus, it has no beginning or ending. On the other hand, this sensible and tangible world must have a beginning. Thus, Plato introduces a creator god-Demiurge in this creation story. As a divine figure, Demiurge represents the ultimate goodness that aims at creating the fairest and best world. Since the Demiurge does not create the world of Forms, Francis Cornford points out that the Platonic god-Demiurge is to be distinguished from the omnipotent God in Judeo-Christian tradition. Gregory Vlastos also notes that “Demiurge” literally means “craftsman,” a position often occupied by a slave in Plato’s Athens.⁸ While Plato’s contemporary intellectuals regarded any striving for similitude to God as impious, Platonic god-Demiurge, unlike ancient Greek gods, was eager to share godly essence such as beauty and goodness with humans.⁹ From the vantage point of Vlastos, “the supreme god of Plato’s cosmos should wear the mask of a manual worker is a triumph of philosophical imagination over ingrained social prejudice.”¹⁰ Alternately, the perceived low social status of “Demiurge” might be interpreted as Plato’s intention to elevate the world of Forms. Nevertheless, it should be noted that the god-Demiurge’s creation embodies aesthetic rationality. Thus, the god-Demiurge is not simply a skilled craftsman. Above all, his technical expertise cannot be separated from his moral and aesthetic knowledge of harmonious cosmic order.¹¹ Plato states, “the world has been fashioned on the model of that which is comprehensible by rational discourse and understanding and is always in the same state” (*Timaeus* 29a). In other words, it is reason rather than faith or worship that enables humans to acquire

knowledge of the immutable cosmic order. Thus, the Platonic god-Demiurge denotes concrete human experience of artistic craftsmanship rather than a glorification of the supernatural power. As the god-Demiurge represents personified reason, the dynamic creation process can be compared to the reasoning process.

THE WORLD-BODY AND THE WORLD-SOUL

Analytically, the Platonic cosmos consists of the world-body and the world-soul. However, the world-body and the world-soul are “interwoven from the center to the outermost heaven and enveloping the all round on the outside” (*Timaeus* 36e). According to Plato, the world-body is proportionally constituted by fire, earth, air, and water and unilaterally guided by the principle of Unity in order to prevent dissolution, aging, and sickness. The spherical shape of the world-body embodies perfection and embraces all living creatures (*Timaeus* 33d). To Plato, this living cosmos devoid of the reproductive process is an intelligible and sex-less creature. By excluding reproductive capacity from the world-body, Plato thereby ensures the inimitability of the cosmos.¹² Regardless of its perfect bodily constitution and self-sufficiency, the world-body is still in need of the world-soul to engender the motion of self-revolving. As a cognitive faculty, the world-soul is “both in the world of generation and in the world of immutable being” (*Timaeus* 37b). Implicitly, Plato suggests that the world-soul enables the world-body to comprehend and reflect the immutable patterns of the world of Forms. In other words, the world-soul is essential to sustain the sensible and tangible world as an intelligible world. Just as the world of Forms is unique, the intelligible living world is irreplaceable, too. It follows that only the intelligible world can offer a verisimilar account of the eternal Forms, and the consummation of the creation process solidifies the inseparable relationship between the world-body and the world-soul.¹³ In short, Plato’s dualistic cosmological account should not be interpreted as an attempt to bisect and disjoin the cosmos into two separate parts: the world-soul and the world-body.

THE TRIPARTITE NATURE OF PLATONIC COSMOS

In *Timaeus*, the dynamic process of creation is based on the integration of Reason, Necessity, and Receptacle. According to Plato, Necessity exists prior to creation. Instead of offering an explicit definition of Necessity, Plato refers Necessity to the dynamic transformation process of fire, water, earth, and air. To Plato, Necessity cannot claim self-identity because of its indeterminate, inconstant, and anomalous properties. It is Reason that “overruled Necessity by persuading her to guide the greatest part of the things that become towards what is best; in that way and on that principle this universe was fashioned in the beginning by the victory of reasonable persuasion over Necessity” (*Timaeus* 48a). As Reason must persuade rather than enslave Necessity to participate in the creation process, Plato does not appear to endorse the absolute sovereignty of Reason over Necessity. Nor does he advocate Reason’s assuming stewardship of Necessity. Instead, the process of “persuasion” signifies the germination of the intelligible pattern of Forms. Thus, Freire Aschbough regards Necessity as “analogue and sustainer” of the intelligible pattern of Forms.¹⁴

To Plato, the integration of Reason and Necessity must be complemented by the Receptacle in order to render Forms intelligible to the world-soul. Plato describes the Receptacle as “a matrix for everything, changed and diversified by things that enter it, and on their account it appears to have different qualities at different times” (*Timaeus* 50c). He also employs metaphors such as “nurse,” “mother,” “winnowing-basket,” “mirror,” and “a situation for all things that come into being” to convey the “the most incomprehensible” nature of the Receptacle. Richard Mohr classifies these metaphors into two groups: container and medium. He further concludes that the Receptacle is “a principle of existence for non-substantial images.”¹⁵ Through the non-substantial images contained in or reflected on the Receptacle, the intelligible cosmic order then can be presented and comprehended by the world-soul.

As discussed above, the metaphorical features of the Platonic cosmos indicate that the craftsmanship of god-Demiurge embodies beauty and goodness. The inseparability between the world-soul and the world-body suggests an everlasting effort to conserve beauty and goodness inherent with the cosmos. The integration of Reason, Necessity, and Receptacle is indispensable to render cosmic order intelligible. Undoubtedly, Plato’s mythical story telling cannot be taken literally. In fact, Plato admits that the creation story is simply a “likely” account of the origin of the cosmos. However, the vital ethical implications of Plato’s cosmological discourse deserve our attention. In particular, Plato not only ascribes intrinsic value to the cosmos but also prescribes human morality as an embodiment of or a reflection on the eternal and immutable cosmic order.¹⁶ In other words, human beings endowed with reason are able to grasp the knowledge of ultimate goodness of Forms by reasoning through the intelligible living cosmos. Richard Mohr notes that this parallel of macrocosm and microcosm runs through the cosmological discourse in *Timaeus*.¹⁷ In short, Plato’s cosmology stresses the organic connections between cosmic order and human morality.

While Plato does not address any ecological concerns in his writing, I find his cosmological argument helpful as we rethink the purposes of modern schooling. Ivan Illich notes that modern educational systems in both developed and developing nations are inclined to guide individuals “away from their natural environment and pass them through a social womb in which they are formed sufficiently to fit into everyday life.”¹⁸ As modern education severs the organic connections between humans and nature, modern schooling also opts to sustain rather than reconstruct our dualized political and economic systems. The ongoing ecological movements and environmental education movements, to a certain degree, represent a collective reasoning process, to envision, articulate, and reconstruct a cosmic order that embodies beauty and goodness. Drawing from the ecological insights of Platonic cosmology in what follows, I attempt to sketch a terrestrial pedagogy that is grounded in an ethical recognition of the interconnection between cosmic order and human morality.

PLATONIC COSMOLOGY AS A PEDAGOGICAL PROJECT FOR TERRESTRIALS

David Orr’s claim that “all education is environmental education” poses a challenging task for educators. An inclusive conception of environmental education

certainly embraces a dual commitment to social reform and school reform. C. Shoenfeld and J.E. Ross point out that environmental education lacks a well-defined and delineated substantive structure.¹⁹ W.L. Hobart also argues that successful development of environmental education relies upon “a coordinated, comprehensive, and uniform base.”²⁰ In searching for such a substantive structure or a uniform base for environmental education, it becomes clear that a critical inquiry into the ethical foundations of environmental education is also central to its further development. The origin of ethics can be what Bernard Williams calls a “practical necessity.” Williams explains, “When a deliberative conclusion embodies a consideration that has the highest deliberative priority and is also of the greatest importance (at least to the agent), it may take a special form and become the conclusion not merely that one should do a certain thing, but that one must, and that one cannot do anything else. We may call this conclusion of practical necessity.”²¹ Such a practical necessity can be the guiding principle for us to articulate the aims, nature, and methods of environmental education. In view of our terrestrial existence, a posterior cosmology appears to provide concerned educators with “a practical necessity” for developing normative conception regarding the relationship between humans and the cosmos/earth.

Charles H. Kahn points out that “the term ‘cosmos’ denotes a concrete material arrangement of beauty or utility, as well as the more abstract idea of moral and social ‘order.’”²² Thus, the study of cosmos is not merely a study of an external cosmos. Rather, the cosmological account always intersects with an ethical account of human existence. In their attempt to redress today’s ecological degradation, environmental ethicists such as Holmes Rolston, III call for a due recognition of the interconnections between descriptive and prescriptive ethical laws. To a certain extent, a descriptive statement concerning the earth reflects our attitudes and behaviors toward the earth.²³ For instance, Carolyn Merchant claims that while the identification of nature with a nurturing mother prevented human destruction of nature in early human history, the identification of nature as a disorderly woman called forth human control over nature in the scientific revolution.²⁴ As Platonic cosmology attempts to “link the morality externalized in the ideal society to the whole organization of world,”²⁵ Francis Cornford claims that “the kernel of Plato’s ethics is the doctrine that man’s reason is divine and that his business is to become like the divine and by reproducing, in his own nature, the beauty and harmony revealed in the cosmos, which is itself a god, a living creature with soul in body and reason in soul.”²⁶ In the same vein of thought, Julius M. Moravcski argues that while Plato’s ethical theory centers on pre-existing and everlasting ethical ideals, human beings as active agents are endowed with ethical capacity to attain the ultimate goodness.²⁷ In other words, human beings embody the putative external ethical ideals. As discussed before, Plato’s cosmological discourse starts with a theological statement that the creation of the living world is modeled after the perfect world of Forms. For Plato, the presumably external harmonious cosmic order indeed coexists with an inner harmony in human nature. The supremacy of reason thus lies in its instrumental value for attaining goodness. It follows that self-cultivation as an educational process is the key to sustain the cosmic order.

On the one hand, the inherent organicism of Platonic cosmology echoes contemporary environmental philosophers' advocacy of non-anthropocentric ethical theories. On the other hand, Platonic cosmology demystifies the superfluous and inconsequential distinction between anthropocentrism and eco-centrism in the theorizing of environmental ethics. More specifically, many contemporary environmental ethicists are eager to articulate the independent and intrinsic values of nature as the key to re-orienting our ecologically exploitative cultural practices.²⁸ For instance, Aldo Leopold argues that "we have a well articulated human-to-human ethic; what we need is a comparable human-to-land ethic."²⁹ To Leopold, "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."³⁰ In other words, the primary aim of the human-to-land ethic is to evolve a mode of cooperation in the land-community. Implicitly, Leopold suggests that human-to-human ethics is inadequate to address the relationship between humans and the biotic community. However, Leopold's advocacy of human-to-land ethic appears to call for a preservation of the biotic community in pristine condition. Such eco-centric approaches often attend to conservation of natural resources rather than the responsible distribution of natural resources. In view of the intricate interconnection between the crisis of ecological insustainability and the class polarization (for example, the First World vs. the Third World),³¹ it is doubtful that the dichotomization of human-to-human ethic and human-to-land ethic can redress today's ecological problems. In particular, the articulation of human-to-land ethic depends upon human moral agency even though "the integrity, stability, and beauty of the biotic community" can be self-revelatory. Accordingly, human ethics should not be confined within inter-human affairs. A pedagogical effort to raise an awareness of our terrestrial responsibilities need not depend upon an articulation of a separate set of ethical principles. Instead, it is essential to call for an ethical recognition of the interconnections between cosmic order and human morality, as suggested by Platonic cosmology. An attempt to make a categorical distinction between the ethics of human affairs and the ethics of a human-nature relation is not apt and will prove to be a futile effort. It follows that the framework of environmental education should be integrative as well as inclusive. Above all, it is important to be mindful about how our daily activities shape the cosmic order. Although such mindful practices required strenuous efforts, the accumulation of millions of people's seemingly insignificant daily activities, such as driving cars or saving energy, could have an imperceptible yet causal contribution to either the worsening or mitigation of today's ecological problems.

The Platonic god-Demiurge as a creator is different from the Judeo-Christian conception of God. Because the Platonic god-Demiurge's craftsmanship embodies aesthetic rationality, the creation process indeed manifests the paradigmatic realm of Forms. In consequence, the inimitability of the world of Forms by no means suggests either sacred or profane otherworldiness. Rather, the "thisworldly" cosmos and the otherworldly realm of Forms are inseparable. Such a thisworldly orientation of Platonic cosmology is in dissent with modern science cast in a matrix of Judeo-Christian theology. Lynn White, Jr. argues that today's ecological problems are mainly rooted in the Judeo-Christian doctrine of human dominion over nature.

Moreover, the idea of creation in Judeo-Christian tradition shapes the non-repetitive and linear conception of time in modern societies. Above all, White believes that the religious devotion, shaped by the Judeo-Christian dogma of creation, could be considered the impetus of modern science and technology. As the linear conception of time entails endless pursuit of progressive development of science and technology, we inevitably entrap ourselves in the increasingly unsustainable global vilage.³²

Furthermore, Michael Heyd claims that modern science's achieving its independence from theological constraints is based on its serving as the "soteriological bridge" — by which humans can reach the transcendental ultimate reality.³³ In other words, the widespread social acceptance of science is based on an assumption that science can lead us to discover the transcendent otherworldly reality, which Weber identifies as the fundamental characteristic of Christianity. Despite its "occidental" origin, modern science has been diffused into non-western societies. In the meantime, the internationalization of science and technology appears to correlate with the worsening of global ecological degradation. To a certain degree, the ecologically uncongenial aspects of science and technology can be attributed to its otherworldly orientation shaped by the Judeo-Christian tradition.

The emergence of "the first whole earth image," a photograph taken by NASA from outer space, especially reveals the hidden extraterrestrialism of modern science and technology.³⁴ Gradually, this whole earth image along with environmental slogans such as "one earth, one family" have permeated mass media. Gaston Bachelard claims, "all great simple images reveal a psychic state."³⁵ In line with Bachelard's perspective, Yaakov Jerome Garb calls our attention to "one of the most important features of the whole Earth image is the vantage point from which it is obtained: from the outside. We have to leave the Earth in order to get a better view, in order to see it all once."³⁶ She further points out as this whole Earth image denotes the physical distance, the spiritual detachment, and spectatorship, terrestrials become "disengaged *observers* of rather than *participants* in the reality depicted."³⁷ As disengaged observers, terrestrials are unlikely to recognize and further fulfill their terrestrial responsibilities.

In order to redress modern sciences' otherworldly orientation, a terrestrial pedagogy must facilitate an inward journey to explore the interconnection between cosmic order and human morality. Richard Borden points out that the "study of ecology leads to changes of identity and psychological perspective, and can provide the foundations for an "ecological identity" — a reframing of a person's point of view which restructures values, reorganizes perceptions, and alters the individual's self-directed, social, and environmentally directed actions."³⁸ However, the pedagogical values of ecological identity formation cannot be taken for granted. Wolfgang Sachs notes that

Ecology is both computer modeling and political action, scientific discipline as well as all-embracing worldview...the science of ecology gives rise to a scientific anti-modernism which has succeeded largely in disrupting the dominant discourse, yet the science of ecology opens the way for the technocratic recuperation of protest.³⁹

As the terrestrial pedagogy aims at shaping our ecological identity, the study of ecology thus must incorporate the reflectivity of human ethical reasoning.

CONCLUSION

Cosmology as *a posteriori* argument reflects our perception of the relationship between humans and the living environment. My examination of the Platonic cosmology suggests that Plato's organic world-view is consistent with humanly pursuit of eternal ethical ideals. Accordingly, a terrestrial pedagogy must rekindle a this-worldly ethical commitment to address interrelated environmental issues. Resolving value conflicts cannot be an individual endeavor. Rather, we need to make a collective effort to critically examine the existing social norms and to explore the possibilities of establishing new ethical norms in our moral community.

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1. William L. Craig, *The Cosmological Argument from Plato to Leibniz* (New York: Barnes and Noble, 1980).
 2. Plato, *Timaeus* 28a. in *Plato: The Collected Dialogues* ed. Edith Hamilton and Huntington Cairns (Princeton: Princeton University Press, 1961). This work will be cited as *Timaeus* in the text for all subsequent references.
 3. J. Baird Callicott, "Conceptual Resources for Environmental Ethics in Asian Traditions of Thought: A Propaedeutic," *Philosophy East and West* 37, no. 2 (1987): 115-30.
 4. Albert Gore, *Earth in the Balance : Ecology and the Human Spirit* (Boston: Houghton Mifflin, 1992), 249.
 5. David W. Orr, *Ecological Literacy: Education and the Transition to a Postmodern World* (Albany: State University of New York Press, 1992), 90.
 6. Noel Gough, "From Epistemology to Ecolitics: Renewing a Paradigm for Curriculum," *Journal of Curriculum Studies* 21, no. 3 (1989): 225-41 and Larry M. Gigliotti, "Environmental Education: What Went Wrong? What Can Be Done?" *Journal of Environmental Education* 22, no. 1 (1990): 9-12.
 7. J.A. Stewart, *The Myth of Plato* (London: MacMillan, 1905).
 8. Gregory Vlastos, *Plato's Universe* (Seattle: University of Washington Press, 1975).
 9. *Ibid.*, 28.
 10. *Ibid.*, 26.
 11. Stephen R. L. Clark, "Platonism and the Gods of Place," in *The Philosophy of the Environment* ed. T.D.J. Chappell (Edinburgh: Edinburgh University Press, 1997).
 12. Richard D. Mohr, *The Platonic Cosmology* (Leiden: E.J. Brill, 1985).
 13. A. Freire Ashbaugh, *Plato's Theory of Explanation: A Study of the Structure of Plato's Timaeus* (Albany: State of New York University Press, 1980).
 14. *Ibid.*
 15. Mohr, *Platonic Cosmology*, 98.
 16. Francis M. Conford, *Plato's Cosmology: The Timaeus of Plato* (London: Routledge and Kegan Paul, 1956).
 17. *Ibid.*
 18. Ivan Illich, *Toward A History of Needs* (Berkeley: Heyday Books, 1978).
 19. C. Shoenfeld, "Toward a National Strategy for Environmental Education Perspective," *Journal of Educational Research* 64, no. 1 (1970): 3-11 and J.E. Ross, "Azimuths in Conservation Communication Research," *Journal of Environmental Education* 1 (1970): 88-92.
 20. W.L. Hobart, "What's Wrong With Conservation Education?" *Journal of Environmental Education* 3, no. 4 (1972): 23-25.

21. Bernard Williams, *Ethics and the Limits of Philosophy* (Cambridge: Harvard University Press, 1985).
22. Charles H. Kahn, *Anaximander and the Origins of Greek Cosmology* (New York: Columbia University Press, 1960), 222.
23. Holmes Rolston, III, *Philosophy Gone Wild: Essays in Environmental Ethics* (Buffalo, N.Y.: Prometheus Books, 1986).
24. Carolyn Merchant, *The Death of Nature* (New York: Harper and Row, 1980).
25. Conford, *Plato's Cosmology*, 6.
26. *Ibid.*, 34.
27. Julius Moravcsik, "Plato's Ethics as Ideal Building," *Proceedings of the Boston Area Colloquium in Ancient Philosophy*, vol. 1 (1986): 1-21.
28. For a detailed discussion on the affirmation of the intrinsic values of natural objects and process, see Holmes Rolston, III, *Environmental Ethics: Duties and Values in the Natural World* (Philadelphia: Temple University Press, 1988) and Tom Regan, "The Nature and Possibility of an Environmental Ethic," in Janet Beihl, *Rethinking Ecofeminist Politics* (Boston: South End, 1991).
29. Aldo Leopold, *A Sand County Almanac and Sketches Here and There* (New York: Oxford University Press, 1949): 203.
30. *Ibid.*, 224-25, The biotic community was developed as a working model for ecology by Charles Elton in the 1920s; see Donald Worster, *Nature's Economy: The Roots of Ecology* (San Francisco: Sierra Club Books, 1977).
31. Leslie Sklair, *Globalization: Capitalism and Its Alternatives* (Oxford: Oxford University Press, 2002).
32. Lynn White, Jr. "The Historical Roots of our Ecological Crisis," in *Western Man and Environmental Ethics*, ed. I.G. Barbour (Reading, Mass.: Addison-Wesley Publishing Company, 1973): 28. This article appeared originally in *Science* 155, 1203-7.
33. According to Heyd, "the term stoeriological bridge assumes that ultimate reality, or the source of ultimate significance, is transcendental, and hence the crucial problem is to construct a bridge by which to reach that reality or transcendental principle." See Michael Heyd, "The Emergence of Modern Science as an Autonomous World of Knowledge in the Protestant Tradition of the Seventeenth Century," *Knowledge and Society: Studies in the Sociology of Culture Past and Present* 7 (1988):165-80.
34. Stewart Brand, "The First Whole Earth Image," in *Earth's Answer: Exploration of Planetary Culture at the Lindisfarne Conferences*, ed. Michael Katz, et al. (New York: Lindisfarne Books, 1977): 184-89.
35. Quoted in Susan Griffin, *Pornography and Silence: Culture's Revenge Against Nature* (New York: Harper and Row, 1981), 82.
36. Yaakov Jerome Garg, "Perspective or Escape? Ecofeminist Musings on Contemporary Earth Imagery," in *Reweaving the World: The Emergence of Ecofeminism* ed. Irene Diamond and Gloria Feman Orenstein (San Francisco: Sierra Club, 1990), 265.
37. *Ibid.*, 266.
38. Richard Borden, "Ecology and Identity," in *Proceedings of the First International Ecosystems-Colloquy* (Munich: Man and Space, 1986), 1.
39. Wolfgang Sachs, ed., *The Development Dire*, 7.