

## *What is Environmental Philosophy?*

Environmental philosophy in its modern form developed in the late 1960s, the product of concerns arising from diverse quarters: naturalists, scientists and other academics, journalists, and politicians. A sense of crisis and doom pervaded the time, reflecting fears about the Cold War and the threat of nuclear annihilation; this malaise helped to spawn the protest music and countercultural protests of the 1960s. In 1962 Rachel Carson published the best-selling book *Silent Spring*, which documented the accumulation of dangerous pesticides and chemical toxins throughout planetary food webs. In 1968 the journal *Science* published “The Tragedy of the Commons” by Garrett Hardin, who argued that human self-interest and a growing population would inevitably combine to deplete resources and degrade the environment. In the same year another best-seller, Paul Ehrlich's *Population Bomb*, anticipated hundreds of millions of deaths in the coming decades because of the failure of food supply to keep pace with an ever-expanding global population. Ehrlich also claimed to foresee an imminent and dramatic decline in U.S. population and life expectancy, and some of these gloomy predictions were echoed in *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind* (Meadows et al. 1974).

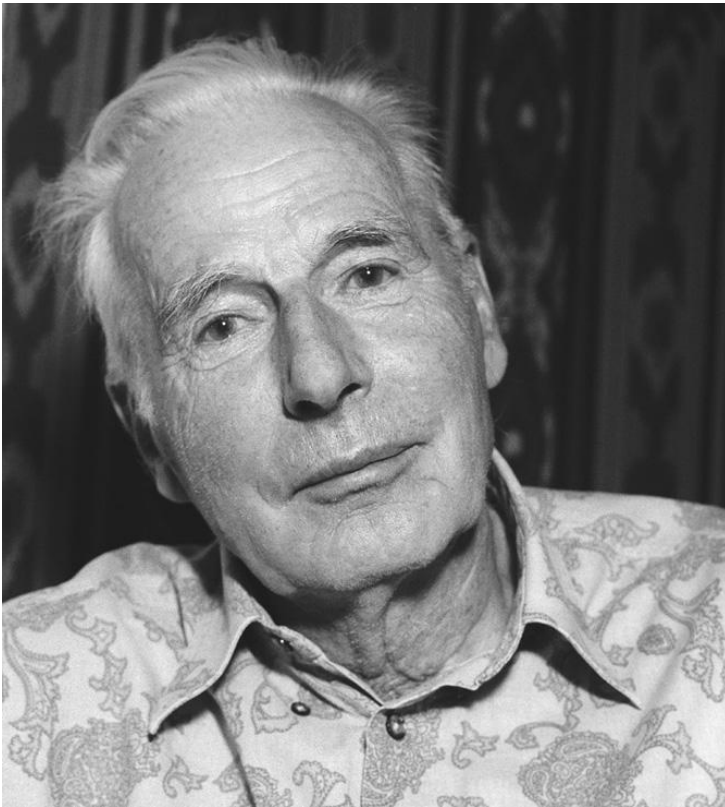
Fears about nuclear war, threats of pollution, and emerging awareness of social injustice coalesced first in popular and folk music and then found less poetic expression in academic work. In a seminal essay that appealed to increasingly disenchanting Marxist and left-leaning thinkers, Murray Bookchin remarked that ecology was a critical science with “explosive implications” because “in the final analysis, it is impossible to achieve a harmonization of man and nature without creating a human community that lives in a lasting balance with its natural environment” (Bookchin 1970 [1965]). When the historian Lynn White Jr. published an essay in 1967 claiming that Judeo-Christian thought was itself a major driver of environmental destruction, the scene was set for full-scale philosophical and ethical soul-searching. Inspired by the work of the American ecologist, forester, and environmentalist Aldo Leopold (1887–1948), thinkers in Australia and the United States produced new defenses of the key ideal of his land ethic: that “land is to be loved and respected is an extension of ethics” (Leopold 1949, Foreword, pp. viii-ix). Richard Routley (who later took the name Richard Sylvan) argued that a narrow focus on humans as the only morally valuable things on earth was a kind of unjustifiable discrimination—“human chauvinism” (Routley 1973, pp. 207ff). Routley proposed the following thought experiment: Consider a case where the last people on earth can choose to eliminate all other living things after their own demise. If humans are the only morally valuable things on the planet, then the last people seemingly do no moral wrong by eliminating all these other forms of life. Yet, Routley pointed out, there is a strong intuition, shared by many people, that such a destructive final act would be morally abhorrent. One basis for such an intuition would be the presence of some kind of intrinsic or inherent value in nonhuman organisms (Routley 1973, Routley and Routley (1980)).

A key ingredient in Leopold's land ethic was the notion that the community of life itself matters, not just its individual members; he wrote that “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, 1949, pp. 224–225). Holmes Rolston III explored the implications of this view by looking for ways in which to make sense of the idea that humans have duties not only to individual humans and animals but also to larger wholes—species and ecosystems, for example. Like Routley's last-person argument, Rolston's ideas were illustrated by imagined cases: for example, the butterfly collector who considers eliminating the last members of a rare *Papilio* species to enhance the value of his own specimens (Rolston 1975). This example is meant to prompt the following question: In addition to any duties humans might have to individual

butterflies, do they also have duties to preserve the species and processes that sustain life on earth? On Rolston's natural theological view biological processes merit respect because they are intrinsically valuable, embodying the sacred nature of God (Rolston 1989, 1999).

## **DEEP ECOLOGY AND ANIMAL LIBERATION**

The development of Deep Ecology by the Norwegian Arne Naess followed a rather different route (see Witoszek and Brennan 1999 for a historical survey). During a climbing expedition to Nepal, Naess found that Sherpa people would not venture onto sacred mountains. In the wake of this discovery, Naess and two of his Norwegian friends discussed formulating a new philosophy that would extend such reverence for mountains to all of nature, emphasizing the interconnectedness of each thing in larger webs of value. In place of the isolated or atomic individual, Naess postulates people and other things as constituted by their relationships with others—as knots in a larger web of life (Naess 1973). While such a relational conception of the self might be thought to resonate with animist, Confucian, or Buddhist traditions (Naess had no problem with such confluences), Naess himself claimed to draw his philosophical inspiration largely from the seventeenth-century Dutch philosopher Baruch Spinoza (1632–1677). Taking relationships seriously,



*Arne Naess. In 1973, Naess coined the term “deep ecology,” intending to highlight the importance of norms and social change in environmental decisionmaking. PHOTO COURTESY OF SIJMEN HENDRIKS.*

## *What is Environmental Philosophy?*

Naess argues, means that humans should care for the extended, or ecological, self because each person is more than just his or her body. Extended self-concern obliges humans not only to connect with and care about the other people who have made them what they are but also to care for the multifarious systems and beings on which continued human existence depends.

In his early work Naess seemed to regard all living things as having equal value, at least in principle, but by the 1980s he was prepared to support only the weaker claim that the flourishing of all life, both human nonhuman, has value in its own right. In collaboration with George Sessions, Naess also formulated a Deep Ecology platform in 1984, listing the eight points on which deeply committed conservation philosophies could agree while leaving up to individuals how best to interpret such principles in specific cases (Witoszek and Brennan 1999). Whereas Routley and Rolston argued against the human-centered bias of conventional moral theory, Naess's early work in Deep Ecology cast doubt on the individualistic and decontextualized nature of much European and North American philosophical and moral theory.

Through the 1970s and 1980s these themes of atomism, human-centeredness, and the scope of what is intrinsically valuable set much of the agenda for further theorizing. With the introduction of the idea of “animal liberation” in 1973 (Singer 2003), there was a swell of support for the idea that the capacity to feel pleasures or pains might be a significant criterion of moral value, or at least of moral considerability. On this view, although things that are morally valuable ought to be protected, things that are “morally considerable” ought to figure directly in human thinking and planning but need not necessarily be protected. In the North American and European ethical tradition, moral considerability has been connected with notions of rationality, self-awareness, consciousness, and other typically human features. Environmental philosophy has explored new criteria of such considerability, including being alive (Goodpaster 1978); being a community or a holistic entity of a certain kind (Callicott 1980, 1987; Rolston 1994); being an entity or organism that has an end (or telos) in itself (Taylor 1981, 1986, Rolston 1994); being a subject of a life (Regan 1983); lacking intrinsic function (Brennan 1984); being a product of natural processes (Rolston 1989, Elliott 1982); or being naturally autonomous (Katz 1997). While no agreement on such a criterion emerged, it was clear that the notions of respect for nature, nature's value, nature's intrinsic worth, and the moral considerability of natural things were not only intelligible but also capable of being hotly debated in considerable depth.

### **A DEVELOPING FIELD**

Alongside the growth in publications and research on environmental ethics, metaphysics, and the status of nature, new courses and units sprang up in universities across the world. Baird Callicott taught the first environmental philosophy course in the United States in 1971, at the University of Wisconsin, Stevens Point. A year later William Blackstone organized the first conference on environmental ethics which was held at the University of Georgia, and its proceedings contained many seminal papers (Blackstone 1974); the following year Bookchin's Institute for Social Ecology was established at Goddard College in Vermont. The 1970s saw a remarkable mushrooming of meetings, seminars, classes, and conferences in the English-speaking world. Alongside the new environmental ethics the field of environmental theology also started to develop, stimulated by discussion of whether Christian humanism was incompatible with radical environmentalism and whether the work of thinkers such as Teilhard de Chardin was environmentally relevant (Teilhard de Chardin 1959; Cobb 1972, 1990). The journal *Environmental Ethics* was launched in 1979 under the editorship of Eugene Hargrove. Although Hargrove also contributed to the literature of environmental philosophy, a major part

## *What is Environmental Philosophy?*

of his influence in directing and consolidating the field has been his editorship of this journal since its inception.

By 1974 an early backlash had occurred in the form of the contention of the Australian philosopher John Passmore that the Judeo-Christian ethical tradition already contained resources enough to ensure protection and stewardship of nature (Passmore 1974).



***Val Plumwood.*** *One of the most important feminists to emerge in environmental philosophy, much of Plumwood's work focused on analyzing, critiquing, and providing alternatives to dualisms that she believed lie at the heart of the domination of women, nature, and others.* © NEWSPIX.

The issue of whether there really was need for a new ethic for the environment dominated much of the philosophical discussion for the next decade (Rodman 1977, 1983; At-field 1983; Callicott 1986; Rolston 1986). Continuing into the 1980s, the debate expanded beyond questions of value and ethics and extended to metaethical issues (the meaning of moral terms and the objectivity of value), metaphysical issues (the nature of the cosmos and the place of humans within it), and wider questions about human consciousness, identification, and awareness. The appearance of a number of systematic single-author books and collections of essays (Bookchin 1980, Elliot and Gare 1983, van de Veer 1986, Atfield 1983, Rolston 1988, Brennan 1988, Callicott 1989, Hargrove 1989, Norton 1991) helped to solidify and clarify the main currents of thought in environmental philosophy.

It soon became possible to classify environmental philosophies in terms of various positions or movements: for example, wise use, Social Ecology, ecofeminist, the land ethic,

reverence for life, Deep Ecology, bioregionalism, ethics of place, radical activism, wilderness ethics, and animist or panpsychist metaphysics. Those who regarded themselves as “deep green” were not only the followers of Naess and Deep Ecology but also those who were “fundamentalist” rather than “realist” in their environmental politics. The terminology of “Fundis” and “Realos” was coined in the context of a long-running dispute in the German Green Party during the 1980s and 1990s, with the Fundis committed to veganism, animal rights, and decentralization, while the more pragmatic Realos cooperated with mainline political actors, such as governments, corporations, and existing community organizations (Dobson 1995). Bioregionalists, often inspired by anarchist and socialist models, maintained that small communities located in or around geographically defined zones (the shores of lakes or the areas served by watersheds) would be best able to build sustainable and efficient settlements; feminists sometimes suggested that human-centeredness was a variant of male-centered thinking. Few writers exemplified just one of these positions, and many key writers span several of them. For example, some feminists supported deep ecology and bioregional understandings (Plumwood 1993).

Although some writers argued for a holistic metaphysics and ethics (Fox 1995, 2007), others—Rolston, for example—proposed a hierarchical ethic attributing value not only to individual things but also to entire species and ecosystems. Callicott's defense of a Leopold-inspired land ethic became increasingly complex and nuanced as he tried to give weight to different scales and degrees of obligation to the various communities in which human beings live (Lo 2001).

By the early 1990s the field of environmental philosophy was well established, as evidenced in the appearance of new societies and journals. An initiative by Holmes Rolston III established the International Society for Environmental Ethics (ISEE), the first newsletter of which appeared in 1990; the International Association for Environmental Philosophy (IAEP) held its inaugural conference in 1998. An important and pioneering interdisciplinary journal, *Organization and Environment*, was launched in the United States in the late 1980s, deepening academic interest in the field; it was soon followed by *Environmental Politics* (1990) and another interdisciplinary journal, *Environmental Values*, which debuted in the United Kingdom in 1992. By then dozens of postgraduate and undergraduate courses in environmental philosophy had been established at several centers in the United Kingdom, the United States, Israel, and Australia, along with several interdisciplinary-studies programs with a philosophy or ethics component. Degree programs had begun to emerge, such as the Lancaster University (U.K.) M.A. in values and the environment, announced in 1990. The launch of the journal *Ethics and the Environment* in 1996 bore further testimony to the growth and liveliness of what had by then become a new subdiscipline of philosophy and a focus of interdisciplinary research. In the following year another new journal—*Worldviews: Environment, Culture, Religion*—broadened the range of publishing opportunities in the field. With a focus on continental and comparative philosophy, the IAEP launched its journal—*Environmental Philosophy*—in 2004.



**Holmes Rolston III.** *One of the key figures in contemporary environmental ethics, Rolston's 1975 article, "Is There an Ecological Ethic?" sparked interest in the subject within academic philosophy. A long-time professor at Colorado State University, Rolston used imagined cases to prompt individuals to consider their duties toward nature.* PHOTO BY BILL COTTON. COURTESY OF HOLMES ROLSTON III.

As feminists and political and literary theorists increasingly turned their attention to environmental issues, more debates and schisms arose from the 1980s onward. Indeed, the ways in which the environment and nature have been construed in philosophical, political, and literary texts has furnished the materials for a new area of literary theory: "ecocriticism" or "ecocritique" (Meeker 1972, Buell 1995, Glotfelty and Fromm 1996, Luke 1997, Morton 2007). Although the preservation of the wilderness was the focus of many of the writings in the 1970s and 1980s, the following decades saw an increasing concern with issues such as restoration, urban environments, pollution, and resource depletion and their connections with poverty, dispossession, housing, environmental policy, social justice, economics, and sustainability (Wenz 1988, Sagoff 1990, Guha and Martinez-Allier 1997, Light 2001, Norton 2003, Shrader-Frechette 2005). In this way the burgeoning of environmental concerns helped philosophy to reconnect with and develop the concerns and speculations of scientists and other thinkers.

## **PHILOSOPHICAL CONTROVERSIES**

Since the time of the eighteenth-century German philosopher Immanuel Kant (1724–1804), nature has been a preoccupation of aesthetic theory. With the intensification of environmental concern has come a renewed interest in the question of nature's aesthetic value. This issue has spawned debates among several schools of thought: those who think that natural science can reveal aesthetic qualities (Callicott 1994, Rolston 1995), those who believe that

immersion or engagement rather than understanding is the key to aesthetic experience (Berleant 2005), and those who follow John Muir in finding positive value in that which is untouched by humans (Hargrove 1989, Carlson 1984).

By the turn of the twenty-first century, contemporary environmental philosophy had ramified into nearly all areas of philosophical, social, cultural and political theory. Meanwhile, the sciences continued to influence and be influenced by it, as shown, for example, in the fourth volume of the journal *Environmental Values*, which devoted an entire issue in 1995 to the emerging field of ecosystem health.

Discussions in environmental philosophy have imparted fresh impetus to the consideration of problems that are central to mainstream philosophy. One example is the debate over moral pluralism, pursued vigorously since the late 1980s in environmental ethics and now reemerging as a key issue in moral philosophy. One of the twentieth century's best-known moral theorists, W. D. Ross, outlined a pluralistic ethic in which various moral duties—such as keeping promises, self-improvement, and acting justly—are not reducible to any single duty or principle (Ross 1930). Ross's original argument for pluralism makes use of an intuition about “what we really think.” Even if some systematic moral theory based on a single principle or duty (or a set of such duties) were to yield satisfying answers to moral problems, Ross argues that such a system would not match “what we really think” when we engage in moral reflection. According to him, “what we really think” is that we have many different—and irreducible—sources of moral obligation.

Ever since Ross put forward the case for moral pluralism, theorists have worried that such an account of moral duties leaves us with a disparate set of duties without any internal connection among them. As D. D. Raphael put it, pluralism “does not meet the needs of a philosophical theory, which should try to show connections and should tie things up in a coherent system” (Raphael 1981, p. 55). In response to defenses of pluralism in environmental ethics by Christopher Stone (Stone 1987), Gary Varner (Varner 1991), and Andrew Brennan (Brennan 1992), Baird Callicott has argued, like Raphael, that pluralist ethics fail to provide a consistent systematization of moral decision making and can even lead to relativism and nihilism (Callicott 1990, 1994c). For Callicott an environmental ethic should be monistic—committed to a single system of values. More precisely, it should provide clear principles for action, and, in case of conflict among these, it should also provide guidance on which principle has priority over the others. Hence he argues that when, as members of the multilayered communities to which we belong, we are faced with conflicts among different interests, we should give preference to the interests of those communities (and individuals) to whom we are closely related unless some stronger interest is at stake involving communities (and individuals) at a greater emotional distance. Callicott's own proposal has been critiqued as itself involving a kind of pluralism (Domsky 2001, Lo 2001). Nonetheless, the problem remains: If there are various kinds of values, duties, and moral principles, and if these cannot be reduced to a single foundation, how are coherence and unit possible in ethical reflections?

One solution to this problem has been proposed by those environmental pragmatists who claim that the recognition of diverse and incommensurable values does not commit thinkers to a kind of “metaphysical musical chairs” (Callicott 1990) but encourages instead a “meta-philosophical environmental pragmatism” (Light 1996a, 1996b) in which theorists with different underlying metaphysical and value commitments can still reach agreement on practical policies. This form of pragmatism is not dissimilar to the practical pluralism that is explicit in the Deep Ecology platform of Naess and Sessions (as pointed out in Light 2003). As Anthony Weston and Bryan Norton have pointed out, pragmatism as a philosophical stance gives priority to practice

over theory and thereby avoids the advocacy of “top-down” solutions to practical problems (Weston 1985, 1992; Norton 1991, 2005).

The label “environmental pragmatism” does not identify a unified school of thought. Some environmental pragmatists align themselves with the tradition of philosophical pragmatism, especially the work of the American philosopher John Dewey (1859–1952) (see Taylor 1990, Minter and Manning 1999); all or most think that such pragmatism necessitates a kind of moral pluralism, although at least one theorist thinks that practical pluralism need not be tied to the tradition of philosophical pragmatism at all (Light 1996a). At the heart of many debates involving pluralism and pragmatism lies the issue of reductionism. Systematic philosophy shares with the natural sciences the goal of reducing complex phenomena to simpler ones and to explain complex situations, behaviors, and experiences in terms of a core set of relatively simple concepts or categories. Whether a reductive, systematic approach is appropriate in moral thinking remains a vexed issue, whether in environmental philosophy in particular or in moral theory in general. As Bernard Williams (1985) pointed out, in a new version of Ross's “what we really think” argument, moral reflection seems to carry with it a sense of a system or structure that underlies reasoning and moral sentiments. Yet people recognize, at the same time, that the values, principles, and duties that they consider in a given situation often fail to form a cohesive whole. In some difficult situations apparently incommensurable values seem to pull people in different directions, yielding no clear basis for preferring one over another. The addition of environmental values to earlier values that were concerned only with human beings and their relationships has led to a broadening of people's moral horizons. Whether such breadth makes theoretical reduction more or less likely is still a contested issue.

## **OTHER APPROACHES AND FUTURE DIRECTIONS**

The various schools of philosophical thought arise from diverse methodologies. The analytic or Anglo-American tradition in philosophy emphasizes conceptual clarity, logical rigor, empirical soundness, and scientific validity of arguments. By contrast, continental philosophy (so named because it arises from the work of philosophers from the European continent, most prominently France and Germany) is more critical of claims of scientific rigor (which it sometimes criticizes as “scientism”), is more open to exploring the historical and cultural context of ideas, and is more inclined to explore larger philosophical themes such as the nature of being, existence, and consciousness. Others have been inspired by the assertion of the twentieth-century French philosopher Jacques Derrida, *Il n'y a pas de hors-texte* (“There is no outside-text”); these thinkers focus primarily on the text. Many thinkers embrace more than one of these different ways of writing philosophy, so these labels are not always mutually exclusive.

It was only in the 1970s that philosophers began to rediscover and mine ideas about nature found in Rousseau, Kant, Hegel, Hölderlin, Nietzsche, Benjamin, and Heidegger; thinkers who regard themselves as belonging to the continental tradition have been at the forefront of this development (Foltz 1995; Foltz and Frodeman 2004). Some have argued for the relevance of phenomenology to environmental consciousness and the understanding of the human condition (Evernden 1985, Seamon and Mugerauer 1985, Abram 1996, Toadvine and Brown 2002). A phenomenological approach takes the subject's own awareness and experiences as the starting point for philosophical, aesthetic, and moral reflection. In many ways these approaches recapitulate themes discussed in the analytic literature. For example, does the notion of *Dasein* in the work of the twentieth-century German philosopher Martin Heidegger (1889–1976) provide the basis for an approach to what is intrinsically or inherently valuable? For Heidegger, human



beings never just exist, but rather find themselves somewhere: “*dasein*” literally means “being there.” Both human awareness and existence are bound up with being in places and so, it may be argued, what is valuable emerges from the interconnection and interaction of humans in their environment. Some writers have suggested that Heidegger's approach can open the way to an account of intrinsic value in nature (Thomson 2004), and others have explored the idea that there is support for deep ecological insights in his thought (Zimmerman 1994). The recovery, reanimation, and novel application of the work of figures such as Husserl, Merleau-Ponty, and Heidegger might seem to bring a new depth and interest to work in environmental philosophy, but there are also critics of such an approach, which, because of its emphasis on the emotional and spiritual links between humans and nature, was once described as “eco-la-la” (Bookchin 1987). Yet Bookchin's own Social Ecology—a view that combines Kropotkin-style anarchism with an ethic of environmental stewardship—seems to share some common assumptions with the theories of Foucault and Derrida, who, like Bookchin, have warned of the hidden traps of liberal democracy and have deconstructed the notions of power and sovereignty in attempting to account for the difficulties of arresting environmentally destructive behavior. Despite Bookchin's qualms, writers whose works emphasize the spiritual and poetic continue to contribute their distinctive voices to the subject (Smith 2001, Casey 1993, 1997, Malpas 1999).

Environmental philosophies often borrow their overall orientation from the author's implicit philosophical, political, and religious identifications. Interpreters of Islamic traditions, for example, echo the ideas of some followers of Deep Ecology in arguing that environmental destruction is an aspect of a wider cultural and moral corruption associated with materialism and spiritual bankruptcy (Wersal 1995). Whether conservation is a politically conservative position and what scope there is for developing “green” forms of socialism and Marxism have been hotly debated (Dobson 1995, Barry 1999). The green credentials of many religious and cultural traditions have been scrutinized (Callicott and Ames 1989, Callicott 1994b), and some thinkers have proposed that traditional medicine can provide some support for an ethics of place (Brennan 2002). There is a growing interest in comparative studies of environment, religion, and culture, a trend evidenced on two fronts: in the recent publication of a major reference work (Taylor 2005) containing numerous entries on diverse traditions and their environmental beliefs, and in a series of conferences and publications organized by the Forum on Religion and Ecology (2008). Animist and Daoist perspectives have been influential in works that argue that environmental management, development, and commerce should focus on synergy with what is already in place rather than on the demolition, replacement, and disruption that is characteristic of modernity (Mathews 2004, 2005; Harvey 2005).

The call of the wild was a major focus of the early days of environmental philosophy (see Jamieson 1984 for an exception to the trend), but increasing attention is being placed on the built environment (King 2000, Light and Wellman 2003, Fox 2007). Indeed, the questions of wilderness and its moral and aesthetic status were heavily debated in the 1990s and into the first decade of the twenty-first century (Callicott and Nelson 1998, Nelson and Callicott 2008).

The many parallels between natural and human-made things arise in discussions of fakes, restoration projects, and the value of originals (see Elliot 1997, Lo 1999). Original works of art are often sold for huge sums, reflecting their unique status. However, given modern conservation and copying techniques, it is not clear what it is about the original that makes it so valuable. Puzzles about the value of restored and copied paintings, furniture, and buildings run parallel to puzzles about restored and copied landscapes and ecosystems. As a result, restoration, preservation, and conservation have been a focus not only of conceptual puzzles but also of political disagreement, whether in the case of Angkor Wat or ancient forests (Dryzek 1997). To

## *What is Environmental Philosophy?*

restore ruined temples at Angkor Wat, archaeologists rebuilt them stone by stone and laid new concrete foundations. Controversy abounds over the authenticity of such reconstructions. Likewise, forest restoration politics can become embroiled in disagreement about whether the original species composition has been recreated and to what extent nature restoration involves a “big lie” (Katz 2003, and compare Lo 1999, Light 2003b). Likewise, although poor people are often frugal with resources and extremely good environmental managers (Martinez-Allier 2004), political divisions have arisen between those who regard poverty itself as a driver of environmental destruction and those who see extreme preservationism as a misanthropic contributor to the further displacement and impoverishment of vulnerable communities (Rolston 1996, Brennan 1998, Guha 1999). Such issues pose major questions about environmental justice: The burdens of landfills, chemical plants, and toxic dumps and the loss of environmental amenities often fall disproportionately on the poor and members of certain racial or ethnic groups. (Shrader-Frechette 2005).

Contemporary environmental problems are not simple; they involve intertwined issues of public health and social justice, attitudes to nature, and deep disagreements about matters of science, policy, rights, and ethical obligations. These complexities apply to many areas of contemporary environmental debate: drought, changing weather patterns, the loss of habitat and species, the burden of caring for environmental refugees, the effects of consumerism, and the health problems associated with various forms of pollution (Jamieson 2001). These problems ramify into clusters of interconnected puzzles that are incapable of determinate solution within the scope of any single discipline or framework and may be described as “wicked problems” (Norton 2005, Brennan 2004). In turn, although many of these issues are based on matters of fact, the interpretation of those facts can be skewed by competing scientific, social, and political theories. The resolution of such conflicts and ambiguities demands increased interdisciplinary cooperation between philosophers, political theorists, legal experts and scientists. Such a cross-departmental approach would be consistent with the contemporary trend toward making philosophy more empirical and with Bookchin's suggestion that ecology is both an integrative and a reconstructive discipline. Persistent concerns about climate change, species loss, and environmental degradation are likely to lead to a further integration of the work of thinkers in many fields, scientific and philosophical. As long as scientific facts about the environment pose ethical and philosophical quandaries for philosophers, citizens, and government officials, it is likely that new interdisciplinary research agendas will emerge.

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*What is Environmental Philosophy?*

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*What is Environmental Philosophy?*

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