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On Environmental Thought at the Turn of the Century

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REVIEWS

THE STATE OF THE NATURAL RESOURCES LITERATURE

Scott M. Davidson' on Environmental Thought at the Turn of the Century

BOOKS REVIEWED:

ANDREW DOBSON, GREEN POLITICAL THOUGHT, 3d ed. (Routledge 2000).

Fred P. Gale & R. Michael M'Gonigle, eds., Nature, Production, Power: Towards an Ecological Political Economy (Edward Elgar 2000).

JOHN MARTIN GILLROY, JUSTICE & NATURE: KANTIAN PHILOSOPHY, ENVIRONMENTAL POLICY, AND THE LAW (Georgetown University Press 2000).

NICHOLAS LOW, ed., GLOBAL ETHICS & ENVIRONMENT (Routledge 1999).

CHRIS J. MAGOC, SO GLORIOUS A LANDSCAPE: NATURE AND THE ENVIRONMENT IN AMERICAN HISTORY AND CULTURE (SE Books 2002).

RODERICK FRAZIER NASH, WILDERNESS AND THE AMERICAN MIND, (4th ed., Yale University Press 2001).

Environmental issues are said to be "issues not just of science or economics but of governance." If so, then these issues are at bottom philosophical. Since the time of Plato, the question of how we should govern ourselves cannot be asked without also asking, collectively, what kind of community we want to create and, individually, what kind of life each of us wants to live.

Recent scholarship reveals a torrent of diverging approaches to the conceptual underpinnings of environmental law and policy. From historians chronicling the evolution of our understanding and attitudes toward nature,² political scientists analyzing the political ideology behind the modern green movement,³ and philosophers exploring ways in which current ecological discourse can be enriched by a re-examination of the work of important thinkers in Western philosophy, such as Aristotle, Thomas Hobbes, and Immanuel Kant,⁴ thinkers from a variety of fields are crossing disciplinary boundaries to address the environmental implications

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of globalization and new technologies.⁵ Although their approaches are varied and their conclusions are sometimes at odds, recent environmental thought, as represented by the works reviewed in this essay, is characterized by the quest for a coherent conceptual framework within which current ecological challenges may be understood and met. This is a quintessentially philosophical endeavor.

The writing reviewed in this essay leaves the impression that there is an awareness that the environmental consequences of past (and current) practices present fundamental questions that thinkers in earlier eras did not ask. And, because theory is nothing more than an attempt to tackle practical problems conceptually, systems of thought that grew out of a different set of challenges may no longer be adequate. For instance, the differences between the right and the left that dominated political struggles in the twentieth century may not have the importance they once had, largely due to the emergence of ecological challenges. As Andrew Dobson puts it in the third edition of Green Political Thought, arguing about the "respective merits of capitalism and communism is rather like rearranging deckchairs on the Titanic."6 While there is room for debate as to the aptness of the catastrophic metaphor, it is certainly true that both of these politico-economic models subordinated (or wholly ignored) the ecological ramifications of rapid economic expansion as they subscribed to the "super-ideology" of industrialism and the belief that "human needs can only be met through the permanent expansion of the process of production and consumption."

Historical Antecedents

Recent works place contemporary environmental writing in historical context: Roderick Frazier Nash's classic, Wilderness and the American Mind, recently re-issued in a fourth edition, with a new epilogue; and Chris J. Magoc's anthology of American environmental thought, So Glorious a Landscape: Nature and the Environment in American History and Culture.

Nash chronicles the evolution of attitudes toward wilderness from the fear of a cursed land and the hostility toward untamed forest waiting to be cleared that characterized the ancient world, to a more recently acquired appreciation of the biological, aesthetic, and spiritual values of wilderness. Nash contends that for the most part these changing conceptions have nevertheless been merely variations on a theme. Although the prevailing conception of the natural world has changed markedly, particularly in the last century, a bedrock assumption has remained as a foundation: viz, that the Archimedean point is humankind. Beneath both the ancient world's fear of wilderness as a desolate wasteland and the technocrats' yearning for pristine wild places to recharge their batteries is the belief that the value of

such places is, in the end, to be measured against an anthropocentric yardstick.

In Nash's sweeping study of the idea of wilderness in Western thought originally published in 1967, and in the second and third editions (1973 and 1982, respectively), the principal arguments for setting aside wild places were at bottom anthropocentric: we need to preserve entire ecosystems in their primordial state so that we may tap them in the future for medicines; game preserves in Africa bring tourist dollars to hungry populations; national parks are uniquely capable of rejuvenating wilderness experiences for weary urban dwellers.

Chris Magoc has assembled a wonderfully rich collection of writings on the environment in So Glorious a Landscape: Nature and the Environment in American History and Culture. Native American creation myths, Thoreauvian meditations on nature, and contemporary analyses of the perils of human population growth sit side by side in this wide-ranging compendium. The juxtaposition of the full texts of the National Environmental Policy Act (1969) and the Northwest Ordinance (1787) brings into sharp relief their divergent conceptions of nature and wilderness. Well-known authors such as John Muir, Henry David Thoreau, Edward Abbey, and Aldo Leopold are represented here.

Magoc has grouped the excerpts according to theme, introducing each set of writings with an essay placing the authors and their contributions in context. The first set of writings explores the interface between European settlers and Native Americans, how they conceived of and experienced the natural world on this continent, and the ecological consequences of roughly the first century of the American republic.8 After the nature writing tradition associated with Thoreau and Muir, Magoc brings together some of the early ecological thinkers who decried environmental despoliation as much as a century before the first Earth Day. Re-tellings of well-known environmental catastrophes—the contamination at Love Canal and the destruction of the Appalachians as described by Harry M. Caudill—contrast with successful calls for preservation of scenic natural areas, such as a 1954 David Brower entreaty to set aside Dinosaur National Monument on the Utah-Colorado border. The final section consists of writings confronting contemporary environmental challenges. Magoc's collection, and the helpful interludes, placing the excerpts in context, is a valuable digest of environmental writing in the United States.

The Hegemony of the Market

If Dobson is correct that one's choice of economic system (on the left-right spectrum) is becoming less important, it is still beyond dispute that economic ideas continue to dominate environmental discourse. Public debates, for example, are frequently pitched in terms of jobs versus

environment, such as in the spotted owl controversy in the Pacific Northwest, the issue of oil production in the Arctic National Wildlife Refuge on Alaska's North Slope, or the question of what steps the United States should take to curb greenhouse gas emissions. Judging from the works reviewed here, environmental thought at this historical moment is (perhaps rightly) pre-occupied with the pernicious effect of market forces on the environment. One of the most critical theoretical tasks facing these thinkers at this time is the imperative of supplanting economic efficiency as the pervasive norm:

In addition to economic themes, ethical quandaries are central to the works reviewed here. For instance, John Martin Gillroy contends that economic efficiency is not a morally neutral concept and its hidden ethical content needs to be brought to light. Dobson analyzes in depth, and with admirable clarity, debates between those who ascribe intrinsic value to nature and those who retain an anthropocentric ethical theory. Nicholas Low's anthology presents more than a dozen papers from a conference where ethical issues were the focus.

Gillroy presents a fascinating attempt to supplant the dominant market paradigm (which rests on quasi-utilitarian ethical assumptions) with a theoretical system within which competing environmental policy options can be analyzed. According to Gillroy, the prevailing approach to questions of environmental policy in the United States is market oriented. As such, it is ethically and philosophically weak because it fails to take into account the practical necessities for individuals to lead meaningful lives and to flourish. He argues that most current environmental statutes (and judicial constructions of them) are built on philosophical sand, because they are founded on an uncritical acceptance of the maxim that some degree of environmental risk (to be borne by a relatively small portion of the populace) is acceptable to promote economic growth for the society as a whole. Gillroy argues for displacing the market paradigm from its dominance of environmental policy debates with a conception of individual autonomy based on Immanuel Kant's moral philosophy.

He contends that the overall aim of American environmental legislation—particularly as evidenced by the Clean Air Act; the Clean Water Act); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Resources Conservation and Recovery Act (RCRA); the Toxic Substances Control Act (TSCA); and the Federal Insecticide, Fungicide, and Rodenticide Act—has been, and continues to be, the protection of the market from excess regulation whenever possible. Under TSCA, for instance, chemicals are marketed first, and only later, after harmful effects surface, are the chemicals investigated for human health hazards. Gillroy contends that RCRA and CERCLA embrace efficiency as they internalize into the market's pricing mechanisms the costs of future harm that might be caused by hazardous substances. Even the Endangered

Species Act (ESA), according to Gillroy, elevates economic efficiency over the intrinsic value of nature: e.g., in the determination of critical habitat, ¹¹ in the establishment of the Endangered Species Committee, ¹² and in the allowances for economic hardship exemptions. ¹³ He acknowledges, however, that the ESA "comes the closest to representing different core values in the law." ¹⁴

Gillroy's analysis of a century and a half of American policy vis-àvis natural resources and the environment (from the westward expansion in the nineteenth century to the slate of statutes enacted roughly three decades ago) unveil the pervasive market orientation of that approach. As the Nation grew beyond the Atlantic seaboard, government action toward nature was characterized by a policy (or an ethic) of maximization: maximize the amount of timber harvested, maximize the minerals extracted, and even maximize the amount of waste disposed of in the environment. In general, the overall aim was the maximization of the use of nature in the service of American economic growth.

The role of government during this era was to make nature "available to the economic process, securing and transferring land, protecting trade, and in all ways facilitating private commerce and its technological innovations." The environment was conceived as "resource and as waste receptacle." It was assumed that there was zero cost associated with using nature as a store of resources for our extraction and as a sink for disposal of waste. Rapid advance of technology, combined with growing density of urban areas, contributed to a change of attitudes toward nature and a questioning of the assumptions implicit in the policy of maximization. Maximization was evidently not as efficient as originally believed to be. Gillroy distills the factors leading to the demise of the maximization approach:

[The] near-zero price of species, minerals and [environmental] media...combined with the unregulated advancement of technology...[to cause] the market to fail by overuse. Without the true price of resources and pollution reflected in the economic calculation of efficiency, and with the growing 18 sophistication of technology, the market did not take all the contingencies into account in its maintenance of long-term efficiency and, as a result, extracted too much from the environment and put too much back in as pollution. 19

The second era of American environmental policy, in Gillroy's analysis, arose out of the failures of the first. The equation of maximization and efficiency gradually gave way to a new approach in which *optimization* was the byword. Promotion of unbridled mining, logging, and pollution yielded to a system that purported to be a careful calibration of the optimal levels of extraction and disposal.²⁰ To compensate for market failure,

government's aim was to rectify the unforeseen consequences of the maximization of resource extraction and the virtually unlimited pollution of air, land, and water, by "set[ting] optimal rates of extraction and disposal, given the technology available and the natural contingencies of species, minerals, and media."²¹

The policy of optimization was guided by the concept of the "materials balance."²² In this conceptual model, the natural world, seen in purely instrumental terms, is a store of natural resources for economic use, and nothing more. The economy "is assumed neither to create nor to destroy nature but 'merely' to transform it."²³ The materials balance does not accord any significance to a qualitative state of a natural entity or system; nature's value lies solely in its ability to serve the goal of wealth accumulation. As Gillroy puts it, "The economy neither destroys nor creates but merely transforms: trees into lumber, tigers into coats."²⁴ Efficiency "remains the core principle of a regulated government market and the basis for the origin of environmental law," because efficiency is the foundation of natural-resource extraction law, producing "a law and policy of pollution and risk abatement as the government regulated market seeks the optimal level of contamination."²⁵

From the perspective of the policy of optimization, waste discharge "is a legitimate use of the absorption capacity of each environmental medium."26 Nature's capacity to hold and purify pollutants is measured against the demands of wealth maximization: "the trick is to minimize the costs of pollution control to the economy by allowing the maximum amount of pollution possible, while abating just enough so as not to exceed the tolerances of [environmental] media as storage and purification devices."27 The policies of maximization and optimization assume a division of nature into "distinct media, each with a capacity, not for function, but for waste assimilation at minimal (zero) cost."28 Gillroy argues that the division of environmental regulation according to environmental media, e.g., air pollution is regulated under the Clean Air Act while water pollution has its own separate statutory framework, the Clean Water Act, 29 is an outgrowth of the market paradigm, and that environmental policy's "piecemeal approach to the conceptualization of nature" is grounded in an economic viewpoint.30

Defining pollution as an externality, i.e., as "a social cost imposed by market processes but not priced within the market system," places nature "into an economic context where its instrumental value is emphasized." When the modern era of environmental legislation came into being three decades ago, it was not "that a concern for ecology became competitive with, or dominant to, economic ends, but that non-optimal release of pollution had degraded environmental quality and made nature of less use to human communities. Legislation and subsequent regulations have been aimed, not at the protection of the environment, but at the long-

term protection of an efficient materials balance that provides for our longterm economic growth."³³ According to Gillroy, although the rhetoric of environmental protection pays lip service to ecocentrism, "environmental values do not determine policy. The economy's health continues as the major focus of environmental regulation; not a single environmental law places natural systems first."³⁴

Gillroy examines the unique regulatory problems arising from environmental risk, as compared with traditional pollution. Traditional pollution is typically noticeable to the untrained eve (discolored streams, smog, foul-smelling chemicals dumped on the ground), and the mechanisms of generation, transmission, and response are understood by science. But in the case of environmental risk, these mechanisms are poorly understood, and even the trained professional is unable to detect the presence of radiological emissions, the effects of genetic experimentation, or the extent of recently-invented toxic chemicals in groundwater.³⁵ In addition, with traditional pollutants, the risks are often relatively easy to measure and the effects are incremental; a greater quantity of a given pollutant is generally correlated with a quantifiable increase in the deleterious effects. But the potential synergistic effects of mixing new toxins, and the relatively unknown nature of the risk associated with such chemicals, make environmental risk much harder to manage, because the risks are at once "clandestine and cumulative" in contrast to traditional pollution's obvious and incremental nature.³⁶ Furthermore, with environmental risk there is a radical asymmetry between the costs of worst case scenarios and the benefits: large-scale radioactive contamination as compared to nuclear energy production; atmospheric release of the most virulent toxins versus the benefits of synthetic chemicals. Finally, in part because our objective, scientific understanding of these risks is so poor, we are left to weigh the risks associated with these newer technologies subjectively, and such risks are given a low subjective probability. 37 "The reality of low (near zero) subjective probabilities of infinitely harmful costs label environmental risk as a zero-infinity problem."38

Of interest from the perspective of distributive justice is the fact that the gamble involved in environmental risk "is being imposed upon the general population while the economic benefits are limited to those with market access or control of the technology and products involved." And the risk is collective: "Unlike private market transactions, which affect principally those involved in the exchange, environmental-risk transactions affect wide populations of people with or without their knowledge or consent." The collective nature of risk, with its stealth quality, produces situations where one may be affected by a toxin generated by other persons, miles away, without one's knowledge and not know it until ten or twenty years later when health effects surface." The effects of environmental risk are not privately irreversible, "like consuming a hamburger, but collectively

irreversible. One individual or firm may impose an irreversible stealth harm on the community that may not become evident for years or generations."42

Gillroy's point is that the market paradigm's focus on cost-benefit calculations is ill equipped to guide policy involving environmental risk.⁴³ What is at stake, at least potentially, is more than just economic cost, but, argues Gillroy, the capacity to think for oneself, to act autonomously in the world, to have voluntary purposeful action, and to order one's preferences.⁴⁴ This is so because our "ability to think and process information" is made dependent on natural phenomena of which we are increasingly ignorant.⁴⁵

[H]arm should be distinguished from cost as that result of environmental risk that negatively affects the intrinsic capacities of human or natural systems....In effect, costs and benefits cease to be positive and negative sides of the same coin: prevention of harm due to its effects on essential value has priority over provision of a benefit in welfare terms....Harm to moral or functional integrity is essential; it is separate and more important than cost to the economy or to any individual in the market and is therefore not subsumed in the efficient maximization of wealth nor in instrumental preferences for welfare improvements....The capacity for human agency and the capacity for the natural environment to functionally persist should provide the core concerns of environmental-risk policy. These are basic, necessary, and comprehensive concepts of intrinsic value in that they have to do with the internal integrity of living and evolving organic, and, in the case of the human individual, moral capacities. Respecting essential freedom within the context of environmental risk necessitates that the central authority anticipate free riders and regulate their behavior so that constituent capacities are protected and empowered before economic externalities can harm them. Anticipatory regulation of economic market behavior through an active state requires a justification scheme that transcends preference, consent, and 'willingness to pay' as a basis for policy choice.46

Gillroy analyzes the ethical foundations of a cost-benefit criterion and finds it to be grounded "on the basis of one's voluntary consent, where one's autonomy, or freedom of choice, is the foundational moral ideal." While the market operates on the assumption that individuals are self-sufficient and market transactions are sanctioned on the basis of voluntary consent, the question arises whether the market's idea of an autonomous trader can be "transferred into the realm of public environmental choice, which requires that we adequately represent at least human intrinsic value." Gillroy argues that the market's foundational assumptions do

violence to individual autonomy. For instance, a policy founded on the assumption that all wealth-maximizing allocations of resources gain the consent of all consumers who benefit actually takes sovereignty away from the individual.⁴⁹ This is because, at least in part, "nonwealth-based choices are an important moral dimension of autonomy" that policy makers must take into account.⁵⁰ The problem for the market paradigm is that it cannot properly take this important aspect into consideration because it aggregates individual interests into public policy based on the assumption that individuals "are self-sufficient and free to trade."⁵¹

One of the primary weaknesses of cost-benefit analysis as a policy-making guide, according to Gillroy, is that it is "based on a definition of autonomy that is antithetical to centralized regulation. Cost-benefit methods empower the policy-maker only insofar as she protects and mimics market allocations. In addition, the public administrator's decision is not based upon real consumer choice but upon assumed metaphysical connections between welfare and consent that are then imputed to all social valuations." The market reduces the individual to nothing more than a "rational maximizer of personal welfare" and thereby implicitly equates reason with desire satisfaction; in this model, it is irrational to refrain from maximizing the satisfaction of one's desires. 53

If one can reason practically, recognize one's intrinsic value as an autonomous moral agent, and judge when desire ought to play a role in decision making and when it ought not, then one may be said to have noninstrumental value and a complex sense of self. This dualistic mind, with both ethical and nonethical properties, is beyond the scope of the market paradigm and cost-benefit methods, which prescribe policy only for one-dimensional humans.⁵⁴

As an illustration of the inadequacy of the market paradigm, Gillroy compares an individual's preference for cocaine to a preference for water:

Both are commodities, with consumer markets where preferences are fulfilled, making the recipient more satisfied than in his initial condition, thereby rendering a net benefit to him. That the former may impede one's capacity to think and act for one's self, whereas the latter may enhance those same capacities has no effect on market assumptions that support one's willingness to pay for cocaine and would proclaim either choice as autonomous.⁵⁵

The market paradigm, argues Gillroy, "has established environmental metapolicy, codified in statute[s] and reinforced by the courts....If environmental law, as its exists, is ineffective and unfair, displacing pollution from air and water to land rather than eliminating it, and suffers

from a piecemeal approach by the division of nature into sectors for use, it is precisely because of the core status of the principle of efficiency in creating that law and policy which we now perceive is inadequate."⁵⁶

Ethical Foundations

Dobson distinguishes environmentalism from a political ideology he calls "ecologism." Environmentalism is characterized by the idea that we can solve environmental problems by rationalizing current processes and incorporating new scientific and technological advances, while leaving basic practices, institutions, and attitudes largely untouched. Ecologism embraces the notion that our current ecological crisis mandates fundamental changes in the way we interact with nature. Ecologism is not comfortable with environmentalism's incrementalism and its eagerness to work within existing frameworks. Dobson illustrates the difference thusly: "the Queen of England does not suddenly become a political ecologist by having her fleet of limousines converted to lead-free petrol." 57

Ecologists believe in the limits of growth and a questioning of strong anthropocentrism. Ecologism is "a challenge to the political, social and scientific consensus that has dominated the last two or three hundred years of public life." It "seeks to decentre the human being, to question mechanistic science and its technological consequences, to refuse to believe that the world was made for human beings," and it questions "whether dominant post-industrialism's project of material affluence is either desirable or sustainable." This is quite different from "an environmentalism that seeks a cleaner service economy sustained by clean technology and producing cleaner affluence."

While many would consider environmentalism and ecologism to be moderate and radical strains of the same general Earth-friendly perspective, Dobson, interestingly, argues that environmentalism is more compatible with the political ideologies of liberalism, socialism, and feminism than it is with ecologism. The intellectual starting-point for ecologism is the Earth itself, considered as a physical object. The Earth's finitude is the "basic reason why infinite population and economic growth are impossible and why, consequently, profound changes in our social and political behavior need to take place." What emerges from Dobson's carefully reasoned and thoroughly researched study is an appreciation for the political-theoretical foundations of the green movement as it has surfaced in the last several decades in a multitude of Western democracies.

In the epilogue of the fourth edition of Wilderness and the American Mind, Nash makes a case for an ethic of wilderness protection that asks not how to protect wild places for our purposes; instead, he presents a case for preserving wilderness for its own purposes: "Wilderness is not for us at all. We should allow it to exist out of respect for the intrinsic values of the rest

of nature and particularly for the life forms dependent on wild habitats."⁶⁵ Nash's articulation of an ecocentric rationale for wilderness preservation is here only a sketch—more a gesture toward a rationale than a trenchant analysis of the idea. Readers searching for such an analysis are better off consulting his 1989 work, *The Rights of Nature: A History of Environmental Ethics*, ⁶⁶ where developments in and debates among the competing schools of thought are surveyed and explicated in some detail. The intrinsic-value thesis is also explored cogently in Dobson's *Green Political Thought*.

Probably the most interesting idea in Nash's new epilogue is his vision for our planet's future, which he calls "Island Civilization." The basic idea is to harness technology to reduce our "footprint," leaving large areas of Earth free of human scarring. The developed world Nash imagines would be more like "Greek city-states, medieval monasteries, [and] pueblos of the Southwest" than "New York housing projects." He calls it "clustering on a planetary scale—building in rather than building out, controlling civilization instead of wilderness." Underlying this model for our future "is an expanded environmental ethic that functions as a restraint on human freedom in regard to nature, just as our present social ethic limits our relationships with other people." Nash dreams of a time when "the unconditioned ownership and abuse of nature" is as unacceptable as slavery is today. The recent amendment of pet ordinances in a number of American cities to substitute pet "guardian" for pet "owner" may be an indication that popular attitudes are moving in this direction.

Although the "Island Civilization" is an intriguing notion and a worthy candidate as a guide for global development policy, Nash's epilogue only modestly adds to his classic study. The chief value of this fourth edition is Nash's timeless account of the milestones of American wilderness preservation—from the colossal failures at Hetch Hetchy and Glen Canyon to the spectacular successes in the Adirondacks and Yellowstone—and his tracing of wilderness as a human construct from the ancient world to the present.

Ecologism raises fundamental questions about how we live our daily lives, how our social institutions are structured, how our economy is structured, and how our politics are conducted. It reminds us that how we get around town, how we get to work, what we buy, and how we entertain ourselves have profound ecological consequences. When ecologists point towards a society in which human fulfillment is richer and more rewarding and, at the same time, argue that permanent economic growth cannot be sustained, they are challenging not just our economics and our politics, but also our conception of what it means to be successful, what makes life valuable. As long as success is measured by the great majority of society as being synonymous with wealth, a highly consumptive and extractive economy will continue to flourish.

Environmental Justice

The environmental justice movement, with its focus on protecting people, is quite different from the traditional environmental preservation movement. The environmental movement from roughly the late nineteenth century to the 1980s or so has heavily, though not exclusively, emphasized the protection of remote, wild places, through efforts to protect species endangered by extinction, rivers threatened by dams, roadless areas, and so forth. With its focus on beautiful scenery in far away places, many of which are set aside for recreation and appreciation by those who can afford to visit them, the traditional environmental movement has been largely a club for the privileged.

The environmental justice movement, by contrast, is primarily concerned with protecting people from the harmful effects of toxic pollutants released by industrial development where people live, work, and play. For a variety of reasons—zoning, housing patterns, access to power, economic clout, latent bigotry, etc.—the locations for industrial activities that release toxic pollutants into the water, land, and air tend to be overwhelmingly nearer to where poor non-Anglo populations live, work, and play than to where wealthy Anglo populations live, work, and play. Thus, the environmental justice movement is more about the distribution of harmful industrial activities and its relative impacts on differently-situated human populations than about protecting obscure animal species whose habitat has been reduced, or protecting a far-away scenic place from construction of a road.

The primary threads joining these two movements are opposition to unbridled economic development. More fundamentally, though, the bridge between these two aspects of the environmental movement is a philosophical idea that is at the core of ecologism as well. It is the recognition that the marketplace does not always take into account the ethical value that is destroyed by pollution or reckless development. When human activity destroys or degrades the habitat for human and non-human species in the name of human progress, the true cost is not accounted for within the terms of the market. In other words, the environmental movement and the environmental justice movement share the belief that the natural world is priceless.

ENDNOTES

- 1. RICHARD N.L. ANDREWS, MANAGING THE ENVIRONMENT, MANAGING OURSELVES: A HISTORY OF AMERICAN ENVIRONMENTAL POLICY (1999).
- 2. RODERICK FRAZIER NASH, WILDERNESS AND THE AMERICAN MIND (2001); CHRIS J. MAGOC, SO GLORIOUS A LANDSCAPE: NATURE AND THE ENVIRONMENT IN AMERICAN HISTORY AND CULTURE (2002).

- 3. Andrew Dobson, Green Political Thought (2000).
- 4. JOHN MARTIN GILLROY, JUSTICE & NATURE: KANTIAN PHILOSOPHY, ENVIRONMENTAL POLICY, AND THE LAW (2000).
- 5. GLOBAL ETHICS & ENVIRONMENT (Nicholas, Low ed., 1999); NATURE, PRODUCTION, POWER: TOWARDS AN ECOLOGICAL POLITICAL ECONOMY (Fred P. Gale & R. Michael M'Gonigle eds., 2000).
 - 6. DOBSON, supra note 3, at 27.
 - 7. Id.
 - 8. MAGOC, supra note 2, at 1-50.
 - 9. GILLROY, supra note 4, at 106.
 - 10. Id. at 100-01.
 - 11. 16 U.S.C. § 1533.
 - 12. 16 U.S.C. § 1536.
 - 13. 16 U.S.C. § 1539.
 - 14. GILLROY, supra note 4, at 108, n.3.
 - 15. Id. at 83.
 - 16. Id. at 81.
 - 17. Id. at 82.
 - 18. Id. at 83.
- 19. Id. (citing Larry E. Ruff, The Economic Common Sense of Pollution, in ECONOMICS OF THE ENVIRONMENT: SELECTED READING 41-58 (Robert Dorfman & Nancy S. Dorfman eds., 2d ed. 1977)).
 - 20. GILLROY, supra note 4, at 83. See also Gifford Pinchot, BREAKING NEW GROUND (1947).
 - 21. GILLROY, supra note 4, at 83.
- 22. Id. (citing EDWIN S. MILLS & PHILIP E. GRAVES, THE ECONOMICS OF ENVIRONMENTAL EQUALITY 8-18 (2d ed. 1986)).
 - 23. Id. at 84 (quoting MILLS & GRAVES, supra note 22, at 8).
 - 24. Id. at 85.
 - 25. Id.
 - 26. Id. (citing MILLS & GRAVES, supra note 22, at 19).
- 27. Id. (citing Anthony C. Fisher, Resources and Environmental Economics (1981), and Kenneth M. Stokes, Man and the Biosphere: Toward a Coevolutionary Political Economy (1994)).
 - 28. GILLROY, supra note 4, at 86.
 - 29. Id. at 87.
 - 30. Id.
 - 31. Id. at 86 (citing A.C. PIGOU, THE ECONOMICS OF WELFARE 183 (1932)).
 - 32. Id.
 - 33. Id. at 87.
 - 34. Id. at 88.
 - 35. Id. at 45.
 - 36. Id.
 - 37. Id. at 46.
 - 38. Id.
 - 39. Id.
 - 40. Id.
 - 41. Id. at 47.
- 42. Id. Often, hazards are only recognized long after the firm that caused them has gone out of business, making tort remedies more difficult.
 - 43. Id. at 50-51.
 - 44. Id. at 51.
 - 45. Id.

- 46. Id. at 52.
- 47. Id. at 55.
- 48. Id. at 56.
- 49. Id. at 60.
- 50. Id.
- 51. Id. at 58.
- 52. Id. at 63.
- 53. Id. at 64.
- 54. Id. at 64-65.
- 55. Id. at 65.
- 56. Id. at 107.
- 57. DOBSON, supra note 3, at 2.
- 58. Id. at 3.
- 59. Id. at 9.
- 60. Id. at 11.
- 61. Id.
- 62. Id.
- 63. Id. at 13.
- 64. Id. at 15.
- 65. NASH, supra note 2, at 388.
- 66. RODERICK FREDERICK NASH, THE RIGHTS OF NATURE: A HISTORY OF ENVIRONMENTAL ETHICS (1989).
 - 67. NASH, supra note 2, at 381.
- 68. Id. at 381-85. As Nash acknowledges, this idea and variations on it resonate in the works of contemporaries such as naturalist Dave Foreman, biologist Michael Soulé, and others.
 - 69. Id. at 382.
 - 70. Id.
 - 71. Id. at 383.
 - 72. Id.