From Aldo Leopold to the Wildlands Project: The Ethics of Integrity

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Aldo Leopold's influence on environmental ethics cannot be overstated. I return to Leopold's work in order to show the connection between the ethics of integrity and many of the points made by Leopold in his writings. I also show how the spirit of Leopold's land ethic and his love and respect for wilderness is present and current in the Wildlands Project, and that it is a live part of public policy in North America, albeit a debated one.

LEOPOLD'S LAND ETHIC AND MORAL THEORY

Eugene Hargrove has remarked that "Aldo Leopold's 'Land Ethic' is the single most important piece of writing on environmental ethics by a non-philosopher."[1] Yet, although most environmentalists, philosophers and even bureaucrats compiling regulatory documents have been citing Leopold or referring to him for many years, not many have discussed the land ethic in detail, or based their environmental philosophy on Leopold's main prescriptive claim: "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."[2]

The first concept Leopold adduces as a benchmark of the rightness of actions—that is, "integrity" and its preservation—has been adopted as a focal point of legislation at least since 1972, and its use has accelerated and multiplied in later years.[3] The preeminent placement of integrity in Leopold's norm, combined with its adoption by governments and institutions in the international community, has moved me to devote most of my work to the study of that foundational notion, and to raise questions about its meaning, its significance, and role in

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[1] Eugene C. Hargrove, personal communication.

[2] Aldo Leopold, *A Sand County Almanac and Sketches Here and There* (New York: Oxford University Press, 1949), pp. 224–25.

[3] Westra, *An Environmental Proposal for Ethics*, pp. 23–24.

natural systems, and its corresponding function in environmental ethics.[4] At this time, I want to show the connection between Leopold's maxim, the ethics of integrity, and the conservation-oriented public policy that implements conservation measures through the Wildlands Project.

Several points emerge from that research: first of all, interdisciplinary work has shown that integrity is indeed a scientific notion, a factual one, as one would expect from Leopold, rather than a metaphysical one; hence, a substantive definition must be based on dialogue with biologists and ecologists in order to understand integrity as Leopold did. We also need to start with integrity, as Leopold does, in order to ensure that the original moral message is preserved as we seek to argue philosophically for a true ethics of integrity. After examining the meaning of the concept in detail, and after exploring its scientific implications, the next step is to consider what consequences might follow once we truly understand not only ecological integrity, but also what a maxim supporting its ethical primacy might entail. In other words, if—following Leopold—we define moral action first and foremost from the standpoint of its possible effect on ecological integrity, then our ethical stance will be holistic in a radical sense.

In order to preserve Leopold's position as fully as possible for a philosophically defensible moral theory, the defining characteristics of integrity must inform the specific prescriptions that comprise the "ethics of integrity." [5] Hence, the first principle (the principle of integrity) is the injunction to acknowledge our community with all life and natural systems and to act in a way that does not affect adversely nature and natural processes. The second-order principles that follow from the principle of integrity must incorporate integrity's characteristics of complexity and total interdependence with all life and must be governed by the precautionary principle that is mandatory in the face of scientific uncertainty. These aspects of the natural whole, whose primacy we must respect, do not automatically become moral norms, but they provide the basis and the limits within which our ethical approach can be firmly grounded in actual systemic functioning, rather than remain simply a logical exercise. Hence, the principle of integrity is the injunction to acknowledge our community with all life and all natural systems, and to act in a way that does not affect nature adversely. But the principle is too general and vague as it stands: hence, it seems useful to design a bridge between a purely theoretical principle and the second-order principles required to render it operational. Integrity's definition[6] includes complexity and acknowledges our interdependence with all life. The second-

[4] Ibid.; Laura Westra, "Ecosystem Integrity and Sustainability: The Foundational Value of the Wild," in Laura Westra and John Lemons, eds., *Perspectives on Ecological Integrity* (Dordrecht: Kluwer Academic Publishers, 1995), pp. 12–33; Westra, *Living in Integrity*.

[5] Westra, *Living in Integrity*.

[6] Westra, *An Environmental Proposal for Ethics*.

order principles must reflect this complexity and interdependence. The first three have this role:

SOP 1 In order to protect and defend ecological integrity, we must start by designing policies that embrace complexity.
SOP 2 We should not engage in activities that are potentially harmful to natural systems and to life in general. Judgements about potential harms should be based on the approach of post normal science.
SOP 3 Human activities ought to be limited by the requirements of the precautionary principle.[7]

The land ethic is more than a vague inspiration. It becomes an integral part of an environmental ethic; in fact, it is viewed as foundational for ethics as such. Leopold's primary concept is analyzed, discussed, and taken as seminal in the ethics of integrity, so that "living in integrity" becomes a fully articulated and defended moral goal.[8] The spirit as well as the letter of Leopold's holism is also preserved, because consideration for the whole comes first in integrity, as applied to largely undiminished and unmanipulated natural systems rather than as added on to human or even individual animal moral considerations, as is the case in extensionist ethics.[9]

In contrast, much has been made of Leopold's reliance on Darwin, primarily in order to argue from the viewpoint of communitarian "moral sentiments" based on the philosophy of Hume and Smith.[10] However, Leopold's references to Darwin in the land ethic are primarily to his science; Darwin's insights are used in support of the interconnectedness that provides the main reason to abandon purely anthropocentric and economic determinations of value.[11] Further, the interrelations among all components of "the land" indicate beyond a doubt that the "community" to which Leopold refers explicitly is the all-inclusive "biotic community" and that "whole" is where we belong first. The integrity of that whole, therefore, is and must be the first concern of an ethic for Leopold and for his followers. This is a holistic ethic, holistic "with a vengeance" as Callicott puts it.[12] But if we start with a purely human community (as Hume and Smith do) and then attempt to "extend" it, Leopold's holism appears to be severely compromised.[13]

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[7] Westra, *Living in Integrity,* p. 28.

[8] Ibid., pp. 91–96.

[9] Christopher Stone, "Moral Pluralism and the Course of Environmental Ethics," *Environmental Ethics* 10 (1988): 139–54.

[10] J.Baird Callicott, "The Conceptual Foundations of the Land Ethic," in *In Defense of the Land Ethic* (Albany: State University of New York Press, 1989), pp. 75–100.

[11] Leopold, *Sand County Almanac,* p. 210.

[12] Callicott, "Conceptual Foundations," p. 84.

[13] Burgu Gurkan, "The Land Ethics: Holistic or Not?" (paper presented at the University of Windsor, Windsor, Ontario, April 1998).

Community is indeed a pivotal notion in Leopold's work, and I believe it is intended in the scientific sense of the concept. Its core meaning in Leopold is nonanthropocentric, as the *biotic* community is the central concept he uses. To be sure, it is also clear in Leopold's work that we, too, belong to that same community. The paradox is that if we start with the moral community, then the foundational concept would be a purely human-centered one, contrary to Leopold's spirit in the land ethic. In addition, his project would remain an extensionist one, rather that a holistic one, even though our final goal is respect and love for the whole.

The ethics of integrity starts with the whole instead, so that Leopold's insight is understood and preserved, as is the function of Leopold's maxim in promoting a radically new moral perspective.

INTEGRITY AND THE FACTUAL BASIS OF ETHICS

Are the concepts underlying the ethics of integrity truly compatible with, or even derived from Leopold's work? Also, how does a holistic ethic fit within the history of ethics? We can start with reasons why it is necessary to seek a holistic ethic when we are concerned with environmental issues. Most traditional ethics do not permit consideration for more than one major factual component, and that is, for most, a human trait or characteristic. We need to transcend the twin barriers of speciesism and individualism in order to reach public policy decisions that are based on a sound ethic, as they reflect objectively the complexity and interconnectedness of natural organisms and natural systems.[14] From this starting point, we can consider the role of life-support systems, and the consequences (and principles) that follow upon taking seriously that role and those consequences.

In order to appreciate just how important and how radical is the thought of Leopold to the history of moral theory, we need to understand his predecessors' position on the question of the interface between facts and obligations. Without going back to antiquity, although I have argued that virtue ethics are the most compatible with the principle of integrity,[15] other major moral theories are based on factual realities of our existence.

If we trace briefly the history of ethics in recent times, say from the eighteenth to the twentieth century, we note that some of the major figures we study today (Bentham, Mill, Kant, and—more recently—John Rawls), we find that all theories depend upon at least *one* factual/natural characteristic of human beings, and from that starting point, move to construct the moral principles for which they argue. *Pace* Hume, unless human (and many nonhuman animals) were capable of feeling pain and pleasure, a fact, Bentham's "ought" would have no basis.

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[14] Westra, *Living in Integrity,* pp. 211–44.
[15] Ibid., pp. 149–56.

A similar case can be made for the work of John Stuart Mill and again for Immanuel Kant, whose categorical imperatives prescribe universalized and reciprocal respect for the dignity of autonomous humans. Dignity and autonomy are grounded in the presence of rationality and the capacity to exercise our free will, and both of these abilities are unique to humankind, according to Kant. Finally, Rawls' principles, required to establish fairness and justice in society, are also based on discourse among rational contractors. The capacity to enter into this discourse also requires rationality, a human factual characteristic.

In sum, Jeremy Bentham (1784–1832) and John Stuart Mill (1806–1873) based their theories on a factual reality, a human characteristic: the capacity to feel pleasure and pain. For Bentham, these capacities extend beyond the species barrier to nonhuman animals. For Mill, the standard remains that of human individuals and aggregates. For Kant (1724–1804), reason and free will are present in humans and they are the real characteristics that guarantee human dignity and worth. Rawls, a living philosopher, joins their number in taking a human factual characteristic, the presence of reason, as foundational for the contractors' discourse that provides a foundation for justice.

All these approaches then depend and are based on a *single* factual characteristic, whose presence is acknowledged and taken as a given, rather than argued for. But when we come to the work of Aldo Leopold, we discover that his main maxim, "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,"[16] appeals to a whole as the object of moral action, rather than to a single component of that whole or—even less—to a single characteristic of any individual.

One might argue that underlying Leopold's position, there is something that is unique and general enough to guarantee the value of individuals and processes, as well as the whole of which they are components; there is the biotic connectedness Leopold emphasizes, that is, the presence of life. I have argued from this point of view because I believe that the reconnection between anthropocentrism and non-anthropocentrism is only possible at the most basic level, the value of life, intrinsic as it is to individuals, aggregates and wholes (although the latter encompass abiotic components as well).

With the arrival of Leopold on the scene with regard to ethics and of public policy, we have a new approach that is not flawed, as some would argue, by its reliance on the "naturalistic fallacy." We have instead a radically new approach, one that is based on a wider, actual reality, and one that recognizes the primacy of natural wholes, in line with the new science of ecology. In addition, the insights of conservation biology, complex systems theory, and even environmental epidemiology are compatible with Leopold's principle, as they indicate clearly that both moral theory and public policy must be integrative

[16] Leopold, *Sand County Almanac,* pp. 224–25.

rather than reductionist; holistic rather than individualistic or aggregative; and, most of all, fundamentally nonanthropocentric, as they must recognize the value of *all* life, human and nonhuman.

Based on this point of view, the ethics of integrity purposes a first "principle of integrity" and a series of eight second-order principles intended to clarify, apply and implement the principle of integrity.[17] These principles do not simply employ a deductive argument starting from "what is" to prescribe "what ought to be." The principles acknowledge that, as "ought" indeed implies "can," moral prescriptions must incorporate the actual conditions and circumstances that render both first-order principles and second-order derived prescriptions consonant with reality.

For instance, we might say, on utilitarian grounds, that because human beings can and do feel pain, it is morally wrong to cause them pain-producing harms. We should add yet another specific natural fact or law, that is, the law of gravity, as applied to dropping heavy objects from above on innocent citizens. We can therefore conclude that because of *two* actual facts (one, the capacity of humans to feel pain; two, the law of gravity as it applies to heavy objects and their earthbound trajectories), it is morally wrong to drop bricks from my window on those who might pass below, as it would harm them.

The addition of a holistic perspective to this procedure ensures the inclusion of all life, sentient or not (as the latter also participates in providing natural services in support of all life, as object of our concern not to inflict harm). This approach, in addition, does justice to the mutualism and the interdependencies present in all nature as facts and laws that will inform our decisions about what kind of interference with natural systems would or would not inflict a harm (such as diminished integrity) upon the wholes under consideration.

In this way, the discourse and the argument are radically different as they necessarily include an ongoing dialogue with scientists who can research and update the true meaning of "harm" as well as that of "interference."

Public policy then should not depend on bureaucrats or politicians, let alone on the interests and biases of transnational corporations. A dialogue between ethicists and scientists, as envisioned by both post-normal science,[18] and by the precautionary principle,[19] will be required to characterize the true impact of our interference, hence, to suggest the limits required for all our activities. Such a dialogue will help us to understand and explain what constitutes a "harm," and to whom or to what such harms will apply. These procedures ensure that the

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[17] Westra, *An Environmental Proposal for Ethics;* Westra, *Living in Integrity*.

[18] Silvio Funtowicz and Jerome Ravetz, "Science for the Post-Normal Age," in Westra and Lemons, *Perspectives on Ecological Integrity*, pp. 146–61.

[19] Donald A. Brown, "The Role of Law in Sustainable Development and Environmental Protection Decision-making," in John Lemons and Donald A. Brown, eds., *Sustainable Development: Science, Ethics and Public Policy* (Dordrecht, The Netherlands: Kluwer Academic Press, 1995), pp. 64–76.

principles used will be radically integrative and holistic. As a consequence, the role of moral philosophers will be radically altered as well, as their contributions must also be integrated within scientific discourse in a way that will enrich both science and morality.

THE LAND ETHIC AND THE ETHICS OF INTEGRITY

Although Leopold's main maxim and general intent are clearly normative, he did not write a philosophical or ethical treatise. His writing, however, is both inspirational and capable of supporting a holistic argument for environmental ethics. In this section, I relate Leopold's words to parts of the argument I have proposed in support of the ethics of integrity, both the principle of integrity and the later, second-order principles intended to spell out the application of the principle of integrity to policy issues. In his story about the "Bur Oak," Leopold writes: "Thus he who owns a veteran bur oak owns more than a tree. He owns a historical library and a reserved seat in the theatre of evolution."[20]

Compare this remark with the collaborative definition of integrity developed in 1994:

> Biodiversity contributes to integrity . . . through biodiversity's dimension as purveyor and locus of both relational information and communications of which existing populations and ecosystems manifest and embody only small proportion. We can only theorize about the immense capacities for diverse qualitative interactions among individuals and species, which are not presently existing and knowable.[21]

The tree of which Leopold speaks incorporates past and present while also entailing a future that may not be clear at this time. Past possibilities and interactions as well as future potential developments are in a sense present, though they are not visible, and perhaps not even knowable.

The same point is made by Leopold in "Marshland Elegy": "When we hear [the crane's] call, we hear no mere bird. We hear the trumpet in the orchestra of evolution."[22] "And so they live and have their being—these cranes—not in the constricted present, but in the wider reaches of evolutionary time."[23]

The continuation of the definition of integrity, above, emphasizes the same point: natural, wild areas are intrinsically valuable because of their role in the system's evolutionary path, and because of the latter's function of life support. Each system's unique history is both embodied within it and part of its history

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[20] Leopold, "Bur Oak," in *Sand County Almanac,* p. 30.
[21] Westra, *An Environmental Proposal for Ethics,* p. 25.
[22] Leopold, *Sand County Almanac,* p. 96.
[23] Ibid., pp. 96–97.

and its history-in-the-making, when it is left unmanipulated. This evolutionary history, as Callicott notes, is only preserved and sustained in areas of integrity or in "biodiversity reserves in which human inhabitation is severely restricted."[24]

In the "Ethical Sequence," Leopold appeals to ethics from biblical times: "Individual thinkers since the days of Ezekiel and Isaiah have asserted that the despoliation of land is not only inexpedient but wrong."[25] Similarly, the principle of integrity takes the knowledge of the function of natural systems that we now possess, and acknowledges the moral dimensions implicit in the disruption of that function, as it represents an attack on the life-sustaining habitat of human and nonhuman life within the systems, but also far removed from its immediate location.[26] Leopold emphasizes the fact that even in remote times, the relation between human kind and nature was implicitly, if not explicitly, a moral one. Hence, the ethics of integrity starts from the premise that our moral obligation must consider our life-support systems first, on the assumption that life itself has priority over any other good, under most circumstances, a position implicit within most traditional moral theories. According to Leopold, "An ethic may be regarded as a mode of guidance for meeting ecological situations so new or intricate, or involving such delayed reactions, that the path of social expedience is not discernible to the average individual."[27] Leopold's strategy is a two-part one: even if "expedience" or practical considerations are our only or our main concern, the natural complexities that we face force us to acknowledge the *real* basis for our chronic uncertainties. In addition, it is precisely the scientific realities of natural systems that ensure the failure of purely economic considerations, when sustainability is the issue. Hence, his insistence on the intrinsic value of natural systems processes and nonhuman life can be combined with the quest for the true, basic good of humans: the sustainability of life. Leopold may have believed, erroneously, that "stability" represents the highest desideratum and that integrity guarantees its presence. Today we can say that integrity guarantees sustainability instead. With this alteration, whatever may be dated science in Leopold's approach is modified while still maintaining the primacy of integrity he emphasizes.[28]

Leopold points out the weakness of purely economic valuations based on anthropocentrism, and the ethics of integrity adopts his message as they proscribe all activities that are potentially harmful to natural systems and all life. By making use of the precautionary principle, the primacy of integrity when accepted, tends to avoid all activities that foster the quick implementation and production of

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[24] J. Baird Callicott, *The Land Ethic Revisited* (Albany: State University of New York Press, 1999), p. 367.

[25] Leopold, *Sand County Almanac,* p. 203.

[26] Westra, *Living in Integrity,* chap. 3.

[27] Leopold, *Sand County Almanac,* p. 203.

[28] Ibid., p. 210.

untried technologies. The second-order principles designed to render integrity operative make explicit much that is implicit in Leopold's work:

SOP 3 Human activities ought to be limited by the requirements of the precautionary principle.[29]

SOP 4 We must accept the "ecological worldview" and thus reject our present "expansionist worldview" and reduce our "ecological footprint."[30]

SOP 5 It is imperative to eliminate many of our present practices and choices, as well as the current emphasis of "technological maximality" and on environmentally hazardous and wasteful human rights.[31]

Leopold does not enumerate prescriptions or list principles except for his famous definition of what defines "the right thing to do" and its opposite, but his lesson can be learned and heard clearly in much that he says:

> Evolutionary changes, however, are usually slow and local. Man's invention of tools has enabled him to make changes of unprecedented violence, rapidity and scope. . . .[32]

> Land-use ethics are still governed wholly by economic self-interest, just as social ethics were a century ago. To sum up: we asked the farmer to do what he could conveniently do to save his soils, and he has done that, and *only* that. . . .[33]

> Industry, by polluting waters or obstructing them with dams, may exclude plants and animals necessary to keep the energy in circulation. . . .[34]

Both integrity and land health are goals for Leopold as he explains the grievous role played by activities leading to ". . . almost worldwide display of disorganization in the land," which he terms "similar to disease in an animal." Yet the land does recover, he adds, "but at some reduced level of complexity, and with a reduced carrying capacity for people, plants and animals."[35] SOP 6 echoes this concern as it states that "living as in a buffer," that is, accepting zoning

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[29] Westra, *Living in Integrity,* p. 221.

[30] Ibid., p. 225. For a discussion of *ecological footprint,* see Mathis Wackernagel and William E. Rees, *Our Ecological Footprint : Reducing Human Impact on the Earth* (Gabriola Island, B.C. and Philadelphia: New Society Publishers, 1995).

[31] Westra, *Living in Integrity,* p. 228. See also R. E. McGinn, "A Technology, Demography, and the Anachronism of Traditional Rights," in Shrader-Frechette and Westra, *Technology and Values*, pp. 167–86.

[32] Leopold, *Sand County Almanac,* p. 217; compare with SOP 3.

[33] Ibid., p. 209; compare with SOP 4.

[34] Ibid., p. 217; compare with SOP 5.

[35] Ibid., p. 219.

restraints for both the quality and the quantity of our activities, represents the essential meaning of the ethics of integrity.[36] But "health" in areas used by us must in turn be supported and sustained by appropriately sized wild areas,[37] as Leopold himself argues in "Wilderness for Wildlife."[38] I believe that this selection of examples indicates the closeness of the spirit and the letter of the land ethic to the ethics of integrity.

However, I do not mean to suggest that other interpretations of the land ethic that emphasize its aspects of motivation for a paradigm change for humanity are necessarily wrong.[39] I have found the emotive/Humean aspect emphasized in Callicott's interpretation somewhat unconvincing, much as Tom Regan, for instance, rejects the "feelings" basis to the "cruelty/kindness" view on animal ethics, in favor of a position that perceives nonhuman animals as "subject-of-life" and intrisincally valuable and worthy of respect.[40] Nor does this approach emphasize the primacy of integrity as Leopold does.

The question of inclusiveness in regard to the moral community is also an issue in the problem of future generations. I have argued that the concern for and the rights of future generations cannot be separated from those of natural systems.[41] As an important part of environmental legislation, the appeal to the rights of future generations would lack both clarity and strength if it were not understood in terms of ecological protection. Future generations may well be able to make a variety of choices in their lives. The only certain condition upon which future generations depend is the need for a livable habitat—that is, for the continued availability of natural services through the preservation of ecological integrity and ecosystemic health in appropriate proportions.

Although Leopold does not include an explicit appeal to future generations' rights, the emphasis on the sustainability of natural processes also supports respect for an all-inclusive futurity comprising nonhuman animals, vegetation and all other biotic and abiotic components of natural landscapes. For instance, Martin Golding argues that future (human) generations are part of the moral community, but he emphasizes that "affection," "genuine concern," and even "altruism" are insufficient to ensure moral action: "We are all familiar with the kind of 'taking an interest in the welfare of another' that is gracious and gift-like, a matter of *noblesse oblige*."[42] But these feelings keep our interest at another level

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[36] Westra, *Living in Integrity,* p.

[37] James Karr and Ellen Chu, "Ecological Integrity: Reclaiming Lost Connections," in Westra and Lemons, *Perspectives on Ecological Integrity*, pp. 34–48.

[38] Leopold, *Sand County Almanac,* p. 199.

[39] See especially J. Baird Callicott, "Traditional American Indian and Western European Attitudes Toward Nature: An Overview," in Callicott, *In Defense of the Land Ethic,* pp. 177–201.

[40] Tom Regan, The *Case for Animal Rights* (Berkeley: University of California Press, 1983).

[41] Westra, *Living in Integrity,* pp. 39–40, 99–103.

[42] Martin Golding, "Limited Obligations to Future Generations," in Louis Pojman, ed., *Environmental Ethics,* 2d ed. (Belmont, Calif.: Wadsworth Publishing Co., 1998), p. 287.

than what is required "to recognize the other's claim . . . the other's entitlement, to receive his good from me."[43] I believe it is best to rely on mandatory regulated respect for intrinsically valuable natural individuals, processes and wholes, (as it is present in "integrity" regulations) rather than depend on "sentiments" that may not go far enough.

In addition, animal ethicists have worked for the most part on the accepted premises of traditional ethics, and although this "extensionism" has been criticized by some,[44] it may be possible to use that approach in order to render the next step more acceptable and easier to take, than if we expected the new ethic to stand alone. The only problem, insofar as Leopold is concerned, is that the holistic thrust of the land ethic is not fully compatible with the extensionist approach. For this reason, the principle of integrity attempts to reverse the usual order, which proceeds from inter-human considerations to the consideration of nonhuman animals, natural landscapes and systems, by suggesting that the *whole* of all biotic and abiotic components of natural systems should be our first consideration instead.

I believe that his is the ultimate message of the land ethic, and I also believe it to be Leopold's greatest achievement, and the primary inspiration of my own work. The practical implications of Leopold's position come to full flower in the work of the Wildlands Project, to which my position is also connected.

FROM THE ETHICS OF INTEGRITY TO THE WILDLANDS PROJECT

In the previous section, I discussed the connection between the land ethic and the ethics of integrity. I also believe that the practical proposals of the Wildlands Project extend and embody the land ethic, while they give scientific support to the ethics of integrity. Dave Foreman, John Davis, David Johns, Reed Noss, and Michael Soulé explain the "mission" of the project:

> The mission of the Wildlands Project is to help protect and restore the ecological richness and the native biodiversity of North America, through the establishment of a connected system of reserves.
>
> The land has given much to us; now it is time to give something back—to begin to allow nature to come out of hiding and restore the links that will sustain both wilderness and the spirit of future human generations.
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> The Wildlands Project . . . calls for reserves established to protect wild habitat, biodiversity, ecological integrity, ecological services and evolutionary processes—that is vast interconnected areas of true wilderness.

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[43] Ibid.

[44] Stone, "Moral Pluralism," Westra, *An Environmental Proposal for Ethics*.

> We reject the notion that wilderness is merely remote, scenic terrain suitable for backpacking. Rather we see wilderness as the home for unfettered life.[45]

It is important to present such large chunks of the Wildlands Project in order to indicate its points of contact with Leopold and the ethics of integrity, and also in order to defend this important initiative from the attacks that have been levied against it.

Its closeness to the land ethic is also supported by a recently published paper by Leopold, "Means and Ends in Wildlife Management."[46] J. Baird Callicott and Eugene Hargrove comment briefly on this essay. They describe it as symptomatic of Leopold's gradual turn from his earlier beliefs as "game manager." Callicott and Hargrove write:

> "Means and Ends" captures a particular moment in Leopold's transformation from a *game* management professor to a *wildlife* management professor as he moved from a philosophy of prudent scientific management to a more balanced philosophy based on ethics and aesthetics.[47]

Some of the main points that emerge from Leopold's paper are an emphasis on the aesthetic aspects of wildlife issues and a concern with the ineffective current use of "management controls" in relation to wildlife. On the former, after comparing "[a]n echelon of wild geese" to "an actress," or with the "artistic value" of a painting, he writes: "There is though this residual difference: a painting may conceivably be re-created but an extinct species, never."[48]

On the latter, his familiar defense of the "biotic community" brings into question the role of "scientific management." Yet it may be the case that it is the "management" aspect of the problem that Leopold no longer favors, not the scientific, ecological understanding of the biotic community and of its role. Leopold adds:

> Scientific wildlife management, while younger than scientific agriculture, has perhaps forged ahead of it in point of its philosophy: the recognition of the invisible interdependencies in the biotic community.[49]

Leopold also points out that popular campaigns against the "control" of wildlife by guns or poison, raises "a new and fundamental issue in human land use."[50]

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[45] Reed F. Noss, "The Wildlands Project: Land Conservation Strategy," *Wild Earth*, special issue, 1992, pp. 10–25.

[46] Aldo Leopold, "Means and Ends in Wildlife Management," *Environmental Ethics* 12 (1990): 329–32.

[47] J. Baird Callicot and Eugene C. Hargrove, "Leopold's 'Means and Ends in Wild Life Management' A Brief Commentary," *Environmental Ethics* 12 (1990): 334.

[48] Leopold, "Means and Ends," p. 330.

[49] Ibid.

[50] Ibid., p. 331.

Thus, the need for a natural, unmanaged habitat appears paramount, as Leopold himself acknowledges: ". . . the wild animal population does not display its normal behavior except in the presence of its normal environment."[51]

These observations support the mandates of conservation biology, and especially those of the Wildlands Project. For instance, in "The Meaning of Wilderness," the authors write that wilderness means "Viable, self-reproducing, genetically diverse populations of all native plant and animal species, including large predators. Diversity at the genetic, species, ecosystem and landscape levels is fundamental to the integrity of nature."[52] So far, the emphasis has been on the actual scientific reasons for supporting wilderness areas, and the ethical and philosophical reasons have drawn, to some extent, on the holistic understanding of the interconnectedness (both structural and functional) within natural systems. But the vision of the "Wildlands Project" has been attacked on conceptual and philosophical grounds. In a recent paper, Jim Cheney attacks both the reliance on scientific methods in general and the Wildlands Project in particular. About the former, he writes: "The understanding arrived at by scientific method can be, and have been, used benignly, of course and one may use the theoretical constructions of science in a wholly contemplative way."[53] But the work of Leopold like that of Noss and Soulé, is not based on "theoretical constructions": it is based on conclusions drawn for the most part from fieldwork; nor is their aim, or ours, that to be "wholly contemplative." The goal is to reduce or eliminate in some areas our manipulation of natural systems and our arrogant beliefs, unsupported by science, that no matter what our choices may be, a "technofix" is available to put things right.

For the latter, the hostility toward science leads Cheney to also attack "conservation biology and the Wildlands Project," citing Jack Turner:

> In the face of biodiversity loss . . . conservation biology demands that we do something now, in the only way that counts as doing something—more money, more research, more technology, more information, more acreage. . . In short the prescription for the malady is even more control.[54]

This criticism represents a total misunderstanding of the aims of the project: in it, as in the ethics of integrity, the emphasis is on control of "technohumans"[55] while liberating natural systems instead, to enable them to follow their own evolutionary trajectories. Citing Turner on the Wildlands Project, Cheney adds, "I think of it as North America designed by "Foreman, Noss and

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[51] Ibid., p. 332.

[52] Dave Foreman, John Davis, David Johns, Reed Noss, and Michael Soulé, "The Wildlands Project: Land Conservation Strategy," p. 4.

[53] Jim Cheney, "Universal Consideration and Epistemological Map of the Terrain," *Environmental Ethics* 20 (1998): 269.

[54] Ibid.

[55] Westra, *Living in Integrity*.

Associates." [56] Others have also argued against the idea of "managed wilderness."[57]

Nevertheless, because the concept of "wildness" excludes manipulation,[58] "managed wildness" is an oxymoron. Hence, other disanalogies cited as critiques, such as examples from "imperialism," "domination" or "imprisonment,"[59] impose unproven motives on those who would plan wilderness reserves in order to "restrain" and in some sense "limit" or "imprison" those who have been uncaring and abusing in their activities regarding the environment. Birch is correct when he says that "managing wildness is contradictory." [60] In fact, this is precisely the point of convergence between Birch and conservation biology.

In conclusion, I have argued that the understanding of integrity and the wild that Leopold first brought to our attention as demanding a new and radical approach to ethics, are embodied in the ethics of integrity and both scientifically supported and practically implemented by the work of the Wildlands Project, as it was originally intended, although its present platform has been modified to some extent.

It is a measure of the importance of Leopold's work, to find that he is cited not only in environmental regulations and legislation of all kinds,[61] but also in a recent reader in peace studies, which gives first place to Leopold's "Land Ethic" as an example of "Building Positive Peace." [62] In his introduction to Leopolds's work, David Barash argues that, in attempting to reach a just peace, our planet itself, our home, must return to housing us in a state of peace, not violence, he adds:

> The troubling relationship of human beings to their natural environment must also be reconciled, perhaps in fundamental ways.[63]

If Leopold's work is to be foundational to this "fundamental re-working," then it is important that ethicists and environmental ethicists especially continue to study and interpret Leopold's thought, in all its implications.

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[56] Cheney, "Universal Consideration," p. 270.

[57] Thomas H. Birch, "The Incarceration of Wilderness: Wilderness Areas as Prisons," *Environmental Ethics* 12 (1990): 3–26.

[58] Westra, *Living with Integrity;* Noss, "The Wildlands Project: Land Conservation Strategy."

[59] Birch, "The Incarceration of Wilderness."

[59] Ibid.

[60] Ibid., p. 22.

[61] Westra, *An Environmental Proposal for Ethics,* chap. 2.

[62] David Barash, *Approaches to Peace* (New York: Oxford University Press, 2000), p. 129.

[63] Ibid., p. 130.