Examining Ecosystem Integrity as a Primary Mode of Recognizing the Autonomy of Nature

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Attempts to come to grip with what appears to be the autonomy of nature have developed into several schools of thought. Among the most influential of these schools is the ecosystem integrity approach to environmental ethics, management and policy. The philosophical arm of the approach has been spearheaded by Laura Westra and her work in *An Environmental Proposal for Ethics*. The emphasis that this school places on pristine wilderness to model ecosystem integrity and the arguments Westra devises to justify the application of what she calls the "principle of integrity," although clear in its goal and object of inquiry, could very well retrench dualistic thinking of the sort that environmental thinkers have been trying to undermine. More importantly, I argue that Westra misses an important implication for the way in which ecosystem integrity could be used to help develop an ethic not so confined by problems of justification in attaching values to facts and descriptions to prescriptions.

INTRODUCTION

Calls to recognize the autonomy of nature have been generated by diverse commitments ranging from the spiritual to the utilitarian and prudential. Metaphysical, ethical, scientific, and economic frames of reference have been employed both to define what the autonomy of nature is and how it is to be valued. Autonomy is often described in terms of self-organizing and self-sustaining processes, but the ways in which these processes are recognized vary widely. From recognizing their intrinsic value to recognizing them as necessary conditions for continued exploitation, responding to the integrity and/or to the health needs of ecosystems have become received views of what is involved in recognizing the autonomy of nature.

From aboriginal and deep ecological perspectives, ecosystem autonomy is strongly associated with obligations of respect. As Robert Rosen suggests, recognizing autonomy is to leave ecosystems alone, because willful active intervention mutilates the original system.[1] In contrast, ecosystem health approaches appeal to a plurality of values, which include economic and social

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[1] Robert Rosen, *Life Itself: A Comprehensive Inquiry into the Nature, Origins and Fabrication of Life* (New York: Columbia University Press, 1991), p. 116.

goods. Ecosystems cannot be considered meaningfully autonomous, in certain contexts, then, unless they can continue to support human values.[2]

One group often accuses the other of anthropomorphizing, and in turn, is accused of failing to understand the full import of recognizing the autonomy of nature (e.g., of being shallow). I do not attempt to defend either approach, but intend, in the end, to offer an analysis of the reasons for our having to "recognize" this autonomy.[3] This move owes its motivation to the lack of analysis concerning the "autonomy of nature" with respect to its axiological and ethical implications. Ecosystem integrity will form the springboard for the analysis, not only because it has intuitive appeal, but because Laura Westra's representative work, *An Environmental Proposal for Ethics*,[4] is a more argumentatively focused recognition of our dependency relation to the environment than can be found in the health approach; it is perhaps the most rigorous attempt at developing a metaphysically and axiologically complete discussion of what counts as the autonomy of nature.

The intuitive appeal of the ecosystem integrity approach stems from the fact that few would disagree with the following: the perceived increase in natural disasters (e.g., more severe storms and floods, greater frequency of hurricanes) and in warnings from the scientific community (e.g., about ozone layer depletion and global warming) are modes of recognizing that nature follows her own course, despite the intentions and interests of human beings. This mode is negative in the sense that it acknowledges our history of failures in managing our relationship with the so-called natural world. It announces the need for a positive or more determinate mode of recognizing that we are not masters over nature, but that we need to find some way of making our activities compatible with the dictates of nature (sustainability initiatives). I also assume, for present purposes, that "nature" can refer to ecosystems at both large and small scales, or even at the biospherical scale. At small scales we might be concerned with marshlands, or a forest system that requires little or no anthropogenic intervention to sustain itself and that are resilient in the face of

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[2] See David Rapport, "Ecosystem Health: Exploring the Territory," *Ecosystem Health* 1 (1995): 5–13.

[3] The initial draft of this paper was presented at the Canadian Society for the Study of Practical Ethics, Learned Society Meetings, St. John's, 5 June 1997. Leo Groarke, in his commentary, challenged the assumption of the paper and indeed of all approaches that rely on the concept of autonomy, that it is problematically ascribed to ecosystems. Autonomy is a moral concept, while the notion of ecosystem autonomy is principally a scientific, descriptive one. The slide from human to ecosystem autonomy is, then, suspect from the beginning. I agree with Groarke on this matter, and his influence is reflected in this version. There remains, however, a sense in which ecosystem autonomy as captured in the scientific description of the whole-part dependency relation that needs to be explored. My attempt at drawing ethical implications utilizes this description, not through an extensionist program, as Groarke identifies, but in redefining the ethical enterprise in light of the metaphysical implications for the status of the moral valuing agent within an ecological context.

[4] Laura Westra, *An Environmental Proposal For Ethics: The Principle of Integrity* (Lanham, Md.: Rowman & Littlefield, 1994).

external perturbations. At larger scales we might be focused on watersheds. Because the work of Henry Regier, James Kay, and Reed Noss in the area of ecological integrity directly addresses these elements of the autonomy of nature, and deeply influence Westra, I sketch their views in order to introduce Westra's ethical argument.

DESCRIPTION OF THE ECOSYSTEM INTEGRITY APPROACH

Henry Regier writes that "A living system exhibits integrity if, when subjected to disturbance, it sustains an organizing, self-correcting capability to recover toward an end-state that is normal and 'good' for that system."[5] James Kay[6] emphasizes Regier's concern for resilience as a necessary condition for ecosystem integrity. Although it is impossible to recognize or define integrity apart from importing some perspective, and therefore, some value bias, the properties of resilience and ability to continue in an evolutionary pattern seem sufficiently general to serve as essential characteristics.

According to Reed Noss, "Core preserves are to be protected by buffer zones in which ecosystem integrity can be maintained. The reestablishment of huge, wild, functional ecosystems replete with large carnivores and their prey, is the pinnacle of restoration ecology and human harmonization with nature."[7] In the same article, Noss asserts that roads are the greatest threat to biodiversity and, therefore, ecosystem integrity. Where roads are in place, it is important that we allow ecosystems to recover, when we engage in restoration activity. Noss emphasizes internal determinants of ecosystems as they exist independently of human involvement.

Following upon a sophisticated examination of the factors involved in understanding ecosystem integrity, including structural and functional elements, open endedness of ecosystems, teleological factors, time and succession, Westra adopts a definition along the lines of Regier, Kay, and Noss. For many reasons, Westra accepts the same emphasis on wilderness as the model of ecosystem integrity, which is in turn identified as an autonomous system (with resiliency, historical continuity guided by internal determinants). She then considers such systems as points of reference from which to develop a categorical imperative, namely, (1a) "Act so that your action will fit within universal natural laws," and (1b) "Act so that you manifest respect and understanding acceptance of all natural processes and laws."[8]

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[5] Henry Regier, "The Notion of Natural and Cultural Integrity," in Stephen Woodley, James Kay, and George Francis, eds., *Ecological Integrity and the Management of Ecosystems* (Delray Beach, Fla: St. Lucie Press, 1993), p. 26.

[6] James Kay, "On the Nature of Ecological Integrity: Some Closing Comments," in Woodley, Kay, and Francis, *Ecological Integrity and the Management of Ecosystems,* p. 206.

[7] Reed Noss, "Wilderness Recovery: Thinking Big in Restoration Ecology," *The Environmental Professional* 13 (1991): 225–34.

[8] Westra, *An Environmental Proposal for Ethics,* p. 93.

THE PROBLEM: ATTACHING VALUES TO FACTS

This impressive battery of carefully constructed analyses is not my principal concern. It is, in fact, an important foundation for my critique of Westra's argument for the principle of integrity. I have no complaint to direct at the conclusions that integrity is a basis for values,[9] or that we must now recognize ourselves and our values as parts of ecosystem wholes.[10] These are the foundations from which we are to generate an environmental ethic.[11] My critique has to do with the strategy and the accompanying structure of the argument upon which Westra constructs the principle of integrity.

Westra clearly constructs her argument in light of the *is-ought* nemesis of ethical philosophers. Moving from a description of ecosystem integrity to the principle of integrity takes some justification. Accordingly, she formulates the task of connecting her description of ecosystem integrity to a prescription to protect it by finding good reasons for valuing integrity as a fundamental value.[12] In avoiding the leap from descriptions of fact to prescriptions of how we ought to value, she weaves a careful course. Part of this course is to show that integrity has a good chance of being recognized as a universal value comparable to peace or health.[13]

Can assigning the status of a foundational value to ecosystem integrity be justified? Regier seems to argue that the value of ecosystem integrity is inherent and rides on the analysis that an ecosystem has a good for itself. Westra rejects this strategy implicitly, because it uncritically moves from description to prescription. At the same time, she cannot side with Kay's insistence that only an instrumental value can be assigned to ecosystem integrity.[14] The former relies too heavily on shared intuitions, while the latter tends to retrench the very exploitive attitudes that the ecosystem approach is supposed to overcome. The key argument that produces moral obligation to protect ecosystem integrity is her "freedom" argument.

The principle of integrity can be associated with the moral obligation to act in a way that is consistent with "freedom from" harm, which is intended to prevent the diminishing of the capacity of the individual to maintain itself and to unfold according to a specific program (end). Biological organisms and the

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[9] Ibid., p. 37.

[10] Ibid., p. 9.

[11] I wish to thank a referee of a previous draft of this paper for pointing out a number of controversies with my interpretation of Westra's work. The criticism has led me to clarify some sections and the precise target of my critique. Laura Westra has since sent me several chapters of her new manuscript, *Living In Integrity: A Global Ethic to Restore a Fragmented Earth*, which takes up unfinished business in *An Environmental Proposal for Ethics*. This new material has given me reason to refine points, although I believe the original critique remains intact.

[12] See, for example, Westra, *An Environmental Proposal for Ethics*, p. 64.

[13] Ibid., p. 65.

[14] Ibid., p. 47.

wholes in which they exist represent unity and completeness. These properties generate an organism's need for freedom to actualize itself. Hence, they are grounds for extending a respect to ecosystems that is similar to the respect we give to human freedom, and for a person's ability to maintain identity through change.[15] By parity of reason, if we respect the freedom of human agents who display the property of retaining an identity through time by virtue of having structural and functional integrity, then there is no good reason to deny the same respect to other organisms and systems that display the need for freedom to maintain structural and functional integrity. Furthermore, by virtue of the depth of our respect for freedom, integrity can compete with other ultimates such as "happiness" or "rationality" as an ultimate ground for values, rights, and moral sensibilities.[16] The principle, then, can be seen as serving to protect fundamental values, thereby gaining moral force.

Justification, here, rides on the association of integrity with fundamental goods, which are attractive in and of themselves, and act not only as reasons to favor or prefer protecting their bearers, but as commands compelling us to protect and respect.[17] This Aristotlean argument rides largely on integrity being a "co-primary" with other life-death activities.[18] As such, we come to see that we must extend our protective responsibilities beyond our own interests to the larger more comprehensive cosmic whole.

But Westra's rigor compels her to acknowledge that the process of justification cannot be entirely completed and she takes comfort in the fact that even utilitarians, á la Mill, could not finally justify attaching a fundamental obligation to our desire for happiness.[19] If the likes of Mill could not bridge the gap, when the protection of such a fundamental value was at stake, then some comfort can be taken in being capable only of shrinking the justification barrier to the point where our moral sensibilities or intuitions are evoked in support of the move from description to prescription.

There is nothing unusual about such an approach. Tapping moral sensibilities is ultimately used by such liberal thinkers as Regan, Singer, and Goodpaster[20] to advance effective moral concerns. This well-entrenched tradition has allowed us to move from descriptions of human rights bearers as paradigm cases to prescriptions concerning our obligations to protect life, freedom, dignity, autonomy. Few, if any, human beings will object to this move in practice, and

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[15] Ibid., p. 66.
[16] Ibid., p. 79.
[17] Ibid., p. 110.
[18] Ibid., p. 111.
[19] Ibid., p. 105.
[20] Tom Regan, "The Case For Animal Rights," in James Rachels, ed., *The Right Thing To Do* (New York: Random House, 1989), pp. 211–25; Peter Singer, "All Animals Are Equal," in Peter Singer, ed., *Applied Ethics* (Oxford: Oxford University Press, 1986), p. 227; Kenneth Goodpaster, "On Being Morally Considerable," *Journal of Philosophy* 78 (1978): 308–25.

human intellectual history (in the West at least) is replete with defenses of human intrinsic worth (by virtue of its rationality) by Plato through Aquinas, Descartes, and Kant. It is almost in our blood, so to speak, to accept human rational agents as paradigmatic bearers of inherent worth and inherent rights.

Although Regan, Singer, and Goodpaster each have challenged the necessity of rationality as a condition of intrinsic worth, none challenges its sufficiency. Their main concern rests with ensuring that other morally significant conditions (e.g., being a subject of a life, the ability to suffer, having a self-organizing locus) are recognized when assigning moral considerability. Since each is a condition shared by the paradigm case, a justification is required not to extend moral considerability to all creatures manifesting similar features, else we arbitrarily discriminate against them. But we should acknowledge that this strategy works only by assuming, not proving, that the move from description of the paradigm case to a prescription to protect like creatures is unproblematic. The assumption, then, allows the bypassing of the is-ought problem in the confidence that paradigm-case strategies work for all but those of a Nietzschean ilk.

SOME INITIAL PROBLEMS WITH THE APPROACH

It is not my intention to take issue with is-ought difficulties in paradigm case strategies. I wish to emphasize, however, that the use of this strategy does ride on a confidence in the general acceptance of a logical leap. It cuts short the struggle to find justification for the move, and in Westra's case, thereby preempting the need for further insight into the connection between our dependency relationship to ecosystem integrity and the obligations or responsibilities that supposedly arise from this relationship. This point may also be put this way: by casting, or better, recasting integrity qua foundation of value as a foundational value, Westra changes the focal problem from one of determining how we are to understand ourselves vis-á-vis ecosystem integrity to one of determining how best to use integrity as moral leverage. Given the calls for radical changes in the way we understand ourselves as members of the ecological community, especially as articulated in ecosystem approach circles, reliance on paradigm-case strategies appears to sell short the possibility of meeting the demands of that approach.

I am, moreover, disturbed by another aspect of the attempt to justify the principle of integrity. The use of the principle as a categorical imperative in the Kantian tradition receives its force from generating a duality between the moral imperative (which for Kant is determined by pure reason) and the physiological and utilitarian (impure) motivations associated with nature. Underlying this duality for Kant is a fundamental schism between the rational agent and natural processes. This schism is what allows Kant to proclaim the independence of the moral agent from the determinations of the body, such that

the moral agent is in fact free to command its own behavior.[21] Kant responds thoroughly, although I think not convincingly, to the need ultimately to justify attaching descriptions of the rational agent to prescriptions about what it ought to do. But in order to show that the moral agent is indeed capable and then obliged to follow the categorical imperative, he must divorce rational nature from physical-biological nature, asserting a fundamental dualism between the two realms. Westra cuts this process short, but would, I think, be driven to a similar dualism between moral agents who value and follow the categorical imperative and those who cannot. I raise this point again once I have noted further indicators of an incipient dualism.

Granted, Westra's concern is always governed by commitments to efficacy in policy arenas. Pragmatic limits to the process of justification need to be set or philosophy becomes ineffective in decision-making and policy circles. While I can appreciate the struggle to marry the philosophical problem of justification with practicality, a point admired by Kristin Shrader-Frechette as well,[22] that very struggle seems to cause her to miss a critical implication of the scientific "evidence" that is brought to bear on the way in which we understand our ethical lives. Ecosystem integrity, more fully analyzed in relation to ethical life suggests something far more radical as a foundation of ethical values than Westra identifies. Rather than focusing on integrity or the autonomy of nature as a foundational value, as if it were a property of ecosystems to be valued, I will lead the analysis starting from Westra's metaphysical foundation, namely, ecosystem integrity as a foundation of value. The distinction is not merely a matter of locution, but is substantive. The operative concept of ecosystem integrity, when formulated in the principle of integrity, is shaped by traditional assumptions about how ethical life is to be structured and how it is to function, not so much by insights gained from an understanding of how deeply evolution and ecology affect our conceptions of morality and ethical life.

Traditional Kantian and deontological ethics function, as noted, by identifying the object of concern and then attaching some value (intrinsic or instrumental) to it. There is a second step. This value must then be attached to an obligation to protect that value. But attempting to defend the assignment of moral values to facts and then protective obligations to these values assumes that the world of facts is radically distinct from the world of moral values, and the determinants of obligations and responsibilities. The metaphysics of facts is essentially different from that of moral values and obligations, such that bridges between the two must then be constructed. Indeed, the metaphysics of facts, for

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[21] This is the project that Immanuel Kant takes up in the *Foundations of the Metaphysics of Morals,* trans. Robert Paul Wolff (Indianapolis: Bobbs-Merrill, 1969), esp. sec. 2.

[22] Kristin Shrader-Frechette, book review of *An Environmental Proposal for Ethics,*" in *Environmental Ethics* 17 (1995): 433–35.

Kant, revolves around the realm of the sensible, while that of moral values and obligations revolves around the intellectual. But what the status of these bridges is remains unclear, in light of the fact that they can never, in principle, be completed.

In a completely non-invidious manner, Westra's strategy and analysis creates a similar sort of duality, which turns out more to appropriate nature than to free it. The very act of protecting wilderness areas for purposes of conservation or preservation is to idealize these systems and place them on a moral pedestal. Even if we accept the fact that these systems are to be preserved as processes, rather than static entities, the idealization persists. Wilderness ecosystems conceived as existing independently of human intervention, when serving as models of ecosystem integrity, are not conceived as integrated with human existence or values. Most of our dominant cultures idealize their heroes (e.g., Shakespeare's Coriolanus) and women (in a male dominated society) in much the same way. The result is that the idealized hero or woman does not, by definition, fit into the social fabric and is treated in accordance with the expectations we impose. In effect, they become enslaved to the idealizations of a community that sees itself as inferior. As inferiors, we demand that representatives of our ideal be perfect, that they satisfy our needs to overcome our inadequacies in some vicarious manner. When protecting these idealized people, we restrict our perception and conceptions of them, canalizing, in a manner of speaking, our understanding to fit with our visions of purity. In this way, rather than recognizing them in all their particularity, we appropriate them into our moral fantasies.

Most people, including myself, who are concerned about environmental protection, are drawn toward idealizing pristine ecosystems, partly as an indictment against the destructiveness of humanity. Idealization also provides a clear goal and guide for our behavior. For this reason, I sympathize with the ecosystem integrity project. Like its proponents, I want to protect wilderness and especially pristine forest systems or tundra, but not as representations of purity, a purity beyond the accomplishments of human enterprise. Symbolizing purity, pristine ecosystems are valued and understood primarily negatively, that it is as "not human." Once idealization has occurred, fitting human interests and existence into the scheme, is conceptually impossible; practically, it becomes a grudging task. Hence, we witness, in Westra's policies, integration of human enterprise only in limited buffer zone areas.[23]

In her account, human activity seems inherently evil, or at the very least, human motivation is deeply untrustworthy. It appears that a neo-Platonic

[23] Westra, *An Environmental Proposal for Ethics*, p. 177. She reinforces this view in *Living In Integrity*, albeit in a highly qualified manner. In chap. 9, p. 3 (manuscript version), for example, Westra draws a distinction between human and nonhuman sorts of disturbances, the latter of which is proscribed by the ethics of integrity. Then, on p. 4, she is prepared to divorce human evolution from that of nonhuman evolution on the grounds that human existence is not crucial to the maintenance of "nature's services" (Westra's quotation marks). Hence, strict zoning becomes

understanding of humanity as inherently inadequate and perverted (evil) lies at the heart of Westra's system. Like the Good for Plato, ecosystem integrity is the goal toward which humanity strives (or ought to strive) but cannot reach. But in Westra's case, wilderness is a concrete and empirically identifiable entity, unlike Plato's Good. Yet it must serve the same purpose of the Good as an idealized form of what ought to be. As such, the autonomy of a pristine ecosystem as idealized, much like Kant's perfect kingdom of rational persons, is distinct from the autonomy of humans. The implicit dualism in the Platonic/Kantian approach recreates the problem of dualism, as a necessary assumption for justifying obligations to respect wilderness ecosystems. This time around, however, roles have been inverted from those in traditional ethics, according to which human rational being was considered the superior and ideal. Now, the rational being is inferior and capable of nothing greater than approximations to integrity within the confines of buffer zones.

The implicit dualism in Westra's thinking is also evident in how she applies the principle of integrity. Westra proceeds by arguing that the interdependenceof nonhuman interspecies relations is an indisputable good,[24] such that noninterference with these biotic communities is prima facie uncontentious. Justification is required for any interference. This is not the case with cultural communities.[25] This distinction suggests that the conditions of integrity for human and ecosystem contexts are different and yield different obligations. Human values, which require principles of justice to control them, are unlike ecosystem values, which do not require such principles. This is a well-taken distinction. But it is also the point where the earlier discussion on the duality between agents capable of acting on moral principles and beings who are not is germane. The human culturally determined agents must somehow be capable of setting and following moral principles independently of the dictates of biologically determined values.

The worry is that, when cultural and biological values are treated as substantively different kinds, their bearers will be as well. If my analysis is correct, Westra is close to advocating a theory of human nature akin to that assumed in doctrines of original sin. Admittedly, Westra's explicit metaphysics does not commit her to such a theory, although it comes close. Combined with the presuppositions supporting her moral strategy, however, the commitment seems undeniable. If the identified idealistic and dualistic elements in Westra's argument do in fact exist, they are sufficient to justify a reexamination of her understanding of our dependency on ecosystem integrity.

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necessary. Living in integrity, then, turns out to be "living as in a buffer" (p. 28), where our activity as human beings is very close to being, by definition, divorced from other forms of ecosystemic life.

[24] Westra, *An Environmental Proposal for Ethics*, p. 128.

[25] Ibid., p. 158.

WHAT'S MISSING

I believe Westra misses an important implication of integrity as a foundation of value with regard to the fact that we are not separate from the biosphere or ecosystem, but are, as Leopold puts it, citizens in the biotic pyramid.[26] She explicitly acknowledges "the inescapable membership in the ecosystem of which we are a part,"[27] but does not analyze ethical obligation from this standpoint. The first thing that we should note is that what we are, including our natures as valuing beings, is inextricably linked and causally dependent on the biotic pyramid. We have evolved as valuing beings as much as we have evolved as beings who stand on two legs and use technology to develop advantages in the environment. In other words, our status as valuing beings is itself the product of environmental processes, a fact that remains underanalyzed by Westra.

As I argue elsewhere,[28] valuational activity, as a process of interacting with the environment, is generated in the organism's need to interact with the demands and opportunities that the environment presents. Human interests have undergone an evolution or a coevolution with the ecosystems they inhabit. Unlike the story that we get from the likes of Locke and others, valuational activity does not begin with humans taking an interest in a natural object or anything for that matter, but is part of a more comprehensive process, which is that of the organism's interaction with its environment. Through evolutionary history, our valuational activity has been shaped by modes of adaptation that are different from other species. We, for instance, do not value hay as a foodstuff as ruminants do. There seems to be no good reason either to assert that rationality assigns an independent order of valuational activity separate from biological valuational activity, since the valuational activity of rational beings depends as much on biological well-being (a healthy brain) as any other activity. Valuational activity, therefore, is related to ecosystem processes by way of identity, or more precisely, ontological identity. We seem to have to admit that in some sense or other, valuational activity is just some aspect of particular integrations of ecosystem activities.

While Westra includes just about every other form of human activity as inseparable ontologically from ecosystem activity, her justificatory scheme does not allow her to go the distance to include valuational activity itself. Her Kantian locutions used in defending the obligation to value integrity all point to the assumption that human valuational activity must be separate from the ecosystem that we are supposed to find a reason to value. Further, in light of the fact

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[26] Westra acknowledges this point at ibid., p. 67.

[27] Ibid., 91.

[28] Bruce Morito, "Holism, Interest-Identity, and Value," *Journal of Value Inquiry* 27 (1993): 49–62.

that culture and our technological ability to disturb ecosystem function are principal expressions of human value, yet run contrary to ecosystem integrity, it must be concluded that human valuational activity is ontologically different from ecological valuational activity. Indeed, there is little evidence to suggest that valuational activity takes place at all outside human activity. I submit that Westra commits a fundamental metaphysical and axiological mistake, when she conflates the notions of a ground of value with that of an object of value, allowing, in turn, for a fundamental dualism to emerge in the construction of the principle of integrity.

If we start with the notion that ecosystem integrity is the foundation for value, then human valuational activity is a subprocess of more comprehensive activities that must in some sense or other be valuational activities. Although a thorough argument cannot be made at this point (again, I argue this issue elsewhere[29]), suffice it to say that ecosystem processes must be valuational processes in an ontological sense. What Westra identifies as a teleological process, that is, goal-directed behavior of living systems, is valuational activity, insofar as it manifests directed behavior governed by preferences encoded in the organism's genetic makeup. These preferences are at least bipolar, since they produce attraction-repulsion responses, and may in some cases be far more complex. These responses are motivated, then, by value-like forces that incline an organism and sometimes require the organism to act in the way it does. I see no reason, in fact, to deny that these forces are values insofar as they motivate behavior, determine preferences, and structure what is taken to be important for the organism as it interacts with its environment and contribute to the maturation/development process.

If human valuational activity is to be identified as ecosystem activity, then the ethical problem is not so much to justify assigning value to ecological integrity, but it is to determine which of possibly many value orientations to choose and to integrate the many valuational activities that have evolved during this epoch. While the fact-value problem disappears, the moral problem of selecting among the plurality of values becomes heightened, because traditional axiologies, which rode on the confidence of the intrinsic vs. instrumental value distinction, has been flattened or dissolved. Traditional reliance on justificatory structures, such as those which appeal to rational persons as benchmarks for testing moral worth, can no longer be supported, where the required dualism for such structures is undermined. How, then, might we recast ethics in light of this flattened moral world?

The project of coming to recognize integrity as a mode of recognizing the autonomy of nature, through whatever metaphors and devices we deem appropriate, is one of recognizing what we are as human beings in the context of more comprehensive valuational activity. Within this context, the problem

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[29] Ibid., p. 54.

of having to adjudicate between many value orientations requires another metaphysical component.

A first step in all ethical deliberation is to identify and characterize the agent or locus of value and ethical responsibility. No ethic can proceed without metaphysically situating, either implicitly or explicitly, the moral agent in relation to the world. To conceive of the moral agent as a rights bearer in the liberal tradition, one must have a conception of the moral being as a somewhat isolated individual whose primary relationship to others is conflictual. Hobbes and Locke explicitly tell the story about how rights and moral life develop in the face of scarcity and competition. The aboriginal person implicitly assumes a fundamental connectedness and identity with the land in order to tell the story about how moral responsibilities and communities emerge from the original creation. Kant and the deontologists require an assumption of something like a free will capable of opposing the dictates of appetite and passion, in order to tell the story about how reason commands and the body obeys.

ETHICS: A DIFFERENT STORY

If we are compelled to change our presuppositions about human nature and the human-nature relationship, then we should also be prepared to tell a different story about what ethics is and how individuals are to be ethically directed. According to the prior analysis, ecosystem integrity, or the particular ways in which ecosystems have been integrated as self-sustaining processes, is a given; it is a condition upon which the development of moral beings has been and continues to be dependent.

An initial task of the philosopher is to clear the path toward an understanding of misconceptions. One result of presupposing the identity relation is that we cannot automatically assume that the protection of wildlands from anthropogenic stress can serve as a model of integrity or autonomy. The identity thesis suggests that such stress may not be out of keeping with the autonomy of nature, though they destroy what we call "integrity." Indeed, it may very well be that the weakness as well as the weakening of the capacity of resilience is part of a wider autonomy, as the weak in a herd of deer contribute to the overall integrity of a wildland by helping to maintain the predator population. Integrity cannot be modeled on ecosystems as they exist independently of human interaction in any universal or comprehensive sense, if we have coevolved to be members of the present epoch.

In Westra's system, such practices as prescribed burns in savanna ecosystems would likely be rejected, or accepted only on the basis of some compromise with competing values (in what Westra calls "Integrity$_b$" or "buffer zones"). Under a fully integrated conception of humanity and ecosystem, such burns may in principle be highly valued, and perhaps preferred over the protection of wilderness. The concept of integration here implies that every

creature, as an integral part of the system, transforms the system partly to suit its own needs, but also partly as a response to being transformed by the system as it seeks to adapt. Integration of humanity with ecosystems cannot be conceived intelligibly, then, without acknowledging the transformative nature of the integration.

It might even appear that the above is nothing more than an apology for outright exploitation. It is meant, however, simply to challenge the assumptions we make as environmental philosophers who carry the presumptive baggage of a twenty-five hundred year Western tradition. At the risk of seeming presumptuous myself, I attempt to introduce what I take to be these implications of recognizing ecological integrity by relating the identity thesis to indigenous communities. Aboriginal traditions have recognized ecosystem integrity, in the sense I have described, for millenia. The aboriginal approaches of at least many North American tribes to environmental ethics, if such language makes any sense within these approaches, first and foremost emphasizes the oneness with the land, in a rather more profound sense than is generally acknowledged. The community of relations that constitute what we call "the ecosystem" is that from which identity, purpose, and well-being are secured. In the cycle of birth to death, identity emerges as the process of maturation and proceeds through guidance by elders, protecting animal spirits, visions and dreams. One's moral self develops, but is not identified until the appropriate time when he or she is given a name. Thus, the primary problem pertaining to the moral life is to determine what the place and vocation of the individual is, and how individuality is to be shaped.

Unlike what we find in European-grounded traditions, where the problem is to determine a justificatory scheme for attaching values and consequent obligations to other persons and sometimes objects, aboriginal metaphysics tends toward the opposite. For ethics, as shaped in the European tradition, individuals are atomic and isolated bearers of rights who seek some means to reconcile their interests and values with the social and physical environment in which they live. Integrating the plurality of individuals, through attaching values and moral obligations to them, is then the primary moral task. For the aboriginal, integration is not the primary task; it is the given. Instead, becoming a unique individual through the process of discovering and shaping one's nature seems to be the primary task.

Likewise, when we see ourselves as already integrated into the system as products of evolution, the primary metaphysical problem is not to determine what conditions must be met to integrate or unify elements within that system, but to determine how to distinguish individuals from the whole. Shaping an identity, since it is a primary mode of valuational activity, is in a sense, a mode of self-actualization. Here I entirely agree with Westra's stress on teleology. Every living creature behaves in order to satisfy some antecedently determined set of values, whether that be in the form of seeking out appropriate foodstuffs,

growth toward maturation or to procreate. Each living being, then, undergoes a process of individuation according to values determined initially and always by the ecological and evolutionary context in which it emerges. As a primary valuational activity, we take the development of our individuality as a mandate, something we are required to do.

This approach may sound strange in light of the fact that we are struggling to overcome our individualism and egocentrism according to most ecological approaches. But it is not so odd if the starting point is understood. What the identity thesis does is situate the individual in a context where the ethical response to protect his or her uniqueness, privacy and integrity is interpreted not as the proceeds of an inherent or intrinsic value, but as the result of a primitive valuational activity, which he or she shares with all ecosystem members. Like the aboriginal vision quest and sweat lodge experience, becoming an individual is inseparable from finding vocation and place among the communities that constitute the ecosystem. In Ojibway tradition, the individual is accompanied by a protecting spirit (animal spirit) in the journey to become fully individual, which underlines the importance of understanding individuation as a community process. Hence, in the process of becoming fully individual, the aboriginal person affirms his or her solidarity with the other members of what is recognized as an extensive moral community. The same sort of affirmation is required according to the identity thesis, since our becoming individuated is largely and necessarily the result of our interactions with and dependencies on the ecosystem.

I have cited aboriginal metaphysics and practice for a number of reasons. The first is that it is a way to illustrate more intuitively what can sometimes become an onerous technical metaphysical task. The second is that it helps to explain and illustrate how our primary ethical responsibility can be to manifest our individuality, without at the same time associating that responsibility with privilege, isolation, and dualism. The third is to indicate that the radical changes in perspective and presuppositions required to recognize the autonomy of nature are not unimaginable, but can be modeled on actual communities and traditions.

During the process in which we recognize the integrity of ecosystems through struggling to develop what we are as individuals, we do so by virtue of acknowledging our dependency relations at every level of our existence. Moral effort, then, is best placed in the process of guiding ourselves to a better understanding of our individuality. We should reinvest our energies to respond to the mandate of the Delphic Oracle: "Know thyself."

Like Westra, I put significant emphasis on values such as freedom, dignity, and respect for persons. Honoring the process of individuation, it could be argued, entails respect for such values. Where I differ from Westra is in her interpretation of these values as it arises in her extensionist program. Rather than extending obligations to organisms by way of analogy to the way we have obligations toward humans, I am arguing that recognizing and protecting

ecosystem integrity, defined in light of full human participation, is a necessary condition for protecting the full range of values that are crucial for our own individuation process. If we can begin to understand that the fundamental values of freedom, dignity, etc., for all members of the communities to which we are related are undermined, if not violated, when we fail to protect the integrity of the system, then we can require the protection of ecosystems, more on pragmatic than on ultimately deontological grounds. Such protection would involve a pragmatism shared by all valuing beings who happen to depend on this particular ecosystem epoch.

Granted, the element of compulsion so attractive in Westra's approach is lost, but such compulsion is often lost in the lack of political will, at any rate. Moreover, it is not clear that a pragmatist approach could not yield obligations of sorts. A pragmatic evaluation may determine what we must do as a community to develop and support a deep sense of responsibility in all of our members to protect and respect ecosystem integrity. As the Ecological Committee for the Great Lake Science Advisory board[30] has noted, seeing the ecosystem as "home" rather than a house evokes understandings, values, emotions, and perceptions that can provide a rich basis for a renewed understanding of ecosystem integrity. Protection of the home is not a duty in the sense that it is derived from an external or rational imperative. It is, nevertheless, a duty born of love and concern. It is deontic in the sense that it is something one "must do." This sense of what one must do, unlike what we find in categorical imperatives, is logically connected to the values it protects, since the values are what create the feeling of what must be done in the first place.

CONCLUSION

"Ecosystem integrity," adjusted to accommodate human involvement more fundamentally, and serving as a condition necessary for human valuational activity, rather than as something to be valued for the sake of establishing a moral imperative, can perhaps be even more effective in policy and decision making because it better fits the inspirational motivations that ground ecological approaches. It also serves to preempt developments toward dualistic thinking and forms a metaphysical grounding for the recognition of the central place that community has in individual ethical life.

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[30] Timothy F. Allen, Bruce L. Bandurski, and Anthony W. King, Report to the Great Lakes Science Advisory Board, "The Ecosystem Approach: Theory and Ecosystem Integrity," initial report of a multi-year project of the ecological committee, p. 9.