

Toward a Practice of Ecological Environmental Ethics: A New “Ecological Casuistry” for Case-Based Decisionmaking Based on Emerging Principles of Ecological Science

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ABSTRACT

This article proposes and argues for an operationalized “land ethic” that can respond adequately and appropriately to both routine environmental decision-making and unique cases of “slow disasters”: the sudden increase in the pace of global warming, forest fires, tsunamis, hurricanes and earthquakes, glacier retreat, and rapid extinction events, for example. I suggest a fresh rhetorical construction of the basis of our environmental decision-making processes. Founded on the principles implied in culturally specific proverbs and aphorisms, this bottom-up practice of applied ethics is based on the work of Stephen Toulmin and Albert Jonsen (1988), a practice they formulated for bioethics and dubbed “the new casuistry.” I propose the extension of this practice into the realm of environmental decisionmaking, based on emerging scientific principles as the equivalent of the ethical proverbs and maxims relied upon in the practice of pre-modern casuistry.

The operation of this process I base on the intrinsic values and first principles enunciated in Aldo Leopold’s Land Ethic (1949), the second-order Principles of Ecological Integrity developed by Laura Westra (1994, 1998), and the scientifically validated principles and practices of ecology. The post-modern problem encountered is traditional ethics’ difficulty in coming to grips with these emerging perspectives. I recruit the rehabilitated practice of casuistry as a probabilistic approach to replace that of logical positivism and the search for axiological principles to explain the working of the world.

Here, I propose that we extend environmental ethics beyond human society, to develop a basis for a moral, ecocentric view of ethical decision-making that appropriates this method of casuistry in the application of Leopold's Land Ethic as a basis for the construction of a sustainable, ecology-based, post-modern *ecological* ethics.

KEY WORDS

ethics, casuistry, ecology, land ethic, consensus, rhetoric, probability, values, integrity, paradigm, intrinsic, nature



Introduction

Can humans reach a consensus on their ethical balancing of species, habitats, and human needs, not just in wild nature, but also in an increasingly crowded human future? If we are to survive as a global civilization and not go into the dark, our diverse societies need a sustainable approach to ethical decisionmaking, which must emerge from a post-modern New Ecological Paradigm (NEP). Unfortunately this new “reality-based” and ecologically grounded paradigm’s achingly slow progress in displacing the Dominant Social Paradigm (DSP) of modernity has been stalled by the retrograde “faith-based” political reaction to the threat of terrorism. As long as the political will of Western nations is paralyzed by the fear of terrorism and the desire for short-term economic profit, it seems unlikely that humanity will, as a whole, reach consensus on an ecological approach to decisionmaking about our place in Nature.

Nevertheless, it is of critical importance that we identify a method to enable such decisionmaking, in anticipation of the time when ecological disaster looms and we find ourselves desperately in need of consensus and a way forward into a chaotic world. What ethical approach to solving environmental problems might emerge from a global consensus that we may better forgo some material desires in order to preserve natural values? What I hope to suggest here is both a fresh, rhetorical construction of the basis for our decisionmaking processes and a new approach to the way we go about making ethical decisions about our environment.

As we move into a post-Cartesian world of probability rather than certainty; as we seek ethical ways to cope with environmental problems; we find ourselves in need of an ethical system that can respond adequately and appropriately both to routine environmental decisionmaking for the maintenance of ecosystem integrity and the prevention of the collapse of our environmental support systems, as well as to the unique ethical cases of habitat and species preservation that arise in the face of emergency situations such as natural catastrophes—like the Tsunami of 2004 and Hurricanes Katrina and Rita of 2005—and anthropogenic “slow disasters”; for instance, the sudden increase in the pace of global warming, and rapid extinction events.

More mundanely, we need such an ethical practice to address *probability* in solving routine questions of economic development and population growth; of incorporating the value of forest fires and floods in our policymaking; for planning in the face of earthquakes and hurricanes; and to learning from the signs of glacial retreat, for example, in coming to grips with global warming. We must weigh all solutions to such issues as they affect both natural systems and human needs, reaching conclusions that are capable of striking a balance between our duties to care for creation and our need to provide for ourselves.

My project in this article is to recruit a pre-modern practice into the campaign to solve our post-modern environmental problems, privileging—as I think we must—solutions that are based on sound ecological principles but which pay appropriate attention to economic realities, something the Endangered Species Act (ESA) in the United States fails to do. Yet the solution is not to scrap such enlightened legislation, but to develop a framework within which the intent of such law can be made to work properly, in the interest of ecological preservation. One ground of our post-modern environmental problems is traditional ethics’ difficulty in coming to grips with decisionmaking based on emerging biocentric perspectives in ecology. The pre-modern practice that I believe can effectively deal with environment issues from an ecological perspective is *Casuistry*—now re-incarnated as “The New Casuistry”—once a casualty of the Enlightenment thought

of Blaise Pascal and Descartes, but reborn in the late Twentieth Century as a practical way to approach ethical decisionmaking in a number of areas. The use of "The New Casuistry began with medical or bioethics (Jonsen, Arras, Tallmon), but has been seen increasingly in other fields, such as law (Sunstein), journalism (Boeyink), feminism (Peach), animal rights (Sanders), and engineering (Volpe). With the Enlightenment, the modernist movement replaced a long previous tradition of casuistic thought (Jonsen and Toulmin 1989) with the philosophy of logical positivism and its search for axiological principles as bases for decisionmaking, in the forlorn hope that science would lead to certainty in all things, a conceit that, in the post-modern era, has been recognized as futile.

Casuistry has always taken as its subject the practical and perplexing problems (*perplexi*) that crop up in the experience of everyday life. Such questions as, "Should I return a borrowed sword to my neighbor if he has gone mad with bloodlust?" or "Is it permissible to raise prices on commodities in an time of scarcity (as of grain in drought)?" or "Should I divulge information to the police that would result in the arrest of an innocent person?" Each is a classic example of an occasion for casuistry.

While the above examples are admittedly either hypothetical or archaic, today we can easily find examples of the same kinds of dilemmas in the area of environmental conflicts. For example, "Should we drain this wetland and eliminate wildlife habitat here so that we can build homes that humans desire?" or "Should we clear-cut this forest (planting new trees or not), though it is one of the few remaining stands of ancient forest?" More to the point of my own past work, such questions might be, "Should we allow continued livestock grazing in a designated wilderness area because it is a traditional way of life, even though it will damage plant and animal life we seek to protect?" or, phrased another way, "Should we prohibit such grazing, thus depriving certain people of an agricultural lifestyle that they find appealing (if not profitable)?"

Opposite answers to these questions might both possibly be considered correct, depending on circumstances and where one's

interests lie. However, a casuistic approach—based both on principles of social equity and emerging principles of ecological science—would seek to take into consideration the perspectives of both sides of the issue, and a range of possibilities in between, in order to arrive at a solution that would be considered both ethical and fair to human desires and ecological necessities. In the process, casuistical practice would reflect upon potentially applicable principles and the specific circumstances of the case, in order to define and classify the particular case, establish the relevant circumstances, then decide what principles best apply and what range of applicability such principles would have.

Here I outline the bases for the practice of The New Casuistry, directing the reader to foundational thought and further readings on the subject in my Bibliography, and pointing to a few of the newly accepted principles of ecological science and the New Ecological Paradigm—or NEP—that encompasses these principles. As the most appropriate over-arching ethical principle for evaluating ecological issues, I suggest reliance on Aldo Leopold's "Land Ethic," which regards humanity as just one member of the community of life and articulates the most widely applicable generalization on this subject, to wit, "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise" (Leopold 201). The philosophers among us will recognize the form of that postulate from John Stuart Mill's Greatest Happiness Principle: "that actions are right in proportion as they tend to promote happiness, wrong as they tend to produce the reverse . . ." (Mill 9–10).

In the face of well-documented global environmental decline, a major ecological concern is that Nature, in its wild state, is rapidly disappearing all over the world. In the third and fourth worlds, wild land is being decimated by a combination of unsustainably rapid commodity extraction and swidden agriculture gone berserk in the face of exponential growth in both population and poverty. Unless traditional value schemes for wilderness and environmental preservation are transformed, from the dominant utilitarian paradigm of use value, to a "new ecological paradigm" that values the natural environment for its intrinsic worth, both the intrinsic elements of

wilderness and the environmental services that support human life, may risk widespread collapse within the next 100 years, or less.

Within the modern paradigm of social science, policymakers remain devoid of a grounding philosophical ethic to enable such valuation. I propose that we extend human environmental ethics to develop a basis for a moral, ecocentric view of the environment that appropriates the methods of The New Casuistry in the application of Aldo Leopold's Land Ethic as a basis for the construction of a sustainable, post-modern ecological ethics.

While casuistry is not to be equated to or confused with sophistry (which itself has been rescued and rehabilitated within contemporary rhetorical studies), it does engage in especially detailed analysis. Casuistry is at its best when rules are doubtful, when conflicting rules pull in opposite directions, and when we need to discern "degrees of moral culpability" (Miller 4). Such occasions batter us daily: conflicts over abortion, drug use, assisted suicide, gender issues, human fetal stem-cell research, and—not least—the multifarious conflicts over environmental issues like resource use, pollution, toxic waste, environmental justice, and overpopulation, to mention just a few.

As new ecological knowledge emerges from the application of conservation biology, the science of ecology, the practice of resource management, and the study of environmental ethics, new principles for practical ethics commend themselves to us. Contemporary environmentalists concerned with resolving such issues may want to recognize the emergent knowledge represented in the evolving science of ecology and then incorporate such new, often unfamiliar principles and presumptions, into their practice of a new, ecological casuistry. Setting the stage for such a practice is my project here.

These continually developing ecological perspectives on the environment include emerging principles like biodiversity, island biogeography, biomagnification, the greenhouse effect, and acid rain, to name just a few. My characterization here of the practice of casuistry, its history and contemporary developments, as well as extensions of the "new casuistry," is an effort to see how a new, ecocentric casuistry might be developed as an approach to the solution of future

environmental problems by taking an ecological or ecocentric perspective. I anticipate that, by reviewing new principles of an ecocentric environmental science and ethics; and by providing exhaustive, “thick,” descriptions of relevant cases (Chiaviello 2003); and by unpacking the motives and presuppositions that underlie such conflicts; I can construct a persuasive demonstration of the practice so that an environmental casuistry might “show in concrete terms how we are to put morality [that is, ethics and ecological principles] into action” (Miller 4) in the arena of environmental policymaking.

A New Casuistry for Ecological Ethics

Casuistry is an ancient and natural method of applying ethical reasoning to specific cases, which, as I outlined above, has re-emerged in the late 20th Century with the work of some contemporary theorists, particularly in bioethics (*Ethics* 122). The method is practiced across cultures, in cases for which “right action” is not obvious from agreed-upon moral principles (122). The word is derived from “*casus*,” Latin for “case” (Bedau 127).

Aristotle hints at a “case method” in law and ethics in *The Nicomachean Ethics* (books VIII and IX) (Jonsen and Toulmin 71). St. Thomas Aquinas, a master casuist, recognized that something could be absolutely bad, but when additional considerations are taken into account, they may be changed into the contrary (109). Canon law of the 12th Century, an important grounding for casuistry, held that the law, stated in general terms, requires correction in its application to particular situations (116). In Europe, casuistry was a dominant ethical method from about 1200 to 1650 CE. Dominant in Jesuit moral theology of the 16th Century, casuistry was attacked from an Enlightenment perspective by Pascal, who, in his Jansenist hatred of Jesuits, used anonymous mockery and ridicule in his *Provincial Letters* (lrs. 5–10) to discredit the practice (Bedau 128). The rise of Protestantism finally relegated casuistry to the status of a disreputable pursuit, seen as a method through which any desired outcome to a problem could be rationalized. Jonsen and Toulmin, in *The Abuse of*

Casistry (Berkeley: UC Press 1988), deconstruct Pascal's verbal abuse and offer a "new casistry" as an important tool for contemporary ethics (168).

In general, the kind of problem that generates casuistical thinking involves a conflict of basic obligations (92). To apply it mostly requires simple good sense, moral seriousness, and judiciousness (118). Enlightenment ideas undercut and discredited the medieval reliance on a "natural law"—that "law written into the heart" (124)—which reflected a pre-capitalist view that recommended "the possession in common of the goods of the earth" (125).

Here is perhaps the simplest example of an informal casuistic decisionmaking process:

Principle: Borrowed objects should be returned after use.

Case: I borrowed this match and no longer need it, so . . .

Conclusion from Principle: I should go and give it back to the owner, except . . .

Circumstances: a used matchstick is useless and not worth the effort of returning.

Conclusion from Casistry: I'll discard the match and not worry about returning it.

Casistry grew out of rhetoric, a discipline that provides a suitable structure of argument (Jonsen and Toulmin 151), focusing as it does on persuasion, rather than demonstration. Aquinas offered a motto for casistry: "The human act ought to vary according to diverse conditions of persons, time and other circumstances: this is the entire matter of morality" (135). While the Jesuits sought to bolster confidence about certain values and principles, the practice of casistry could assure only probability, not certainty (148). The mechanists of the Enlightenment wanted certainty, and so put their faith in the scientific method. Today, as we note the "rhetorical turn," in science as well as in the humanities, we have come to recognize that uncertainty itself may be the only really certain dimension of life.

Probability is important in our current environmental impasse, because difficult cases that involve emerging ecological concepts often cannot be solved simply by the certain application of master principles;

all we can hope for is to be probably correct. The Jesuitical perversion of probabilism—the choice of a less probable conclusion in the face of a more probable one—was seized upon by Pascal, and used by him to defame the entire practice. Yet “probable certitude” is the best we can hope for (Jonsen and Toulmin 166) and the casuistical process seems ever more useful in an uncertain world of difficult environmental problems.

Properly conducted, casuistry rejects the choice of a less probable conclusion in the face of a more probable one. And, although “the repertory of substantive ethical concepts differs between cultures, changes over time, and is [always] open to criticism” (177), the casuistic method—which is responsive to historical change—fully considers such varying circumstances, and can successfully expose the weaknesses of outdated positions (179). In action, Casuistry is a simple, practical exercise that tries to satisfactorily resolve difficult moral problems and particular “hard cases.” It sometimes resembles 20th Century “counseling”; casuists knew how easily, in daily living, our ideals can fail us, and how we are often caught in perplexing ethical traps of ambiguity or conflicting principles, “the public dilemmas of social life” (242). Casuistry dovetails nicely with the effort to look at problems anew and find transactional solutions that fit particular situations, rather than simply applying policies that allow for no exceptions in their attempts to fit some overarching principle to all situations.

Casuistry can be used to deconstruct the master narratives of modernity by patiently examining a situation to uncover its inherent assumptions, then probing the bases of such assumptions. In fact, the reflexive analysis of maxims (presumptions) brought to a case can reveal that the established principle on which some maxim is based may be flawed or obsolete. Part of my thesis here is that existing principles of conservation need to be reexamined casuistically and, in many cases, replaced with the more relevant principles developing out of a new ecocentric worldview (Metzner) that reflects the most recent work in ecology and environmental ethics. Casuistry is invigorated by a confrontation between values that are generally thought of as long

settled and emerging conditions that apparently challenge those values (158). Circumstances—what’s “standing around”—are key to casuistically reaching valid conclusions.

Though Pascal’s *Provincial Letters* gave casuistry a popular reputation along the same negative line that plagued rhetoric and sophistry, “it did not destroy the plausibility of case analysis” as a resolution of moral problems (Jonsen and Toulmin 249). Rhetorical reasoning sees “general rules and principles as bearing on limited classes of problems, and does not assume that moral reasoning relies for its force solely on single chains of unbreakable deductions going back to some common starting point” (293). Rhetoric believes such force comes “from accumulating parallel complementary considerations which have to do with current circumstances, like strands in a rope or roots of a tree” (293–94). The rationalist and modernist focus on Cartesian demonstration has encouraged Western philosophers to abandon concrete appreciation of particular circumstances, in favor of abstract understanding of general theories, “enthroning *episteme* where *phronesis* ought to be” (294). This tendency might also reflect the Bolshevik “empiricist” line, condemned as a “deviation” from conventional Marxism/Leninism. Similarly, modern philosophy seems enthralled to *techne* in its project to support reductivist positivism, and has evidently failed in its search for underlying axioms or super-principles that might provide theoretical unity beneath the diversity of practice and experience.

The following six aspects of the practice of casuistry (from Jonsen and Toulmin 251–56) specifically locate the practice within the realm of rhetoric:

- 1) Reliance on paradigm cases and analogies to provide a certain starting point;
- 2) Appeal to maxims and proverbs for popular understanding;
- 3) Analysis of relevant circumstances (time, place, person) to make the specific case;
- 4) Consideration of degrees of probability that makes it sensitive to particular situations;
- 5) Use of cumulative arguments to rhetorically bolster a

conclusion; and

6) Presentation of a solution, even if only probable, to avoid acting from doubt.

As Jonsen and Toulmin suggest, we might better accept the complexity and concreteness of experience at face value, and “assemble a composite and nuanced picture that finds room for all the distinct and separate ways in which problems arise and are resolved in the course of our lives” (294). The casuistic method—of examining specific cases for clues to right action—is post-modern in the sense that, since the problems of modernity have prevented the development of a consensus on moral theory, casuistry offers a heterodoxical approach that can be particularly useful for an examination of the ways attitudes toward the environment are constructed.

Seeking case solutions individually, casuistry relies on intuition and reflection. “Practical wisdom”—necessary for “right conduct”—“can be obtained only by critical reflection on actual experience [By] “weighing relevant principles, arguing from paradigm cases, and distinguishing apparently contrary conclusions in prior cases” (Bedau 127), casuistic deliberations on the proper treatment of the environment might offer a solution to the dilemma of determining appropriate ethical grounds on which to base correct action toward the natural world.

Definition: A New Casuistry for the Age of Ecology

A definition of the new casuistry as it might apply to ecology, which I have extrapolated from Jonsen and Toulmin (257), is this:

The analysis of environmental issues, using procedures of reasoning based on paradigm cases and analogies, leading to the formulation of expert opinions about the existence and stringency of particular ecological policy obligations. The analysis is framed in general rules or maxims, but these are not universal or invariable, since they hold good with certainty only in the typical conditions of the agent and the ecological circumstances of action, and vary in the particular circumstances of specific cases.

My call is for environmental philosophers and policymakers to commit themselves to an ethically interested rhetorical project to reconstruct environmental discourse along the lines suggested by emerging principles in ecology and Leopold's Land Ethic, and to join in an effort to formulate an appropriate eco-ethic that appropriates the casuistic method to reach the most beneficial courses of action to solve specific environmental problems.

Using the tools of rhetoric and ethics, it should be possible for us to develop the consensus to construct new forms of social reality that better conform to emerging conceptions of ecological ethics, based on Kenneth Burke's "hierarchy of values," which, applied to the present case, valorizes intrinsic worth over essential instrumental values and desired use values. From Burke we might proceed to rate "intrinsic worth" highest on a ladder of values, while "instrumental value" for society's needs would rank second, above "use value" for desired economic gain.

Intrinsic value focuses on the ultimate good, in which a person or thing is valued simply for being. It is the highest kind of good we can assign, is manifested in unconditional love, and reflected in values like genetic diversification, biodiversity, and evolutionary speciation. Instrumental value puts the focus on human needs, unselfishly recognizing the higher good of society to be derived from possible botanical discoveries in wilderness, or plant and animal-based medical cures to be extracted from heretofore undescribed rainforest species, manifest in "miracle drugs," as well as in spiritual values and education. Finally, "Use Value" valorizes the continued search for profit by extracting Nature's benefits as fast and fully as possible. These often selfish but nevertheless "good" reasons for exploiting our environment include recreation and corporate-training and survival courses, and the well-known extractive uses of lumbering, livestock production, mining, and oil and gas drilling. Hargrove, on wilderness, echoes Burke, favoring a "return to the notion of higher and lower goods Some things . . ." he says, "are of such great value intrinsically as to be exempt from calculations based on instrumental and economic good" (240).

I suggest that a new branch of science that awards ethical considerability to non-human, non-animal, even non-living entities—reflecting intrinsic values of “beingness” rather than instrumental or utility values—might be a suitable basis for the development of a radically altered method of applying ethical reasoning—a new ecological casuistry—that can solve both hard cases and routine concerns.

The consideration of particularity in disputes over environmental questions—our ability to “weigh public matters prudently, reflecting on their implications for ourselves, our children, and our neighbors” (Miller 11)—seems to invoke especially appropriate methods to support the practice of casuistry. Democratic, collaborative approaches to conflict resolution in environmental matters, such as the social communication approach critiqued by Graham and the transactive approaches examined by Walker and Daniels (see Bibliography), offer casuistic opportunities to build persuasive arguments for our views. Because civic discourse is needed to sustain public argument, a serious popular casuistry should be a central civic practice in the political life of a working democracy. Sustained, serious, and open public debate, Miller concludes, would provide “an alternative to vacuous sound bites, academic fashions, and anemic ideologies” (11).

At present, in the United States at least, environmental discourse is stalled in a non-dialog of vindictive tirades from conservatives who accuse liberals in favor of environmental conservation of being godless “tree-worshippers” and agents of the devil. These fulminations are met with ridicule stemming from the general elitism of environmentalists, who rely on scientific principles to bolster their secular political program and thus fail to connect with their religionist opponents. As a result, under the present right-wing, religionist administration, the process of civil discourse has broken down and the status of environmental debate is moribund.

Via casuistry, we might develop habits of persuasion and reflection, rather than just trying to shout down or intimidate our opponents (as seen in rancher vs. environmentalist confrontations), or bowing out of the conversation by muttering “whatever” as we slink

away (a favorite rhetorical non-tactic of post-modern nihilists, or “know-nothings”). “[Casuistry] leaves policy to those who make the best case for their practical judgments, given available knowledge and a commitment to social responsibility” (Miller 11). The method also offers a vehicle for bringing the newest principles of ecology into the public sphere, thus expanding popular access to, and application of, cutting-edge scientific knowledge in the resolution of environmental conflicts.

An appropriate negative example of a decisionmaker avoiding a needed judgment based on available ecological knowledge is the acid rain controversy of the 1980s, when the Reagan Administration in the U.S., claiming insufficient data, chose to call for more research instead of taking the necessary actions to reduce distant pollution, thus allowing a “business as usual” policy that allowed polluters to continue to avoid internalizing their production costs by using the atmosphere as a sink for waste production, resulting in the poisoning of lakes and death of forests. Had an effective casuistry been applied, a period of fact-gathering might have been followed by a period of deliberation on principles and circumstances, concluding with a possibly interim solution based on available information, a solution that might have gone against the short-term business-profit interests of Reagan’s industrial capitalist supporters (the hidden, Burkeian motivation underlying the policy).

Much to our misfortune, the world is again faced with a similar American refusal to face scientific fact in the Bush Administration’s avoidance of the well-supported implications of global warming, largely because the costs of environmental amelioration through reduced greenhouse-gas emissions would have to be paid for by the same business interests that financed the American President’s election campaigns in 2000 and 2004. Instead of tackling such issues in the interests of their constituents, politicians more often shrink from offending their contributors, an avoidance tactic that seems to have infected many of the so-called “democracies” across the developed world.

Ecology, Principles and Values

In evaluating issues in natural resource use and distinguishing among use, instrumental, and intrinsic value, one can see that in valuing some-one or some-thing for “simply being” is the highest kind of value there is, an extension of Kant’s categorical imperative that no-one—or no-living-thing—be used simply as a means to an end.

Valuation methods applied to natural resources, such as wilderness preservation, for example, have been skewed by political compromise and economic methodology, which in combination limits valuation methods to cost/benefit and contingent-value analyses. Modernist “ecological valuation,” on the other hand, tries to measure wilderness energy budgets, an expensive and doubtful endeavor (Hill 29–31). Conversely, most systems of environmental ethics mount a deontological defense of natural rights, justifying wilderness preservation based on the benefits to nature that other valuation systems ignore. But traditional ethics remains unable to prioritize or measure these values (Hill 31). The application of casuistic reasoning to such valuation offers an escape from this conundrum.

A dialog between realists and idealists might be managed through casuistical reasoning. While realists seek a “do-able” morality that eschews the need for us to become either martyrs or saints, idealists are by nature perfectionists who argue that a “non-utopian” morality results in mediocrity, that the realism of casuistry compromises their high standards of ethics (13). But for secular policymaking, and for satisfactory compromises between oppositional social interest groups, each of which claims a “right” to having influence over the management of public resources, an idealist view of ethics must make room for realism.

This much has already become evident in the political sphere, where effective advances in scientific management of the environment are continually retarded by the political tendency toward compromise. A new ecological casuistry holds the promise of being a formal and fair approach to compromise. But any compromise on the applications of

ecological principles to the solution of environmental problems must be evaluated as to how it fits with biological principles like resilience, fragility, and brittleness in the ability of natural systems to respond to disturbance (Callicott 1996). We must be aware of the inability for certain natural processes to “compromise” without causing biological “discontinuity,” what in lay terms amounts to “catastrophe.” In such cases, we humans must do the compromising.

The implication that life itself is the highest value requires a leap from the facts of the matter to a system of values. This gap is the weak, “emotional” link in logical positivism, but the linchpin of ecocentric ethics. Philippa Foot, in her theory of ethical naturalism, notes that “one can bridge the gap between fact and value” (Denise and Peterfreund 402-03). But it is an absolute necessity that we move from the facts of the matter to the values that we assign to them if we are to shift from a mentality of economic utility to a higher step on the hierarchical ladder of values. The modernist view devalues efforts to realize higher than utilitarian values as a contradiction of its rationalist dogma of Nature’s putative value-neutrality (Kealey 89).

In the pages of *Environmental Ethics*, Bruner and Oelschlaeger (1994) have called on eco-philosophers and ethicists to make their own “rhetorical turn,” to adopt the methods of critical rhetoric and bring the ethical concerns of ecology to a wider audience. Rhetoric can function “architectonically,” they say, to “rejoin eloquence and wisdom in ways that are persuasive and critical,” and thus work toward producing “a new cultural order” (392). “The challenge for environmentalists is to identify available means of persuasion, situation by situation [that is, casuistically], and then find credible images and spokespeople to interact with audiences” (394).

Post-modernists doing ethics transvalue the bounded dialogue of economic value to set up interspecific principles of fairness that extend to all, but are especially important for the rescue of the marginalized—whether they be people, other forms of life, or the biosphere itself. In the process, they use rhetoric to stimulate an emergent ethics that extends human ethical values beyond humanity. The ethos for such a rhetoric of ethics emerges from a concern for the

highest values of nature in wildness: its intrinsic worth.

The simplicity of Aldo Leopold's "Land Ethic" dictum, enunciated in his seminal 1949 work, *A Sand County Almanac*, is of surpassing elegance: "A thing [act] is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise" (201). Like Kant's Categorical Imperative, it invites efforts to specify exactly what actions might comprise right and wrong and provides an ecological casuistry with an over-riding ethical principle. Beyond the need to allow for additional ecological concepts, such as appropriate scale of disturbance, to be added to this first-order principle, there needs to be devised a set of second-order principles to provide guidelines for putting the Land Ethic imperative into action.

Laura Westra, in her formative work, *An Environmental Proposal for Ethics: The Principle of Integrity* (Rowman, 1994), proposes a "principle of integrity" as a basis for an environmental ethic, an ethic "that starts with the fundamental need for ecological and biological integrity and raises questions about what it would mean" (*Living in Integrity* 6). Westra offers a four-part definition of ecosystem integrity:

- 1) Current ecosystem health and present well-being;
- 2) An ability to deal with outside interference and regenerate itself;
- 3) An undiminished optimum capacity for development, through biodiversity; and
- 4) A continuing ability to change and develop, "unconstrained by human interruptions, past or present." (Westra 7–8)

Westra states her principle of integrity (PI) clearly:

"1. The first moral principle is that nothing can be moral that is in conflict with the physical realities of our existence or cannot be seen to fit within the natural laws of our environment in order to support the primacy of integrity" (24). She proposes two corollaries as "categorical imperatives": "1a. Act so that your action will fit (first and minimally) within universal natural laws," and, "1b. Act so that you manifest respect and understanding acceptance of all natural processes and laws (although self-defense is acceptable)" (Westra 1994 92–93, 97 and 1998 24). Of special importance is the grounding provided by the

“precautionary principle,” articulated at the 1992 Earth Summit:

“In order to protect the environment, the precautionary approach shall be widely practiced by the States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental damage” (Westra 1998 13). This directly contradicts the position that the U.S. Bush Administration has taken on global warming, which was probably inspired by Reagan’s earlier evasive position on acid rain, which simply called for more evidence. More recent pronouncements of the U.S. Government have made clear that U.S. resistance to the Kyoto agreement on global warming is that its requirements would place an undesirable and large cost on American industry.

In 1998, Westra takes up her own challenge to begin to operationalize the Integrity Principle in *Living in Integrity: A Global Ethic to Restore a Fragmented Earth* (Rowman). In it she refutes objections and theorizes the principle of integrity (PI) with six second-order principles, argues for “a new way to define, identify, and treat environmental risks,” and proposes an uncompromising, non-anthropocentric and holistic environmental ethics, which she supports with trenchant global examples. Of particular interest for the present essay, her second-order principles (SOPs) show key approaches that also might assist in operationalizing Leopold. I condense and summarize these SOPs as follows, using Westra’s own words, somewhat rearranged:

SOP 1: To protect and defend ecological integrity, design policies that embrace complexity.

SOP 2: Refrain from activities potentially harmful to natural systems, based on the approach of “post-normal” science.

SOP 3: limit human activities through the precautionary principle.

SOP 4: Accept an ecological worldview, rejecting expansionism and reducing our ecological footprint.

SOP 5: Eliminate many present practices and our emphases on “technical maximality” and hazardous or wasteful individual rights.

SOP 6: That humanity learns to live in buffer zones to respect and

protect core wild areas. Westra concludes: *This is the essential meaning of the ethics of integrity* (emphasis in original). (Westra, 1998, 27–28)

We are left then with a set of imperatives that can serve as well to make a start at providing a set of ethical principles in support of Leopold's Land Ethic and Westra's Integrity Principle, a chore that remains beyond the scope of this article. For present purposes, then, I leave the formulation of supporting maxims and proverbs to future researchers.

Robert Bartlett (1986), citing Weber and Giddens, has explained forms of rationalities that establish a basis for an ecological—not positivist—rationality (222). "Procedural" rationality "describes an intelligent system's ability to discover appropriate behavior" (224); it is the "rationality [and] order of relationships among living systems and their environments" (229). Gary Snyder (1990) illustrates this intelligence of the wild in a favorite quote of mine:

[O]ne cannot walk through a meadow or forest without a ripple of report spreading out from one's passage. The thrush darts back, the jay squalls, a beetle scuttles under the grasses, and the signal is passed along. Every creature knows when a hawk is cruising, or a human is strolling. The information passed through the system is intelligence. (18)

What we would wish for ourselves should apply to all, says Kant. Aldo Leopold appropriated this categorical imperative for his Land Ethic. Again: "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." The Land Ethic respects duty, good will, and moral worth; it extends community membership to all of life, and recognizes that our own well-being is bound up with that of all other forms of life.

We thus have, as W.D. Ross puts it, "a perfect obligation" in regard to the environment and other species—a duty with "moral significance": to care for the source of life in wildness. This obligation toward wilderness preservation can be worked out in practical cases by eco-philosophers and environmental policymakers who may find a new

casuistry an appropriate and powerful tool to analyze specific situations, and reason out the appropriate responses.

For cases of conflict, successful resolution requires us to settle between or among often longstanding rules and habits, and to build a hierarchy of “competing obligations,” which refer back to our relevant presumptions (Miller 25). But in cases of environmental disputes, at least, the conflict is often between old, traditional, and accepted rules based on established presuppositions and often outdated management principles and, on the other hand, the new rules and principles of ecological science. Often these new, ecological “presumptions” are rejected in favor of older ideas because, being old, they are more widely (if no longer correctly) accepted by cautious politicians and a conservative, often reactionary, public. In order to reach political acceptability, politicians often think that new ecological principles must be rejected. So political factions and special interest groups produce “junk science,” which placates the public while the environment continues to suffer (Ehrlich and Ehrlich). We see this tendency operating in the specious American refusal to consider the evident dangers of global warming. This is the cracked window that offers entry to a new casuistry in the resolution of such environmental conflicts.

One example of such a situation is the question of assigning value to environmental features—wilderness, for example—and determining proper use, conservation, and preservation. Extremists of the reactionary “Wise-Use” movement—a front for extractive users of natural resources—rely on literal interpretations of biblical admonitions to “subdue” the earth, to see natural resources in wilderness as commodities to be exploited as quickly and profitably as possible (Helvarg). A more moderate approach relies on the “conservation” paradigm to hold that wilderness should be conserved to some extent for instrumental human uses, like recreation, therapy, and survival training, as well as for purposes of solitude, spiritual reflection, and self-realization (Payne). Deep ecologists and radical environmentalists rely on concepts of intrinsic value in nature to call for its near-total preservation for maintaining biodiversity and as a

home for non-human life, the process of speciation, and home for indigenous peoples (Kellert; Snyder; Gomez-Pompa and Kaus).

“Wilderness management” may be an oxymoron, but leaving wilderness alone may be worse than minimal management, due to past anthropogenic disturbances. The appropriation of the casuistic method, in the application of “minimum tools” (Honnold), allows managers to set benchmarks for the condition of specific wilderness areas, and to manage them as the situation allows (Dearden 38). This provides an opening for the case-study approach of casuistry to enable decisions on their worth, condition, and use. Wilderness managers, when faced with conflicts between use and instrumental values, would limit threats by managing people instead of nature. Such a course of action would tend to support the intrinsic values of wilderness.

Conclusion

Less than one percent of remaining wilderness is in temperate rainforests; its protection will require societies to choose preservation over industrial development. This choice will become more likely when our mental framework shifts, from the Dominant Social Paradigm—the anthropocentric worldview that believes most strongly in man, science and technology to solve problems—to a New Ecological Paradigm, the biocentric view of humans as part of, and bounded by, nature. Such a paradigm shift requires us to accept limits to growth, and the need to protect the integrity of the life community (213–24). A bio-ecocentric approach to global ecology will require us to relocate our faith in the future from a reliance on God or technology, to a trust in the domiciliary capability of the earth and its natural systems. Deep ecologists call this *Biophilia* (Wilson 1984).

The realization of one’s own personhood is dependent on the recognition and respect of the universality of personhood in nature and all its beings. The problems of the environment stem from the assumption that only humans are persons, and that all other entities are instrumental for human purposes. Paulo Freire has noted that we are all imperfect persons; so, with some reflection, we might find that other

organisms represent varying degrees of personhood. This Zen conclusion stretches "the flexible boundaries of [personhood] to include the flora and fauna, and even the physical energy-matter system of the natural order itself" (Kealey 97). It renders us unable to maintain the dualism of instrumental and intrinsic values.

A new ecocentric casuistry might not be a set of practical rules, but rather, "an awareness and intelligence that makes the most appropriate decisions directly without first having to think about which rules or principles to apply" (Kealey 100). This notion of casuistry apprehends itself as a "natural" praxis (just as indigenous cultures practice case analyses), opening up the activity to everyone.

The application of the Land Ethic via a New Ecological Casuistry that I propose here is an activity of an aware intelligence that applies procedural rationality through an internalized, self-integrated ethic, using the casuistic method to reach the most appropriate decisions for environmental solutions. The reflexive practice of casuistry resulting from the integration of new, emerging ecological principle, coupled with an eco-biocentric Land Ethic would reflect a social, cultural, and rhetorical re-structuring of values, and may offer the best chance for the future, long-term, preservation and maintenance of wild nature. It may even provide the philosophical grounds for a return to our wilderness home in a post-industrial world.

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