



Animal Liberation and Environmental Ethics: Back Together Again

J. Baird Callicott

University of Wisconsin, Steven's Point

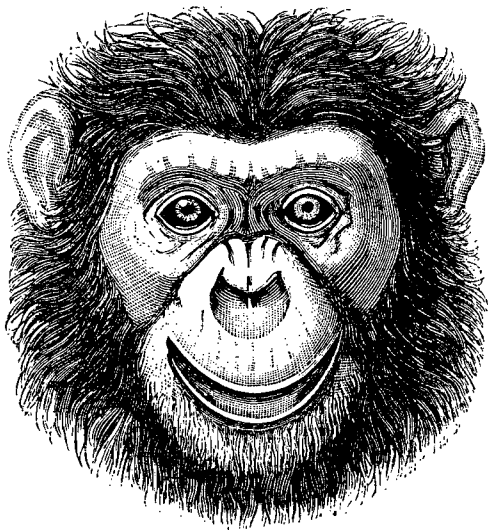
overlapping concerns. From a practical point of view, it would be far wiser to make common cause against a common enemy — the destructive forces at work ravaging the nonhuman world — than to continue squabbling among ourselves.

Not long after the schism emerged, that is not long after the appearance of "Triangular Affair," Mary Anne Warren took a positive step toward reconciliation. She insisted that ecocentric environmental ethics and animal welfare ethics were "complementary," not contradictory.²

Warren's approach is thoroughly pluralistic. She argues that animals, like human beings, have rights. But she also argues that animals do not enjoy the same rights as human beings and that the rights of animals are not *equal* to human rights. And she argues, further, that animal rights and human rights are grounded in different psychological capacities. A holistic environmental ethic, Warren suggests, rests upon still other foundations — the instrumental value of "natural resources" to us and to future generations and the "intrinsic value" we (or at least some of us) intuitively find in plants, species, "mountains, oceans, and the like."³



PHILOSOPHY



Carol Belanger Grafton,
Old-Fashioned Animal Cuts.
New York: Dover, 1987

Probably more than any other one thing, my article "Animal Liberation: A Triangular Affair," has led to an increasingly acrimonious divorce between individualistic animal welfare ethics and holistic ecocentric ethics.¹ I think this estrangement is regrettable because it is divisive. Animal welfare ethicists and environmental ethicists have

Warren recommends, in short, a wholly reasonable ethical eclecticism. Human beings have strong rights because we are autonomous; animals have weaker rights because they are sentient; the environment should be used with respect — even though it may not have rights — because it is a whole and unified thing which we value in a variety of ways. Conflicts will certainly arise among all the foci of the human/animal/ environment triangle — an example cited by Warren concerns introduced feral goats which threaten native plant species on New Zealand — but well-meaning people can muddle through the moral wilderness, balancing and compromising the competing interests and incommensurable values. In general, Warren concludes, “only by *combining* the environmentalist and animal rights perspectives can we take account of the full range of moral considerations which ought to guide our interactions with the nonhuman world.”⁴

However reasonable, there is something philosophically unsatisfying in Warren’s ethical eclecticism. Moral philosophy historically has striven for theoretical unity and closure — often at a considerable sacrifice of moral common sense. Consider, for example, Kant’s deontological dismissal of the moral value of actions tainted with “inclination,” even when the inclination in question is wholly altruistic. Or consider the morally outrageous consequences that some utilitarians have been led to accept in order faithfully to adhere to the theoretical foundations of utilitarianism.

In striving for theoretical unity and consistency moral philosophy is not unlike natural philosophy. When a variety of apparently disparate phenomena (e.g., falling bodies, planetary motions, and tides) can be embraced by a single idea (gravity), the natural philosopher feels that a deep (though perhaps not ultimate) truth about nature has been struck. Similarly in moral philosophy, we strive to explain the commonly held welter of practical precepts and moral intuitions by appeal to one (or at most a very few theoretically related) imperative(s), principle(s), summary maxim(s), or golden rule(s). And if we succeed we feel that we have discovered something true and deep about morality.

The moral philosopher’s love for theoretical unity, coherency, and self-consistency may represent more than a matter of mere intellectual taste. There is a practical reason to prefer theoretical unity in moral philosophy just as there is in natural philosophy. Probably more than anything else, the failure of the

Ptolemaic system of astronomy — with its hodge-podge of *ad hoc* devices — accurately to predict the positions of the planets led Copernicus to unify the celestial phenomena by introducing a single radical assumption — that the sun, not the earth is at the center of it all. In moral philosophy when competing moral claims cannot be articulated in the same terms, they cannot be decisively compared and resolved. Ethical eclecticism leads, it would seem inevitably, to moral incommensurability in hard cases. So, we are compelled to go back to the theoretical drawing board.

To achieve something more than a mere coalition of convenience — to achieve, rather, a lasting alliance between animal welfare ethics and ecocentric environmental ethics will require the development of a moral theory that embraces both programs *and* that provides a framework for the adjudication of the very real conflicts between human welfare, animal welfare, and ecological integrity. It is the purpose of this paper to suggest such a theory on terms, shall we say, favorable to ecocentric environmental ethics, just as Tom Regan has suggested such a theory on terms favorable to animal welfare ethics.

Regan proposes a “rights-based environmental ethic” consistent with and, indeed, launched from his “rights view” version of animal welfare ethics. He himself has not worked out the grounds for the rights of individual trees and other non-“subjects-of-a-life,” but he urges environmental ethicists seriously to take up the challenge. Writes Regan,

The implications of the successful development of a rights-based environmental ethic, one that made the case that individual inanimate objects (e.g. *this* redwood) have inherent value and a basic moral right to treatment respectful of that value, should be welcomed by environmentalists...A rights-based environmental ethic remains a live option, one that, though far from being established, merits continued exploration...Were we to show proper respect for the rights of individuals who make up the biotic community, would not the *community* be preserved?⁵

To this (actually rhetorical) question Mark Sagoff replied, “I believe [that] this is an empirical question, the answer to which is ‘no’. The environmentalist is concerned about preserving evolutionary processes, e.g., natural selection, whether these processes have deep enough respect for the rights of individuals...” or

not.⁶ Nature, as Sagoff points out, is not fair; it does not respect the rights of individuals. To attempt to safeguard the rights of each and every individual member of an ecosystem would, correspondingly, be to attempt to stop practically all trophic processes beyond photosynthesis — and even then we would somehow have to deal ethically with the individual life-threatening and hence rights-violating competition among plants for sunlight. An ethic for the preservation of nature, therefore, could hardly get off on the right foot if, at the start, it condemns as unjust and immoral the trophic asymmetries lying at the heart of evolutionary and ecological processes. An environmental ethic cannot be generated, as it were by an invisible hand, from a further extension of rights (on the basis of some yet-to-be-worked-out theory) to “individual inanimate objects.”

I have another, and I think better, proposal which was suggested to me by the work of Mary Midgley.

Midgley, in her book, *Animals and Why They Matter*, grounds the mattering — i.e., in more familiar contemporary philosophical terminology, the moral considerability — of animals in what she calls “the mixed community”:

All human communities have involved animals. The animals...became tame, not just through fear of violence, but because they were able to form individual bonds with those who tamed them by coming to understand the social signals addressed to them...They were able to do this, not only because the people taming them were social beings, but because they themselves were so as well.⁷

Midgley goes on to draw out a number of consequences from this pregnant and profound observation. Since we and the animals who belong to our mixed human-animal community are coevolved social beings participating in a single society, we and they share certain feelings that attend upon and enable sociability — sympathy, compassion, trust, love, and so on. Her main point is to show that it is preposterous to believe, with those whom she identifies as “Behaviourists,” that animal members of our mixed community are mere automata, devoid of a rich subjective life. And her subordinate point is to show that the “species-barrier” to human-animal social interaction is both artificial and unhistorical. We have enjoyed, nor is there any good philosophical reason why we should not continue to enjoy, interspecies social relationships and intimacy. Says Midgley, “the

problem here is not about anthropomorphism, but about Behaviourism, and it arises already on the human scene. The barrier [between subjects] does not fall between us and the dog. It falls between you and me...Natural sympathy, as Hume rightly said, has a basis in common humanity. Does it therefore follow that it stops at the species-barrier?”⁸

Midgley, curiously, does not go on to elaborate a positive moral theory which incorporates to the best advantage the very thorough and convincing case she has made for the existence of a wide variety of animal consciousnesses — from that of dogs to that of work elephants — each with its species’ peculiarities, but each broadly based in, shall we say, a common bio-sociality. Midgley certainly does not go on to argue, à la Peter Singer, that the “sentient” ambient among animal members of the mixed community, which she has so fully and forcefully defended, should constitute a *criterion* for equal moral consideration; nor does she argue, à la Tom Regan, that having a rich subjective life entitles domestic animals to equal moral rights. Her approving mention of Hume, however, and her emphasis on social affections and sympathy suggest to me that, if pressed, Midgley would sketch a Humean ethical theory to make moral hay of her defense of the subjectivity of animals and the possibility of intersubjective interaction between species.

David Hume’s moral theory is distinguished from the prevailing modern alternatives — utilitarianism and deontology — primarily by two features: (1) Morality is grounded in feelings, not reason; although reason has its role to play in ethics, it is part of the supporting cast. And (2), altruism is as primitive as egoism; it is not reducible either to enlightened self-interest or to duty.

A pertinent contrast to Hume’s understanding of ethics is afforded by Peter Singer. In *Animal Liberation* he heaped scorn on “sentimental appeals for sympathy” toward animals and avowed that his animal welfare ethic was grounded exclusively in “basic moral principles which we all accept; and the application of these principles to victims...is demanded by reason, not emotion.”⁹ Singer follows the usual theoretical approach of modern moral philosophy — elegantly described by Kenneth Goodpaster — which has been to generalize egoism.¹⁰ Baldly stated, it comes to this: I insist upon moral consideration from others or moral rights for myself. My entitlement to moral standing or moral rights may be plausibly defended by appeal to a

psychological characteristic or capacity possessed by me which is arguably relevant to ethical treatment. But then "others" are entitled to equal moral consideration to the extent that they possess, in equal measure, the same psychological characteristic. I may not love others (in this connection, Singer wants us to know that he keeps no pets) or sympathize with them; indeed I may be entirely indifferent to their concerns or even actively dislike them. Still, I am compelled by the logic of my own moral claim upon others to grudgingly grant their similar claims upon me.

Hume took a different course. He argued that both our moral judgments and actions are rooted in altruistic feelings or sentiments that are very often opposed to "self-love." Writes Hume, "So far from thinking that men have no affection for anything beyond themselves, I am of opinion that tho' it be rare to meet with one, who loves any single person better than himself; yet 'tis rare to meet with one, in whom all the kind affections, taken together, do not over-balance all the selfish."¹¹ According to Hume, these kind affections are the soil in which our morals are rooted and from which they take their nourishment.

Aldo Leopold, in "The Land Ethic" of *A Sand County Almanac*, evidently patterned his own concept of an "ethical sequence" on Charles Darwin's discussion of the evolution of ethics in *The Descent of Man*, and Darwin cites both Hume's *Treatise* and Adam Smith's *Theory of the Moral Sentiments* as the philosophical antecedents of his own "natural history" of ethics. I have argued in a variety of venues and in considerable detail that, therefore, Hume's moral theory is the historical ancestor of Aldo Leopold's land ethic, the modern ethic of choice of the environmental movement and many contemporary environmental philosophers.¹² What's more, the moral fulcrum of the Leopold land ethic is the ecological concept of the "biotic community."

Mary Midgley's suggested animal welfare ethic and Aldo Leopold's seminal environmental ethic thus share a common, fundamentally Humean understanding of ethics as grounded in altruistic feelings. And they share a common ethical bridge between the human and non-human domains in the concept of *community* — Midgley's "mixed community" and Leopold's "biotic community." Combining these two conceptions of a metahuman moral community we have the basis of a unified

animal-environmental ethical theory.

Hume regarded the social feelings upon which the edifice of ethics is erected to be a brute fact of human nature. Darwin explained how we came to have such feelings, as he explained so many other curious natural facts, by appeal to the evolutionary principle of natural selection.

Darwin's biosocial reduction of Hume's moral theory is particularly ingenious since, at first glance, altruism seems, from an evolutionary point of view, anomalous and paradoxical. Given the ceaseless struggle for the limited means to life lying at the heart of Darwin's conception of nature, concern for others and deferential behavior would appear to be maladaptive tendencies quickly eliminated from a gene pool, should they ever chance to emerge. Or so it would seem — until we consider the survival-reproductive advantages of social membership. Concern for others and self-restraint are necessary for social amalgamation and integration, Darwin argued. "Ethical" behavior is, in effect, the dues an individual pays to join a social group; and the survival advantages of group membership to individuals more than compensate them for the personal sacrifices required by morality. Since most animals, including most human beings, are not sufficiently intelligent to make a benefit-cost analysis of their social actions, we are outfitted, Darwin theorized, with "social instincts" impelling us toward socially conducive moral behavior.

What is right and what is wrong, Darwin suggests, reflects, more or less, the specific organizational structure of society — since ethics have evolved to facilitate social cohesion. The "ethics" of a hierarchically structured pack of wolves, for example, require celibacy of most its members. The ethics of apolitical and egalitarian human tribal societies require members periodically to redistribute their wealth. Who is and who is not an appropriate beneficiary of one's moral sympathies, similarly reflects the *perceived* boundaries of social membership. In our dealings with those whom we regard as members, the rules apply; in our dealings with those whom we regard as outsiders, we do as we please.

Midgley's marvelous insight is that, however exclusive of other human beings the perceived boundaries of historical human societies may have been, they all, nevertheless, included some animals — aboriginally man's hunting partner, the dog; and, after the neolithic revolution, a variety of herd,

farm, and work animals: everything from the cow and pig to the Asian elephant and water buffalo. Consonant with my analysis in "A Triangular Affair," Midgley suggests therefore that a big part of the immorality of the treatment of animals in the current industrial phase of human civilization is that we have broken trust with erstwhile fellow-members of our traditionally mixed communities. Animals have been depersonalized and mechanized and that goes a long way toward explaining the moral revulsion we all feel toward the factory farm and animal research laboratory.

How we ought and ought not treat one another (including animals) is determined, according to the logic of biosocial moral theory, by the nature and organization of communities. Even to those deeply sympathetic to the plight of animals there is something deeply amiss in the concept of *equal* moral consideration or *equal* moral rights for animals, required by the logic of extending the prevailing modern moral paradigms, just as there is something deeply amiss in the idea of requiring equal consideration for all human beings regardless of social relationship.

Peter Singer, once again, provides a revealing example of the latter as well as the former. He argues that he has failed in his duty because he does not donate the greatest portion of his modest income to help alleviate the suffering of starving people living half way around the world, *even though* to do so would impoverish not only himself, but his own children.¹³ Suffering is suffering, no matter whose it may be, and it is the duty of a moral agent to be impartial in weighing the suffering of one against the suffering of another. Since the starving suffer more from his withholding money from them than his children would suffer were he to impoverish them short of starvation, Singer concludes that he should give the greater portion of his income to the starving.

From Midgley's biosocial point of view, we are members of nested communities each of which has a different structure and therefore different moral requirements. At the center is the immediate family. I have a duty not only to feed, clothe, and shelter my own children, I also have a duty to bestow affection on them. But to bestow a similar affection on the neighbors' kids is not only not my duty, it would be considered anything from odd to criminal were I to behave so. Similarly, I have obligations to my neighbors which I do not have to my less proximate fellow citizens — to watch their houses while they

are on vacation, for example, or to go to the grocery for them when they are sick or disabled. I have obligations to my fellow citizens which I do not have toward human beings in general, *and* I have obligations to human beings in general which I do not have toward animals in general.

These subtly shaded social-moral relationships are complex and overlapping. Pets, for example, are — properly so, Midgley argues — surrogate family members and merit treatment not owed either to less intimately related animals, for example to barnyard animals, *or*, for that matter, to less intimately related human beings.

Barnyard animals, over hundreds of generations, have been genetically engineered (by the old-fashioned method of selective breeding) to play certain roles in the mixed community. To condemn the morality of these roles — as we rightly condemn human slavery and penury — is to condemn the very being of these creatures. The animal welfare ethic of the mixed community, thus, would not censure using draft animals for work or even slaughtering meat animals for food, so long as the keeping and using of such animals was not in violation — as factory farming clearly is — of a kind of evolved and unspoken social contract between man and beast.

But it is not my intention here to attempt to detail our duties to the various classes of the animal members of mixed communities. Rather, I wish to argue that whatever our various duties to various kinds of *domestic* animals may, from this point of view, turn out to be, they differ in a general and profound way from our duties toward the *wild* animal members of the *biotic* community.

One of the principal frustrations with the familiar utilitarian and deontological approaches to animal liberation that I have experienced, as an environmental ethicist, is the absence of a well grounded distinction between our proper ethical relations with, on the one hand, domestic, and on the other, wild animals. According to the conventional approach, cattle and antelope, pigs and porcupines, bears and battery hens are entitled to equal moral consideration and/or equal rights.

The Midgley-Leopold biosocial moral theory, by contrast, clearly provides the missing distinction. Domestic animals are members of the mixed community and ought to enjoy, therefore, all the rights and privileges, whatever they may turn out to be, attendant upon that membership. Wild animals

are, by definition, not members of the mixed community and therefore should not lie on the *same spectrum* of graded moral standing as family members, neighbors, fellow citizens, fellow human beings, pets, and other domestic animals.

Wild animals, rather, are members of the biotic community. The structure of the biotic community is described by ecology. The duties and obligations of a biotic community ethic or "land ethic," as Leopold called it, may, accordingly, be derived from an ecological description of nature — just as our duties and obligations to members of the mixed community can be derived from a description of the mixed community.

Most generally and abstractly described, the ecosystem is, to quote Leopold, "a fountain of energy flowing through a circuit of soils, plants, and animals."¹⁴ The currency, in other words, of the economy of nature is solar energy captured upon incidence by green plants and thereafter transferred from animal organism to animal organism — not from hand to hand, like coined money — but, so to speak, from stomach to stomach. The most fundamental fact of life in the biotic community is eating...*and being eaten*. Each species is adapted to a trophic niche; each is a link in a food chain, and a knot in a food web. Whatever moral entitlements a being may have as a member of the biotic community, *not* among them is the right to life. Rather, each being should be respected and left alone to pursue its *modus vivendi* — even if its way of life causes harm to other beings, including other sentient beings. The integrity, stability, and beauty of the biotic community depend upon *all* its members, in their appropriate numbers, functioning in their coevolved life ways.

Among the most disturbing implications drawn from conventional indiscriminate animal liberation/rights theory is that, were it possible for us to do so, we ought to protect innocent vegetarian animals from their carnivorous predators.¹⁵ Nothing could be more contrary to the ethics of the biotic community than this suggestion. Not only would the (humane) eradication of predators destroy the community, it would destroy the species which are the intended beneficiaries of this misplaced morality. Many prey species depend upon predators to optimize their populations. And, at a deeper level, we must remember that the alertness, speed, grace, and all the other qualities we most admire in herbivorous animals — all the qualities, indeed, which make them subjects-of-a-life and thus worthy of moral

consideration/rights — were evolved in direct response to their carnivorous symbionts.¹⁶

The Humean biosocial moral theory differently applied to larger-than-human communities by Midgley and Leopold has, unlike the more familiar approach of generalizing egoism, historically provided for a holistic as well as individualistic moral orientation. We care, in other words, for our communities *per se*, over and above their individual members — for our families *per se*, for our country, and for humankind. As Midgley might say, they "matter" to us as well. Hence, according to Hume, "we must renounce the theory which accounts for every moral sentiment by the principle of self-love. We must adopt a more *publick affection* and allow that the interests of society are not, *even on their own account*, entirely indifferent to us."¹⁷

Darwin's holism is even more pronounced:

We have now seen that actions are regarded by savages, and were probably so regarded by primeval man, as good or bad, solely as they obviously affect the welfare of the tribe — not that of the species, nor that of the individual member of the tribe. This conclusion agrees well with the belief that the so-called moral sense is aboriginally derived from social instincts, for both relate exclusively to the community.¹⁸

And the holistic dimension of Aldo Leopold's land ethic all but overwhelms the individualistic. Leopold provides only "respect" for individual members of the biotic community, but "biotic rights" for species and, in the last analysis, "the integrity, beauty, and stability of the biotic community" is the measure of right and wrong actions affecting the environment.

The hyperholism of the land ethic is also itself a function of an ecological description of the biotic community. But since the biosocial moral paradigm provides for various co-existing cooperating and competing ethics — each corresponding to our nested overlapping community entanglements — our holistic environmental obligations are not preemptive. We are still subject to all the other more particular and individually oriented duties to the *members* of our various more circumscribed and intimate communities. And since they are closer to me, they come first. In general, obligations to family come before obligations to more remotely related fellow humans. For example, *pace* Singer, one

should not impoverish one's own children just short of starvation in order to aid actually starving people on another continent. But neither should one promote or even acquiesce in human starvation, no matter how distant, to achieve environmental goals — as some overzealous environmental activists have actually urged. Similarly, one should not allow a wild predator to help herself to one's free-range chickens, members of one's immediate mixed community. But neither should one interfere, other things being equal, in the interaction of the wild members of the biotic community.

So the acknowledgement of a holistic environmental ethic does not entail that we abrogate our familiar moral obligations to family members, to fellow citizens, to all mankind, nor to fellow members, individually, of the mixed community, i.e., to domestic animals. On the other hand, the outer orbits of our various moral spheres exert a gravitational tug on the inner ones. One may well deprive one's children of a trip to Disneyland or give them fewer toys at Christmas in order to aid starving people on another continent. Similarly, one may well make certain sacrifices oneself or impose certain restrictions on the animal members of one's mixed community for the sake of ecological integrity. Dairy cattle, for example, can be very destructive of certain plant communities and should be fenced out of them when other pasture or fodder is available — despite their own preferences and the economic interests of dairy farmers.

Animal liberation and environmental ethics may thus be united under a common theoretical umbrella — even though, as with all the laminated layers of our social-ethical accretions, they may occasionally come into conflict. But since they may be embraced by a common theoretical structure, we are provided a means, in principle, to assign priorities and relative weights and thus to resolve such conflicts in a systematic way. □

Notes

¹J. Baird Callicott, "Animal Liberation: A Triangular Affair," *Environmental Ethics* 2 (1980): 311-228.

²Mary Anne Warren, "The Rights of the Nonhuman World" in Robert Elliot and Arran Gare, *Environmental Philosophy: A Collection of Readings* (University Park: The Pennsylvania State University Press, 1983): 109-131.

³*Ibid.*, pp. 130-131.

⁴*Ibid.*, p. 131.

⁵Tom Regan, *The Case for Animal Rights* (Berkeley: University of California Press, 1983) pp. 362-363. For a discussion see my review in *Environmental Ethics* 7 (1985): 365-372.

⁶Mark Sagoff, "Animal Liberation and Environmental Ethics: Bad Marriage, Quick Divorce," *Osgoode Hall Law Journal* 22 (1984): 306.

⁷Mary Midgley, *Animals and Why They Matter* (Athens: The University of Georgia Press, 1983), p. 112.

⁸*Ibid.*, pp. 130, 131.

⁹Peter Singer, *Animal Liberation: A New Ethics for Our Treatment of Animals* (New York: Avon Books, 1977) pp. xi-xii. Sympathy has recently been defended as an appropriate foundation for animal welfare ethics by John A. Fischer, "Taking Sympathy Seriously," *Environmental Ethics* 9 (1987): 197-215.

¹⁰Kenneth Goodpaster, "From Egoism to Environmentalism" in K. Goodpaster and K. Sayer, eds., *Ethics and Problems of the 21st Century* (Notre Dame: Notre Dame University Press, 1979): 21-35.

¹¹David Hume, *A Treatise of Human Nature* (Oxford: The Clarendon Press, 1960) p. 487.

¹²My most comprehensive statement to date is "The Conceptual Foundations of the Land Ethic," in J. Baird Callicott, ed., *Companion to A Sand County Almanac: Interpretive and Critical Essays* (Madison: University of Wisconsin Press, 1987): 186-217.

¹³Peter Singer, *The Expanding Circle: Ethics and Sociobiology* (New York: Farrar, Straus, and Giroux, 1982).

¹⁴Aldo Leopold, *A Sand County Almanac: And Sketches Here and There* (New York: Oxford University Press, 1949), p. 216.

¹⁵Peter Singer toys with this idea in *Animal Liberation*: "It must be admitted that the existence of carnivorous animals does pose one problem for the ethics of Animal Liberation, and that is whether we should do anything about it. Assuming that humans could eliminate carnivorous species from the earth, and that the total amount of suffering among animals in the world were thereby reduced, should we do it?" (p. 238). Steve Sapontzis in "Predation," *Ethics and Animals* 5 (1984) concludes that "where we can prevent predation without occasioning as much or more suffering than we would prevent, we are obligated to do so by the principle that we are obligated to alleviate avoidable animal suffering" (p. 36). I argue in "The Search for an Environmental Ethic," in Tom Regan, ed. *Matters of Life and Death*, 2nd Edition (New York: Random House, 1986): 381-423 that both Singerian animal liberation and Regan's animal rights imply the ecological nightmare of a policy of predator extermination.

¹⁶See Holmes Rolston, III, "Beauty and the Beast: Aesthetic Experience of Wildlife" in D. J. Decker and G. R. Goff, eds., *Valuing Wildlife: Economic and Social Perspectives* (Boulder: Westview Press, 1987): 187-196.

¹⁷David Hume, *An Enquiry Concerning the Principle of Morals* (Oxford: The Clarendon Press, 1777), p. 219.

¹⁸Charles Darwin, *The Descent of Man and Selection in Relation to Sex* (New York: J. A. Hill and Company, 1904), p. 120.