

On the Intrinsic Value of Nonhuman Species

J. BAIRD CALLOCOTT

I. THE "FACTS" AND THE VALUES

At present the earth is in the throes of an episode of biotic impoverishment of, perhaps, unprecedented magnitude.¹ The current rate of species extinction is the subject of controversy, but all parties agree that it is alarmingly great, and accelerating.² From 1600 to 1900 the average rate of species extinction was roughly one every four years, from 1900 to the present one per year;³ and, according to Norman Myers, "if present average patterns of exploitation persist," the rate of extinction during the last quarter of the twentieth century may reach something over 100 species per day!⁴ It is conceivable that by the end of the century one million or more species could become extinct.⁵ Already gone are, in the words of Alfred Russel Wallace, "the hugest, and fiercest, and strangest forms."⁶ Next to go will be myriad species of plants and invertebrates.

Well, so what? Why should we care? Aren't more than 90 percent of the species ever to have existed on earth now extinct?⁷ Isn't species extinction, after all, a natural process?

Undoubtedly, species extinction is natural, in the sense that all natural phenomena are natural. (Certainly it is not supernatural.) Species extinction, when compensated by speciation, moreover, is normal as well as natural. But massive, abrupt species extinction and consequent biological impoverishment are *not* normal. The fossil record indicates that several discernible mass extinction events occurred in the geologic past, but it also indicates that the rate of "background" or routine extinctions has declined with time and, correspondingly, that biological diversity has increased with time.⁸ On the average, speciation has outpaced extinction. The earth's evolutionary process tends toward greater biological diversity

(and I do not mean to suggest here anything teleological), although it has been interrupted by widely spaced "setbacks."

To know that massive species extinction is abnormal, albeit natural, and that the tendency of organic evolution is toward greater biological diversity, however, does not settle the question of value. Why should one species be concerned about the threat of destruction it poses to others? More to the point, why should we, *Homo sapiens*, preserve and nurture those species yet surviving?

Many cogent arguments for species preservation of a kind vulgarly called "utilitarian" have recently appeared.⁹ Any argument for species preservation which is addressed to human welfare or human happiness (whether material or spiritual) is essentially "utilitarian" in the received sense of the term.¹⁰ There are, in general, two kinds of value: (1) intrinsic value and (2) instrumental value. A "utilitarian" or "homocentric" argument for species preservation either explicitly or implicitly assumes that human beings (or, more abstractly, human welfare or happiness) are intrinsically valuable and that all other things, including other forms of life, are valuable only as means or instruments which may serve human beings (or facilitate human welfare or happiness).

One often finds, however, lurking beneath a recitation of the benefits to man provided by other species severally and the existing biotic complement of earth collectively a scarcely concealed nonutilitarian substratum of value. George Woodwell, for example, wistfully remarks that "one might dream that on the only green planet we know, life would have a special value of its own." But, since such a value is not universally acknowledged, he and his colleague Howard Irwin agree that it is necessary to argue for species preservation in terms "understandable and usable in politics," and which "the public can easily understand and accept," i.e., utilitarian terms.¹¹ The utilitarian arguments, in other words, seem often to be a way of selling the public on policies that are felt to be somehow right independently of present and future human well-being. One suspects that for Woodwell, Irwin, and many other ardent advocates of species preservation the conventional utilitarian arguments are but a subterfuge and that their deeper concerns emanate from other ideals and values.¹² Many distinguished conservationists, indeed, have openly and boldly declared that other species have a right to exist or conversely that we, *Homo sapiens*, have no right to cause their extinction.¹³

While the utilitarian case for species preservation has been fully and persuasively articulated, the nonutilitarian case has been neglected. Upon consideration of the philosophical problem of providing a nonutilitarian case for species preservation Alastair Gunn has recently even expressed despair: "It seems impossible to provide *reasons* for valuing natural kinds.

It seems to me that the world would be a worse place if we were to lose the tiger, the bald eagle, or the various species of whale, but I do not know how to justify this view to someone who disagrees.¹⁴ In the absence of well-considered reasons, it is simply asserted that we *Homo sapiens* have "moral obligations" in regard to other species or that other species have a "right to exist" or that we have "no right to render them extinct" and left at that. In this chapter I shall try to provide the missing discussion of the "rights" (the intrinsic value) of other species. First, I shall critically explore the concept of "species rights." I shall then turn to my principal task: a discussion of several distinct axiologies which may provide intrinsic value for nonhuman forms of life. While arguments for species preservation based upon the aesthetic value of other species may sometimes seem genuinely disinterested or biocentric, they are, nevertheless, readily reducible to a homocentric or utilitarian form: other species, in the final analysis, are valuable as aesthetic resources for the aesthetic enjoyment they afford (some) people.¹⁵ Appeals for species preservation based upon the alleged rights of other species are more resistant to reduction.

An analysis of the concept of rights, sufficient for the needs of this discussion, is provided in the next section. There I argue that the assertion of rights on behalf of species, taken literally, is incoherent and thus that the persistent popular call for "species rights" is essentially symbolic. What it symbolizes, i.e., what it imprecisely but dramatically expresses, I suggest, is the widely shared intuition that nonhuman species possess intrinsic value. Since this concept, the concept of "intrinsic value," is, though traditional, somewhat technical and absolutely central to the main body of this discussion, it should, perhaps, be explicitly defined here at the outset.

Something is intrinsically valuable if it is valuable *in* and *for* itself—if its value is not derived from its utility, but is independent of any use or function it may have in relation to something or someone else. In classical philosophical terminology, an intrinsically valuable entity is said to be an "end-in-itself," not just a "means" to another's ends.

Most systems of modern ethics, both formal philosophical systems (e.g., Kant's deontology), and less formal popular systems (e.g., the Christian ethic), take it for granted that human beings are intrinsically valuable, that, in other words, each human being is valuable *in* and *for* himself/herself independently of any contribution s/he may make to the welfare of another person or to society collectively. We may not discard or destroy worn-out, broken, or imperfectly made human beings as we might tools in similar condition because human beings are, it is almost universally

supposed, intrinsically—not, like tools or "resources," merely instrumentally—valuable.

Accounts of intrinsic value in the Western philosophical tradition have varied considerably. Plato, who did not share the modern dogma that human beings are paradigmatic cases of intrinsically valuable entities, posited a "form," the Good, as the ultimate source of intrinsic value for intrinsically valuable entities. I shall have occasion in a subsequent section of this chapter to explain Plato's understanding of the Good, i.e., of intrinsic value, more fully, and apply it to my central theme, the problematic intrinsic value of nonhuman species. Aristotle, somewhat less abstractly and elusively than Plato, concluded that happiness is the only intrinsically valuable thing, among other reasons because, he thought, happiness is the only thing pursued for the sake of itself. Kant, to whom I also refer more fully below, rested the intrinsic value of persons (human beings) on our capacity to reason. G. E. Moore, whose account is not outlined here and applied to the problem of the value of species because in the final analysis it appeals to mute intuition, thought that intrinsic value was a primitive non-natural property of objects as the color red is a primitive natural property. One either perceived it, he thought, or one did not. Such a theory as Moore's leaves no room for rational discussion of controversial cases. I may perceive the intrinsic value of species and you may not. Since intrinsic value, so construed, is a primitive non-natural property, I cannot explain why species are intrinsically valuable; I can only accuse you of a kind of moral insensitivity. Moore's theory reduces moral debate to question-begging and/or brow-beating.

A fundamental doctrine of modern science remains a formidable obstacle, however, to all the heroic attempts of philosophers to establish the existence, and adequately explain the nature, of intrinsic value, the value of something *in* and *for* itself. The objective physical world is sharply distinguished from subjective consciousness in the metaphysical posture of modern science as originally formulated by Descartes. Thought, feeling, sensation, and value have ever since been, from the point of view of Scientific Naturalism, regarded as confined to the subjective realm of consciousness. The objective, physical world is therefore value-free from a scientific point of view.

Quantum theory, relativity, and the other revolutionary developments of post-modern science are said to have invalidated the Cartesian distinction between the subjective and the objective domains, and hence to promise profound consequences not only for epistemology and ontology, but for value theory as well.¹⁶ The axiological consequences of post-modern science, however, remain at this point programmatic; they have not been worked out in any detail, and seem, in any case, remote and

metaphorical. Further, in the structure of science itself, quantum theory has little direct relationship to or influence on biology. Hence, at the level of organization with which we are concerned, the macroscopic world of terrestrial life and the value of its component species, the classical attitude that nature is value-neutral remains a virtually unchallenged dogma of the scientific world view. From this perspective, the attribution of intrinsic value to species, as to anything else under the sun, is doomed at the outset to failure.

On the other hand, many people, including some scientists, persist intuitively to feel that nonhuman species are valuable in and for themselves, quite apart from their usefulness to us as resources, either material or spiritual, or as providers of (human) life-supporting services. In the discussion which follows I explore several possible and preferred grounds for this very genuine and sincere ethical intuition.

The classical scientific world view is not, after all, the only world view represented in Western civilization today. The intrinsic value of species may be quite straightforwardly defended in terms of some elements of the pre-scientific, but still well-represented, Judeo-Christian world view. In the last section of this chapter, I attempt to find a compromise, recommending a theory of "intrinsic value" which at once respects the institutionalized cleavage between object and subject, fact and value of the scientific world view, and yet does justice to the intuition that some natural "entities," nonhuman species among them, are more than merely instrumentally valuable. In the process, the concept of intrinsic value is transformed, or more precisely, truncated.

I concede that, from the point of view of Scientific Naturalism, the *source* of all value is human consciousness, but it by no means follows that the *locus* of all value is consciousness itself or a mode of consciousness like reason, pleasure, or knowledge. In other words, something may be valuable only because someone values it, but it may also be valued for itself, not for the sake of any subjective experience (pleasure, knowledge, aesthetic satisfaction, etc.) it may afford the valuer. Value may be subjective and affective, but it is intentional, not self-referential. For example, a newborn infant is valuable to its parents for its own sake as well as for the joy or any other experience it may afford them. In and of itself an infant child is as value-neutral as a stone or a hydrogen atom, considered in strict accordance with the subject-object/fact-value dichotomy of modern science. Yet we still may wish to say that a newborn infant is "intrinsically valuable" (even though its value depends, in the last analysis, on human consciousness) in order to distinguish the *non-instrumental* value it has for its parents, relatives, and the human community generally from its actual or potential instrumental value—the

pleasure it gives its parents, the pride it affords its relatives, the contribution it may make to society, etc. In so doing, however, "intrinsic value" retains only half its traditional meaning. An intrinsically valuable thing on this reading is valuable *for* its own sake, *for* itself, but it is not valuable *in* itself, i.e., completely independently of any consciousness, since no value can in principle, from the point of view of classical normal science, be altogether independent of a valuing consciousness. Nonhuman species, I argue, may possess intrinsic value in this truncated sense, which is consistent with the world view of Scientific Naturalism. Indeed, my suggestion is that the world view of modern science not only *allows* for the intrinsic value of nonhuman species in this limited sense, but its cosmological, evolutionary, and ecological perspectives actually *foster* such value.

II. "SPECIES RIGHTS" OR SPECIOUS RIGHTS?

There is, I think, a certain aura of mystery surrounding so-called natural or moral rights (as opposed to civil or legal rights which may be defined in a positive or operational way).¹⁷ Because it is a noun, "right" seems to be the name of an entity of some sort. A person possesses shoes, teeth, kidneys, feelings, thoughts, and certain inalienable natural rights. Feelings and thoughts may not be entities on a par with kidneys, teeth, and shoes, but they are at least palpable states of a human organism. Rights are not even entities of this tenuous sort. The term "rights" is, rather, an expressive locution masquerading as a substantive.¹⁸ Of course, that is a big part of its talismanic power.

In this connection it is instructive to note that the concept of a moral right is both modern and Western. Plato and Aristotle never so much as mention rights in their ethical and political philosophies. The Bible contains no myth, allegory, sermon, or homily on rights. Oriental religious philosophies contain little that can be interpreted as pertaining to rights. Indeed, there appear to be no clear instances of the systematic assertion and theoretical defense of moral rights before the seventeenth century. If rights were real natural entities associated with us from birth, it is surprising that they were not sooner and more universally noticed.

Talk about the "rights" of species to a share of life seems clearly to be an extension of this relatively recent tradition of Western ethical discourse about natural or moral rights. Having exorcised the ghostly presence of some occult entity that the substantive term "rights" conjures, I suggest that a fundamental part of its function in popular discourse is to assert "standing" for someone (or something) in the moral community, i.e., status as an end rather than a mere means to be used for another's

betterment. If this minimalistic interpretation is correct, then the argument that we ought not to cause the extinction of other species because they have a right to exist not only resists reduction to a utilitarian form, but avows that whatever instrumental value species may (or may not) have, they, no less than we, have intrinsic value too.¹⁹

It is understandable but regrettable that the moral intuition that non-human species have intrinsic as well as instrumental value is popularly expressed in terms of rights, "species rights." It is understandable because talk of rights has become the usual and preferred way to express moral considerability; but it is regrettable because the concept of species rights taken at face value seems to be philosophical nonsense. The "grammar" of the term "rights" appears to require that those possessing them be, if not persons, at least localizable things of some sort. But the term "species" traditionally designates a class or kind. A class, by definition, is not an individual or localizable thing. How then could it possibly have rights? The proposition itself seems, upon its face, conceptually odd if not logically contradictory.

There are several ways of circumventing this difficulty, but none of them is satisfactory. One would be to follow Plato and hypostatize classes. It would then be logically possible to endow species with rights, although to do so would be pointless since according to the same ontological theory species are eternal Forms and could not therefore be threatened or endangered.

One could argue that talk about "species rights" is just a loose and imprecise way of talking about the putative rights of individual non-human organisms. Analogously with "gay rights" or "minority rights," which we understand to devolve upon members of certain classes, "species rights" could be construed to refer not to species per se but to specimens. Such a reduction from type to token, however, would miss the point. Those who claim that nonhuman species have a right to exist are concerned with species preservation, not necessarily with animal and/or plant welfare, an entirely separate issue. It is logically consistent to hold that species have intrinsic value, but that specimens of some species do not. Indeed, I am inclined to think that for some ardent species preservationists, species have intrinsic value while specimens have only instrumental value—as means to the preservation of species. An individual whooping crane, for example, is no more or less valuable than a sandhill crane qua individual, but because a fertile whooping crane carries a significant fraction of the genetic material of her species, her life is a precious instrument for the salvation of her kind. If whooping cranes are ever rescued from the brink, specimens may even be routinely "culled" from the "herd" to improve the "stock."

Finally, one may adopt a nontraditional interpretation of the term "species." David Hull has argued, for example, that the traditional interpretation of "species" as a class designator is theoretically useless in evolutionary biology. In his view, species are "superorganismic entities" or "historical entities," localizable (as classes or kinds are not) in space, however diffusely, and in time, however protractively.²⁰ Although paradigmatic holders of rights are individual persons, it is not at all unusual or conceptually odd to ascribe rights to "superorganismic entities"—corporations, for example. Nations, to take another example, have certain rights which are not the same as the sum of the rights of their individual citizens. A nation's right to sovereignty is hardly the sum of the respective rights of its several citizens to sovereignty (whatever that may mean). "Species rights" might be understood, in short, by analogy with "national rights." This is the most attractive way to reify the reference of the term "species" so that the phrase "species rights," taken at face value, is at least intelligible. However, Hull's proposed reference for the term "species" has not been universally accepted among philosophers of science.²¹ In any case, the assertion of species rights is primarily symbolic; it seems to be less a literal assertion of rights than an assertion in familiar, strong moral terms of the intrinsic value of nonhuman species.

Species rights is indeed a specious notion. It would be better if the notion simply went away. But of course it won't because it expresses in a particularly current and forceful manner of speech a deeply felt and widely shared intuition that species are intrinsically valuable.

Of course, this analysis of certain claims being made on behalf of nonhuman forms of life takes us, so to speak, out of the frying pan into the fire. "Intrinsic value" is no less mysterious a notion than "natural rights." Indeed it is frankly metaphysical. But that is, in fact, its virtue. We do not require a more liberal theory of rights; we need to discover, rather, metaphysical foundations for the intrinsic value of other species which the assertion of rights on their behalf expresses. What are the ethical systems and, more generally, the world views in which claims of the intrinsic value of nonhuman species are embedded? I shall sketch several alternative metaphysics of morals in which the intrinsic value of other species may be grounded.²²

III. J-THEISM

In a deservedly famous discussion of the relative merits of utilitarian and nonutilitarian arguments for species preservation, David Ehrenfeld places the "non-economic [i.e., intrinsic] value" and "unimpeachable right to continued existence" of ecosystems and species in a religious context.²³

Ehrenfeld invokes the Judeo-Christian religious belief system (to which the concept of natural rights has been grafted since the seventeenth century) as a supporting matrix of ideas for "species rights." He suggests we call it the "'Noah Principle' after the person who was one of the first to put it into practice."²⁴

At first glance the Judeo-Christian world view would seem inhospitable to the suggestion that nonhuman species are intrinsically valuable. "Academic" Christian theology, from Origen and Augustine to Bultmann and Teilhard, has been consistently hostile to the idea that human beings have any duties directly to individual animals and plants (to say nothing of species), precisely because animals and plants lack the requisite qualifications (an immortal soul, the *imago Dei*, or whatever) for membership in the moral community. Orthodox Christian theology, historically, lines up overwhelmingly against the notion that nonhuman creatures considered individually or collectively have any sort of value other than instrumental value or any other role in creation other than to serve man.²⁵

Lynn White, Jr., in his celebrated environmentalist critique of the Judeo-Christian world view, traces this attitude to those verses in Genesis (1:26-30) which set man apart from the rest of creation and appear to deliver the creation into his hands.²⁶ White emphatically declares, indeed, that "Christianity is the most anthropocentric religion the world has seen."²⁷

There is, however, a countercurrent of thought powerfully and discernibly running in the text of Genesis itself, however little representation it may have enjoyed in subsequent theology and popular Christianity. Within the general outlines of the traditional Scriptural world view, nonhuman species may have intrinsic value because they are parts of God's creation and God has conferred intrinsic value upon them, either by creating them or by a secondary fiat.²⁸

The God of the Judeo-Christian tradition is transcendent, not immanent. The hypothesis of such a God therefore permits us to conceive of intrinsic value as determined objectively, i.e., from some point of reference outside human consciousness. From God's point of view, we may imagine, the creation as a whole and all its parts are "good." Everything may not seem good from a subjective human perspective—poison ivy, mosquitoes, rattlesnakes—but they are all "God's creatures" and therefore good in His "eyes."

It was upon just this theological-metaphysical ground that John Muir argued for "species rights." Notice how closely Muir's assertion of a natural right to existence for a vermin species is followed by appeal to God as a more objective axiological reference point: "Again and again, in season and out of season, the question comes up, 'what are rattlesnakes

good for?' as if nothing that does not rightly make for the benefit of man had any *right to exist*; as if our ways were *God's ways*."²⁹ Muir repeatedly presses this theocentric orientation. All creatures, he urges, "are part of God's family, unfallen, undepraved, and cared for with the same species of tenderness and love as is bestowed on angels in heaven or saints on earth."³⁰

How can we square Muir's and Ehrenfeld's interpretation of the axiology of Scripture with White's? A close reading of Genesis, in fact, discloses two different and even contradictory messages respecting the appropriate place and role of people in relation to the rest of creation. This should not be surprising in view of the modern discovery that Genesis as we have received it is woven together from three main narrative strands (designated as J, E, and P) all of different provenance.³¹ J, the Yahwist strand, is by scholarly consensus the oldest, dating from the ninth century B.C., and P, the Priestly narrative, the most recent, composed in the fifth century B.C.³²

The Priestly version of Creation (Genesis 1:2-4), in comparison with the Yahwist version, presents an orderly, rational "quasienteristic" account of the "evolution" of the cosmos. When reduced to its abstract moments—a primal unity (void, waters), separation of opposites (light/darkness, above/beneath), and serial production of living beings (plants, animals, people)—it is in form identical with the general outline of creation in fifth-century Ionian Greek natural philosophy. And like its contemporary Greek counterpart, the natural philosophy of the P strand of Genesis exhibits a distinct tendency toward humanism: man is created in the image of God and given dominion over the rest of creation and charged to subdue it.³³

In the Yahwist creation myth (Genesis 2:4-4:26), the less "scientific" sequence of creation goes: man, then plants, then animals—and man's role is decidedly different. Adam is charged not to subdue and have dominion over the creation, but to "dress the garden and keep it" (Genesis 2:15). If he is not, in Aldo Leopold's terms, "a plain member and citizen" of Eden, neither is he its conqueror or master. Rather, Adam's role is to be custodian or steward of the creation.

Genesis-J thus seems quite clearly to imply that God cares for the creation as a whole (as "one great unit" in Muir's words) and for its several parts equally. The mastery of *Homo sapiens* over other species, the J narrative appears to assert, is a sign of the fallen and cursed condition of *Homo sapiens*, not of a privilege ordained by God. The assumption by humans of a self-centered or homocentric value orientation, indeed, seems radically to have unsettled the balance and order of the creation. Some animals and plants were enslaved (i.e., domesticated), those for

which people could find no use were declared worthless, and those which confounded human purposes or made human life less comfortable or secure were declared pests and vermin and were put on an agenda for extermination.

There follows immediately the story of the destructive flood and of Noah, the original species conservator, for whom Ehrenfeld names his principle of "species rights."

Intrinsic value for nonhuman species based upon Ehrenfeld's Noah Principle and the metaphysic of Genesis-J would devolve upon species per se, not specimens. Individual beings come and go, each after its kind, while the created forms, species, persist. The destruction of species, though not of individuals, therefore, would be a denial of divine fiat by man. After all, Noah, following God's orders, did not attempt to save every individual living thing he could; rather he took specimens aboard the ark in male-female pairs so as to preserve their species. From this stock the creation could be restored, complete and intact. As the modern descendants of Noah, we ought, presumably, also to be more concerned with preserving species, with the value of species per se, and less with specimens and with individual nonhuman rights.

IV. HOLISTIC RATIONALISM

In the theistic moral metaphysic outlined in the previous section, God is the sole legitimate arbiter of value. It is not clear, however, how God goes about determining the value of nonhuman natural entities. On the one hand, it seems absurd to suppose that God has self-interests of any kind and, like man, determines value in relation to them, or that He is in need or want of anything or could be benefited or harmed in any way. God, we must suppose, is not injured so much as defied when His creation is altered or parts of it (species) are destroyed. It seems equally absurd, on the other hand, to suppose that God is arbitrary, that He simply and whimsically values the smallpox virus, the tsetse fly, and all the other forms of life that people, for the most part, find life-threatening, annoying, loathsome, or inconvenient. God must have followed some axiological principle(s) in deciding what to create and thus to confer value upon.

This line of thought, pursued far enough, separates value, classically called "the Good," from God. God Himself, from this perspective, is no longer the primary axiological reference point, since God now is thought to be determined or at least persuaded by some impersonal axiological principle, the Good.

The Good was classically conceived to be something "objective," i.e., independent of both divine and human interests, preferences, or desires.

The intrinsic value of nonhuman species could thus conceivably be grounded in an objective, impersonal principle of value as the primary axiological reference point.

One philosophical tradition, perhaps going all the way back to Plato, locates value or goodness in certain formal characteristics of systems or organized wholes. On the nature of the Good Plato was more suggestive than explicit. Recent Platonic scholarship inclines to the view that by "the Good" Plato meant a formal principle of order of the highest degree of generality, and by "order" meant formal logico-mathematical design.³⁴ A good house or ship is one that is well ordered, i.e., its parts are measured, proportioned, and fitted together according to a rational design; the goodness of body (health), of soul (virtue), of society (justice), and of the cosmos as a whole (literally, the world-order) is similarly defined.³⁵

In the early modern period Leibniz more clearly or at least more explicitly defined what he took to be the objective, impersonal principle of value. Musing on why God chose just this world to create, Leibniz concludes that this one must be the best of all possible worlds. The enormous quantity of vice, pestilence, and calamity in the actual world makes this an outrageous statement from a homocentric point of view. It provoked Voltaire, indeed, to write *Candide* to illustrate the opposite thesis. But Voltaire's satire was beside the point, since by "best" Leibniz meant logico-mathematical elegance, not the absence of human frustration and suffering. According to Leibniz the Good that God had in view when choosing among possible worlds was "the greatest possible variety, together with the greatest order that may be; that is to say, . . . the greatest possible perfection."³⁶ Leibniz says that "God, however, has chosen the most perfect [world], that is to say the one which is at the same time the simplest in hypotheses and the richest in phenomena."³⁷

Similarly, in contemporary conservation literature one sometimes finds biological diversity and/or complexity posited as a good in itself.³⁸ The most well-known application to ecological conservation of the general theory that the formal properties of natural systems—order, parsimony, harmony, complexity, and variety—are objective intrinsic values is the summary maxim of Aldo Leopold's "land ethic": "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."³⁹

Leopold makes no deliberate effort specifically to explain or defend his cardinal moral precept. A philosophical development of his ideas has recently been attempted by Peter Miller. Miller quite correctly points out that "most modern theories of . . . value, and indeed many classical ones, are psychologically [i.e., subjectively] based. They differ from one another just in the psychological phenomena they select as values."⁴⁰ Miller at-

tempts to go beyond the orbit of all such subjective, homocentric theories by positing "richness" as an irreducible, objective, intrinsic value. While Miller very fully characterizes or describes "richness" ("the richness of natural systems [consists of] their inner and outer profusion, unity," etc.), he does not adequately explain why richness should be valued *for its own sake*, or, more concretely, why a diverse, complex, and stable biota is *intrinsically* better than a simple, impoverished, or unstable one. The value of "richness" is certainly explicable instrumentally: a biologically rich world is more satisfying and more secure than an impoverished world, but these are clearly homocentric concerns.

The nonhomocentric explanation of the goodness of order and variety which eludes Miller depends, in Leibniz's account as mentioned above, upon the hypothesis of God, certain assumptions about God's psychology, and the principle of sufficient reason.⁴¹ God, as Leibniz forthrightly declares, has the tastes of a classical or early modern mathematician and natural philosopher.⁴² Being infinitely rational, God prefers a logico-mathematically elegant world to one that is inelegantly designed. However, in the course of this Leibnizian explanation of the goodness of "richness," the alleged objective value of richness is reduced to a subjective preference—God's preference, to be sure, not ours, and a constitutional preference, not an arbitrary one, but a subjective preference nonetheless.

In any case, a persistent strain of Western axiological thought with the best philosophical pedigree posits an objective, impersonal Good and, further, characterizes or describes the Good in terms of formal elegance or logico-mathematical perfection: maximum economy of premises, axioms, or fundamental laws; maximum variety or diversity of implications or resulting phenomena; and consistency, order, or "harmony." Historically the universe has been found to exemplify these characteristics and thus to be objectively and impersonally good, even though from a subjective, homocentric standpoint it contains many "evils" which cause much human suffering. More recently the "biosphere" or global "ecosystem" has been found to exemplify similar characteristics and thus felt to be "good in itself," even though it may not be altogether accommodating to human interests.

Earth's biosphere is indeed an elegant system. The basic biological "laws" from which all its diversity and complexity result are wonderfully parsimonious. And while the relationships among species are many, intricate, and sometimes quite amazing, it seems they are comprehensible in terms of a relatively few basic chemical, physical, and perhaps topological processes.

From the rationalistic perspective, the system itself (the biosphere as

a whole and/or its several biomes and integrated ecosystems) is valuable per se or at least exemplifies or embodies the Good. Therefore, from this perspective, species taken separately are not intrinsically valuable. However, since the intrinsically valuable biosphere is not some mystical or transcendental whole, but a systemic whole (i.e., a whole by virtue of the functional integration of its parts), its integrity, complexity, stability, variety, in a word, its inherently good or intrinsically valuable richness depends, obviously, on the continued existence of its component parts, i.e., its full complement of species. From the rationalist perspective, therefore, the preservation of species, as the *sine qua non* of the preservation of biotic diversity, ought to be pursued quite apart from the instrumental value preservation may have in relation to human interests.

Or at least so it would seem. However, if one defends one's intuition that biological impoverishment is objectively wrong by positing organic richness as objectively good, one might well be accused of temporal parochialism and a very subtle form of human arrogance. Considering our time as but an infinitesimal moment in the three and one-half billion year tenure of life on planet earth (let alone the possibility that earth may be but one of many planets to possess a biota), man's tendency to destroy other species might be viewed quite disinterestedly as a transitional stage in the earth's evolutionary odyssey. The Age of Reptiles came to a close in due course (for whatever reason) to be followed by the Age of Mammals. A holistic rationalist could not regret the massive die-off of the late Cretaceous because it made possible our yet richer mammal-populated world. The Age of Mammals may likewise end. But the "laws" of organic evolution and of ecology (if any there be) will remain operative. Nonhuman life would go on even after nuclear holocaust. In time speciation would occur and species would radiate anew. Future "intelligent" forms of life may even feel grateful, if not to us then to their God (or the Good), for making their world possible. The new Age (of Insects, perhaps) would eventually be just as diverse, orderly, harmonious, and stable and thus no less good than our current ecosystem with its present complement of species.

With friends like the holistic rationalists, species preservation needs no enemies.

V. CONATIVISM

In sharp contrast to the objective, holistic orientation of moral thought in the ancient and early modern period, Western moral thought since the Enlightenment has been singularly narcissistic. Kenneth Goodpaster has argued that the "impotence" of modern Western ethics in the face of

contemporary environmental problems is due to the fact that the two main modern schools of moral philosophy, deontological and utilitarian, assume egoism as an unquestioned given and then generalize to a larger set of intrinsically valuable "others."⁴³ The process of generalization begins by identifying an essential *psychological* characteristic that makes oneself, in one's own eyes, intrinsically valuable. According to Kant, founder of the deontological school, the characteristic is reason or rationality, and according to Bentham, founder of the utilitarian school, it is sentience or the capacity to experience pleasure and pain. Egoism is then transcended by discovering the same characteristic in a select class of beings outside oneself.⁴⁴ It is revealing that both Kant and Mill, Bentham's protégé, invoke the Christian Golden Rule—love thy neighbor as *thyself*—as the perfect summary statement of their moral philosophies.

Kant's moral metaphysic limits intrinsic value to rational beings. Therefore, Kant's moral metaphysic is unsupportive of intrinsic value for non-human beings, either individually or collectively as species. Kant, indeed, directly stated that nonhuman living beings were of instrumental value only.⁴⁵

Bentham's axiology is more inclusive than Kant's and is, in fact, the metaphysical foundation of the contemporary animal liberation/animal rights movement. Bentham himself recognized that the pleasure and pain of sentient animals must be taken into consideration no less than that of human beings,⁴⁶ but until very recently mainstream utilitarianism limited moral consideration to human welfare only. The contemporary animal liberation/animal rights philosophy gains much of its persuasive force from simply insisting that utilitarianism be put into practice in a logically consistent and intellectually honest way.

The core moral metaphysic of utilitarianism and of the animal liberation/animal rights movement is inadequate, however, to address massive species extinction.⁴⁷ In fact, it could under a certain extreme interpretation make matters worse. First, animal liberation excludes plants from moral consideration, shifting the burden of support for the rights-holding human-animal community onto plant species. Second, animal liberation/animal rights provides no philosophical basis for concern for species *qua* species, as Peter Singer, a leading animal liberation theorist, openly admits.⁴⁸ Animal liberation is concerned with the psychological well-being of individual animals, domestic no less than wild; its aim is to reduce individual animal suffering. A species *qua* species cannot experience pleasure or pain and thus upon Benthamic principles is entitled to no moral consideration. Since wild animals often suffer considerably in their natural habitats from extremes of cold, drought, starvation, disease, and predation, the animal liberationists' program of reducing individual animal suffering might achieve a "final solution" by the deliberate, painless

extinction of all sentient nonhuman animal species.⁴⁹ Or perhaps, as Mark Sagoff once remarked, from the point of view of animal liberation, the best thing for wild animals would be relocation in zoos, where they could be cared for and protected from the suffering inflicted on them by the elements and by one another.⁵⁰

While Bentham's utilitarian moral metaphysic is more inclusive than Kant's, it proves to be useless as a foundation for the intrinsic value of nonhuman species. However, certain historical modifications of Kant's deontological ethic, surprisingly, may be of some service in building a nonhomocentric case for species preservation.

The neo-Kantian voluntarist ethical tradition which begins with Schopenhauer substitutes conation (the "will-to-live") for reason as the essence of the self.⁵¹ Conation or the "will-to-live," of course, is far more universal than reason, and at the very least resides in every living thing. (Schopenhauer thought that it also was the "kernel" of everything right down to elemental matter—of which inertia and gravity were the striving—but more recent theorists in the conativist or voluntarist tradition are not so generous.) Generalizing from conation as the essence of self, it follows that all beings which are "manifestations" of the "will-to-live," i.e., at the very least all living things, have intrinsic value.

Among recent exponents of conativism, Albert Schweitzer's "reverence-for-life" ethic exhibits the clearest traces of Schopenhauer's influence together with an explicit illustration of the modern method of generalizing from egoism to altruism.⁵² Those Anglo-American moral philosophers who base moral standing (and sometimes rights) upon "interests" construed in the broadest sense are also, though they are usually not so identified, voluntarist fellow travelers. The term "interest" is, of course, ambiguous. Setting aside nonpsychological, nondispositional senses (e.g., the financial sense), "interest" has been construed in three principal ways. One may have an interest in the sense of having one's attention engaged. This may be called the cognitive sense of "interest." If having interests means having one's attention engaged and the capacity for having interests is the criterion of intrinsic value, then only those human beings and the higher vertebrates with cognitive capacities are intrinsically valuable.⁵³ The capacity for having interests has been somewhat more broadly construed by animal liberationists in terms of "sentience," the capacity for experiencing pleasure and pain.⁵⁴ This may be called the *hedonic* sense of "interest." Joel Feinberg has construed interests in a sense broader still to mean a *conative* capacity:

A mere thing, however valuable to others, has no good of its own. The explanation of that fact, I suspect, is that mere things have no conative life; neither conscious wishes, desires and hopes; nor urges

and impulses; nor unconscious drives, aims, goals; nor latent tendencies, directions of growth, and natural fulfillments. Interests must be compounded somehow out of conations.⁵⁵

Though Feinberg himself does not appear to appreciate this consequence, under this view of "interests" plants as well as animals may have interests and thus intrinsic value, because, though plants may not have "conscious wishes, desires, and hopes," they have "tendencies, directions of growth, and natural fulfillments." Goodpaster explicitly draws the implication, from Feinberg's discussion of interests, that plants, too, are in Goodpaster's terminology "morally considerable."⁵⁶ On this basis, Goodpaster defends a "life principle" of moral considerability which includes all living things.

The Schopenhauer-Schweitzer reverence-for-life ethic and the Feinberg-Goodpaster life principle ethic avoid some of the untoward characteristics of the Benthamic animal liberation moral metaphysic as applied to the question of species extinction. Clearly plants are included within the moral community as well as animals. And since the essential capacity identified as the criterion of moral considerability is conativity, not sentiency—a thrusting, striving, driving, developmental tendency or direction (whether conscious or unconscious)—the life principle and reverence-for-life ethics do not have the effete and prophylactic connotations of the animal liberation/animal rights hedonic ethic. They suggest, to me at any rate, that living things should be left alone to fulfill their natural urges, drives, and developmental and reproductive sequences, or to struggle, fight, and die in the attempt rather than be coddled, sheltered, protected, anesthetized, or otherwise "saved." One's cardinal duty is not to interfere, to live and let live.

Species per se, however, are no more conative than they are sentient or rational, hence species per se are not intrinsically valuable from this point of view. Species qua species may however be the incidental beneficiaries of an ethic directed toward the preservation of individual living beings since the reverence-for-life and life principle ethics would surely imply a far less callous, mindlessly destructive approach to the biota than that which currently prevails.

Indeed, one of the principal problems with the conation-based moral metaphysic is that, if rigorously practiced, it would seem to require a restraint so severe that it would lead if not to suicide by starvation, at best to a life intolerably fettered. Schopenhauer, always intellectually honest, was prepared to accept these practical consequences. His more recent exponents recognize them as practical consequences, but treat them as a problem to be somehow got round. As Schweitzer remarks, "It

remains a painful enigma how I am to live by the rule of reverence for life in a world ruled by creative will which is at the same time destructive will"; and Goodpaster remarks, "the clearest and most decisive refutation of the principle of respect for life is that one cannot *live* according to it, . . . we must eat, experiment to gain knowledge, protect ourselves from predation (macroscopic and microscopic), . . . to take seriously the criterion of considerability being defended, all these things must be seen as somehow morally wrong."⁵⁷

Goodpaster addresses this problem by means of a formal distinction which is, despite his claim to the contrary, largely vacuous. Since we are subject to certain "thresholds of moral sensitivity," ideally we may acknowledge the "rights" of all living things to exist, but practically we may be unable to live on such terms. Such ideals are "regulative," not "operative."⁵⁸ We are thus left paying lip service to an impractical ideal while day-to-day life goes on pretty much business as usual.

Schweitzer hints at a decision procedure which might put some teeth in the reverence-for-life ethical ideal: "Whenever I injure life of any kind, I must be quite clear as to whether this is necessary or not. I ought never to pass the limits of the unavoidable, even in apparently insignificant cases."⁵⁹ But the rule "never to pass the limits of the unavoidable" is very vague and indeterminate. The destruction of critical habitat for an endangered species may be judged "unavoidable" by a consortium intent on developing its "resources" at a reasonable profit. The extinction of several species of great whales may be "unavoidable" if the whaling industry is to recover its capital investment. More explicit criteria are needed if a moral theory according intrinsic value to all living things is to be at once "operative" (in Goodpaster's sense) and practical or livable.⁶⁰

If our society were to acknowledge and institutionalize a reverence-for-life or life principle ethic to the same extent that it has acknowledged and institutionalized an ethic based upon justice and human equality, things would be as different from what they are today for nonhuman forms of life as contemporary human life (in most democratic societies at least) differs from the oppressive conditions of the imperial and feudal past. Still, there is no logical link as far as I can see between a concern for the intrinsic value of *individual* plants and animals and a concern for *species* preservation. To be sure, a species survives only if its representative specimens are allowed to survive and to reproduce successfully. However, according to the conative theory of intrinsic value, individual living things are in principle of equal value, while species preservationists set a much higher value, for example, on an individual furbish lousewort (a "mere" plant, but a precious custodian of unique genetic material)

than on an individual whitetail deer, a commonplace mammal. A life-respecting society might significantly slow the rate of species extinction, but species preservation would be, nevertheless, an *incidental* consequence, a side effect. This is, however, the best that the prevailing structure of modern moral philosophy can do.⁶¹

VI. BIO-EMPATHY

There remains a modern moral metaphysic which has been largely ignored or dismissed by the philosophical community, but which has survived largely in biological discussions of moral or moral-like phenomena. Hume's grounding of morality in feeling or emotion has been the basis for several recent attempts to explain the intrinsic value of other species. According to Hume, one may have a strong emotional attachment to one's own interests, but such an attachment is entirely contingent. It is possible, indeed, that one may also have strong feelings for the interests of other beings.⁶² Sometimes these overcome the self-regarding passions and issue in behavior which we praise as "heroic," "noble," or "saintly" (or condemn as "foolhardy" or "daft").

Hume's famous sharp distinction between fact and value, his is/ought dichotomy, has made his moral metaphysic more appealing and useful to scientists interested in moral phenomena than any other philosophical analysis of ethics, since in science nature is conceived to be an objective and, more to the point so far as our interests are concerned, value-free system. From the scientific point of view, nature throughout, from atoms to galaxies, is an orderly, objective, axiologically neutral domain. Value is, as it were, projected onto natural objects or events by the subjective feelings of observers. If all consciousness were annihilated at a stroke, there would be no good and evil, no beauty and ugliness, no right and wrong; only impassive phenomena would remain. Accordingly, it has been characteristic of evolutionary biological thought about moral phenomena to follow Hume (whether deliberately or not) and treat moral valuation and behavior as both subjective and affective.

One of the more conspicuous problems for an evolutionary biological account of animal behavior is this: How is it possible to account for the existence of something like morality or ethics among human beings and their prehuman ancestors in a manner consistent with evolutionary theory? One would suppose, given the struggle for existence, that hostile, aggressive traits would be of great advantage to individuals in competition with one another for limited resources and that therefore such traits would be represented in ever increasing magnitude in future generations. As time goes on we should see less inclination toward "moral" behavior,

rather than, as the history of civilization seems to indicate (though cynics might well contest this point), more. At this late date, in any case, all human beings, indeed all animals, should be thoroughly rapacious and utterly merciless. Kindness, pity, generosity, benevolence, justice, and similar dispositions should have been nipped in the bud as soon as they appeared, winnowed by the remorseless and impersonal principle of natural selection.

Charles Darwin himself tackled this problem in *The Descent of Man*.⁶³ He begins with the observation that for many species, and especially mammals, prolonged parental care is necessary to ensure reproductive success. Such care is motivated by a certain strong emotion which adult mammals (in some species perhaps only the females) experience toward their offspring—parental love. Selection for this capacity would affect a species' psychological profile since it would strongly contribute to inclusive fitness (not necessarily prolonged individual survival, so much as reproductive success).

Once established, Darwin argued, the "parental and filial affections" permitted the formation of small social units originally consisting, presumably, of parent(s) and offspring. The survival advantages to the individual of membership in a protective social unit, like a family group, are obvious and would tend to conserve slight variations of the parent-child emotional bond, such as affection for other kin—siblings, uncles, aunts, cousins, and so on. Those individuals in whom these affections were strongest would form the most closely knit family and clan bonds. Now, these and similar "social sentiments" or "social instincts," such as "the all-important emotion of sympathy," Darwin reasoned, "will have been increased through natural selection; for those communities which included the greatest number of the most sympathetic members would flourish best, and rear the greatest number of offspring."⁶⁴

As family group competes with family group, ironically, the same principles which at first would seem to lead to greater intolerance and rapacity lead instead to increased affection, kindness, and sympathy, for now the struggle for limited resources is understood to be pursued collectively, and groups with "the greatest number of the most sympathetic members" may be supposed to out-compete those whose members are quarrelsome and disagreeable. "No tribe," Darwin tells us, "could hold together if murder, robbery, treachery, etc., were common; consequently, such crimes within the limits of the same tribe 'are branded with everlasting infamy'; but excite no such sentiment beyond these limits."⁶⁵ Indeed, beyond these limits, it remains biologically important for the passions of aggression, rage, and bloodlust to come into play.

Not only was there selective pressure for *more intense* sympathy and

affection within group boundaries, there was selective pressure for more widely cast social sentiments, since in competition among the most internally peaceable and cooperative groups the larger will win out. "As man advances in civilization, and small tribes are united into larger communities, the simplest reason would tell each individual that he ought to extend his social instincts and sympathies to all the members of the same nation though personally unknown to him [and unrelated to him genetically]."⁶⁶

Unlike both the (Benthamic) utilitarian and (Kantian) deontological schools of modern moral philosophy, the Humean-Darwinian natural history of morals does not regard egoism as the only genuine and self-explanatory value. Selfishness and altruism are equally primitive and both are explained by natural selection. Self-assertion and aggressiveness are necessary for survival to reproductive age and to reproductive success, but so are caring, cooperativeness, and love.

Darwin's account of the origin and evolution of morals obviously involves the current biological anathema of "group selection," i.e., natural selection operating with respect to groups rather than to individual phenotypes who are the immediate carriers of these genes.⁶⁷ A more rigorous theoretical account of social-moral phenomena has recently been provided by social evolutionary theorists.⁶⁸ Darwin's classical account, however, is an indispensable ingredient in the theoretical structure of Aldo Leopold's "land ethic" (which contains a plea for the "biotic right" of other species to exist) and it is the basis for Paul and Anne Ehrlich's argument for the "rights" of species to exist, as well.

Leopold's biological description of an ethic as "a limitation on freedom of action in the struggle for existence"⁶⁹ at once locates ethics in a Darwinian context and suggests the evolutionary paradox presented by ethical phenomena. His resolution of the paradox is Darwin's in a nutshell. An ethic, according to Leopold, "has its origin in the tendency of interdependent individuals or groups to evolve modes of cooperation."⁷⁰ Leopold, following Darwin, believes that growth in the extent and complexity of human ethics, what he calls the "ethical sequence," has paralleled and facilitated growth in the extent and complexity of human societies. Leopold envisions the land ethic as the next "step" in this pattern of social-ethical expansion. Social evolution has recently achieved a worldwide human society and ethically we have achieved, corresponding to this social condition, the ideal of universal "human rights." Ecology, Leopold points out, represents the relationship of human and nonhuman organisms in the natural environment by means of a "community concept." Were this ecological idea of a "biotic community" to become widely

current, Leopold foresees the emergence, correlative, of a "land ethic" or "ecological conscience."

Many biologists have come to see the world through a prism of evolutionary and ecological theory. Moreover, as scientists they participate in a more general "Copernican" world view. The earth is perceived as a very small, lush, blue-green island in a vast desert sea of space. Biotas may exist on other planets, but these would be genuinely "foreign," "alien," in comparison to which earth's organisms are all literally kin. If Darwin is correct that the perception of another being as a family and/or community member triggers in us certain instinctive emotional responses, and if all the denizens of the "small planet" earth are so perceived, then something like Leopold's land ethic may become an operative ideal for future civilization.

These conceptual elements are all present in abbreviated form in Paul and Anne Ehrlich's impassioned appeal for "species rights": "Our fellow passengers on Spaceship Earth, who are quite possibly our only living companions in the entire universe, *have a right to exist.*"⁷¹ The phrases "Spaceship Earth" and the "entire universe" evoke the Copernican perspective and "fellow passengers" and "living companions" evoke the evolutionary-ecological world view.

The Ehrlichs go on to provide a more extended rationale for "species rights," and though they do not mention Darwin by name, their understanding of the origin and evolution of morals is step for step Darwin's own and their projection of future moral evolution to include other species recapitulates the next step in the "ethical sequence" of Leopold's land ethic:

Along with other ecologists, we feel that the extension of the notion of "rights" to other creatures . . . is a natural and necessary extension of the cultural evolution of *Homo sapiens*. . . . From an original concern only with the family or immediate group there has been a steady trend toward enlarging the circle toward which ethical behavior is expected. First the entire tribe was included, then the city-state, and more recently the nation. In this century concern has been extended in many groups to encompass all of humanity. . . . In the last hundred years, the ranks of those in the United States and Europe advocating compassion for, and unity with, the rest of the natural world have swollen considerably.⁷²

Moral metaphysics "from the side of natural history," as represented by Hume, Darwin, Leopold, and the Ehrlichs, differs at several key points from moral metaphysics from the side of philosophy. I have already pointed out that in the biological tradition egoism is not the only irre-

ducible, primitive value. Affection and sympathy, the "moral sentiments," are on equal footing with "self-love." Further, there is no preoccupation with psychological states as intrinsically valuable in and of themselves—no special concern with pleasure and pain, reason and knowledge, interests, or a hierarchy of beings determined by psychological complexity. The importance of this difference and the next cannot be stressed enough. The value of organisms is not gauged by how they feel, nor by how they make humans feel, although their value ultimately depends upon certain "intentional" mammalian affections. And, while the two mainstream modern philosophical accounts and the natural history account of morality can provide for the intrinsic value of individual nonhuman organisms, the philosophical accounts grant moral standing for individuals only, while the natural history account makes possible moral status for wholes. Hume, for example, recognizes a distinct sentiment which naturally resides in human beings for the "publick interest."⁷³ Darwin recognizes affection not only for "fellows" but for "family" and "tribe," i.e., in general, "the good or welfare of the community."⁷⁴ Leopold says that his land ethic would require of *Homo sapiens* "respect for the [biotic] community as such."⁷⁵ The Ehrlichs also talk about species *qua* species, as well.

Thus I think we have found, at last, an axiology which faithfully articulates and adequately grounds the moral intuition that nonhuman species have "intrinsic value." They may not be valuable *in themselves*, but they may certainly be valued *for themselves*. According to this expanded Humean account, value is, to be sure, humanly conferred, but not necessarily homocentric. We certainly experience strong self-oriented feelings and appraise other things in reference to our human interests. But we experience certain distinct disinterested affections as well. We can foster, for example, the welfare of our own kin at considerable cost or even sacrifice to ourselves. We are capable of a disinterested sympathy and selfless charity to persons unrelated and unknown to us. According to Hume, the "intrinsic value" we attribute to all human beings is a projection or objectification of this "sentiment of humanity."

The philosophical and popular disagreement about which beings are intrinsically valuable, though all value is itself affective, is, according to this theory, a matter of *cognitive* rather than affective differences. The human capacity for the moral sentiments upon which intrinsic value depends is fairly uniform (because it is a genetically fixed psychological characteristic like sexual appetite) and roughly equally distributed throughout the human population. To whom or to what these affections are directed, however, is an open matter, a matter of cognitive representation—of "nurture," not "nature." A person whose social and intellec-

tual horizons are more or less narrow regards only a more or less limited set of persons and a more or less local social whole to be intrinsically valuable. To perceive nonhuman species as intrinsically valuable involves, thus, not only the moral sentiments, but an expansive cognitive representation of nature.

The Humean/Darwinian bio-empathetic moral metaphysic, based upon naturally selected "moral sentiments," provides a theory according to which species *qua* species may have "intrinsic value." That is, they may be valued for themselves. Because the theory is humanly grounded, though not humanly centered, it does not impel us toward some detached and impersonal axiological reference point and thus submerge the value of the present ecosystem in a temporally and spatially infinite cosmos, as Holistic Rationalism does. Our social affections are extended to our fellow members and to the social whole of which we are part. The tribesmen who stand helplessly by and witness the "extinction" of their culture, as so many nineteenth-century Native Americans unfortunately had to do, take little comfort in knowing that another cultural order will replace their own. Similarly, this is the biotic community of which we are a part, these are our companions in the odyssey of evolution, and it is to them, not to any future complement, that our loyalties properly extend.

Hume's grounding of morality in feeling or emotion has usually been regarded by the philosophical community as leading inevitably to an irresponsible ethical relativism.⁷⁶ If good and evil, right and wrong, are, like beauty and ugliness, in the eye of the beholder, then there can be no moral truths. We could no more reject as mistaken the opinion that matricide, say, is good, than the opinion that Picasso's Cubist paintings are ugly.

While Hume's theory of morality is certainly an emotive theory, it does not necessarily collapse into emotive relativism. Hume provides for a functional equivalent of objective moral truths by what may be called a "consensus of feeling." The human psychological profile in certain crucial respects is standardized, fixed. Unlike aesthetic judgments, which notoriously vary widely from culture to culture and within the same culture from person to person, moral judgments (allowing for certain peripheral divergencies) are both culturally and individually invariant. Christian cultures may regard polygamy with horror while Muslim cultures may approve it. Still, all cultures abominate murder, theft, treachery, dishonesty, and the other cardinal vices. Certainly individuals differ in the degree to which they are endowed with the moral sentiments. Still, just as we can speak of certain normal physical proportions and conditions among human beings, while allowing for all sorts of variations, so we can speak

of a certain normal human affective profile, while allowing for all sorts of variations. Some people are tall, others are short, and both the tall and the short are normal. Then there are giants and midgets. Similarly, some people are overflowing with moral sentiments while others experience them far less intensely and are more possessed by self-love. Depraved criminals, for example, exceed the limits of normality. They are the psychological equivalent of the physically freakish. Their emotional responses are not untrue, but, by the human consensus of feeling, they are "wrong," morally, if not epistemically.

For Hume the "universality" of human moral dispositions was an ad hoc fact. Darwin completed Hume's theory by explaining how such a standardization came about. Like the complex of normal human physical characteristics, normal human psychological characteristics, including the moral sentiments, were fixed by natural (and perhaps by sexual) selection.

Still it may seem defeating to say that the nonutilitarian value of other forms of life is ultimately emotional, that it rests upon feeling, that species are valuable and we ought to save them simply because we have an affection for them. This would be defeating if there were some viable alternative and if emotivism implied moral relativism. But according to the Humean-Darwinian axiology, the only tenable axiology from the general perspective of traditional normal science, all value is affective. The intrinsic value we attribute to individual human beings and to humanity expresses only our feelings for co-members of our global village and for our human community. I remain convinced therefore that the Humean-Darwinian moral metaphysic is, intellectually, the most coherent and defensible axiology and, practically, the most convincing basis for an environmental ethic which includes intrinsic value for nonhuman species.

VII. CONCLUSION

In the foregoing discussion I have stressed the importance of the question, "Why try to preserve threatened and endangered species?" There are good "utilitarian" or "homocentric" reasons for preserving all or almost all existing species. Other species contribute to human well-being as performers of vital services, as resources, and as functional components in the global (human) life-support system, "Spaceship Earth." Frequently one also finds a distinctly "nonutilitarian" or "nonhomocentric" argument for species preservation, viz., that we have a moral obligation not to extirpate species or, more commonly, that other species, no less than we, have a right to exist, a right to a share of life on the planet. The nonutilitarian or nonhomocentric ethical argument for species preser-

vation is said (by some at least) to be the most compelling reason for species preservation, but, paradoxically, it has been the least well articulated. Accordingly, my primary goal has been to explore and evaluate possible conceptual bases of the nonutilitarian or nonhomocentric argument for species preservation, and more particularly, to analyze and evaluate the assertion of rights on behalf of species.

The concept of "species rights" is not without its problems. Because of its conceptual difficulties, from a philosophical point of view, it would be better abandoned altogether. But philosophers have little influence on the vagaries of popular usage. The assertion of "species rights" upon analysis appears to be the modern way to express what philosophers call "intrinsic value" on behalf of nonhuman species. Thus, the question, "Do nonhuman species have a right to exist?" transposes to the question, "Do nonhuman species have intrinsic value?" There are several distinct moral metaphysics which might yield a positive answer to this question: J-Theism, Rational Holism, Conativism, and Bio-empathy.

Of these distinct types of moral theory, J-Theism and Bio-empathy appear to me to provide most effectively for the intrinsic value of other species. Each has wide appeal to different and complementary segments of the public, and each is relatively simple and straightforward.

Conativism most accords with prevailing biases in philosophical ethics, but because of its intractably "atomic" or "individualistic" ontology it can provide at best only incidentally for moral concern over vanishing species. Holistic Rationalism has some contemporary popular appeal and some contemporary philosophical representation, but it is more plausible in an ancient and early modern creationist context of thought. As a value theory it is so general, abstract, and impersonal that pressed to its logical extremes it might ill serve the cause of species preservation.

Only J-Theism unequivocally provides for objective intrinsic value for existing nonhuman species. The cognitive complex with which J-Theism is associated, the Judeo-Christian world view, is culturally well established and familiar. The greatest cultural competitor of the Judeo-Christian world view is Scientific Naturalism, with which the Bio-empathic axiology is conceptually and historically associated. Those unpersuaded by J-Theism, because of Judeo-Christianity's conflict with Scientific Naturalism, are likely, therefore, to be persuaded by Bio-empathy.

So, if the Western world's two main cultural belief systems, Judeo-Christianity and Scientific Naturalism, both provide for the intrinsic value of other species, why does the notion that nonhuman species have intrinsic value seem so foreign and why does it attract so much skepticism, opposition, and ridicule? Unfortunately for our nonhuman companions on the planet, the Judeo-Christian world view also harbors an axiology

contradictory to J-Theism, namely P-Theism. P-Theism's moral metaphysic permits, if it does not require, the interpretation that human beings are morally privileged. In the P version of Genesis, human privilege is supported by the doctrine that God created human beings in His own image and favored them in His creation as rightfully holding "dominion" over nature. "Dominion" could be taken in several senses, one of which might imply a "steward" role for man in relation to nature, but it has more usually been taken to imply "mastery." The dogged insistence by many people that other forms of life have only instrumental value is probably traceable to this strain of thought in the Judeo-Christian tradition. Resistance to the notion of intrinsic value for other species in the scientific community, on the other hand, may be the result of residual acceptance of Judeo-Christian human chauvinism or may stem from the mistaken belief that since values, from a scientific point of view, are not wholly objective, they are therefore necessarily selfish or narcissistic, somehow unreal, or otherwise specious.

NOTES

1. See George M. Woodwell, "The Challenge of Endangered Species," in *Extinction Is Forever*, edited by Ghillian Prance and Thomas Elias (New York: New York Botanical Garden, 1977), p. 5.
2. See Thomas Eisner et al., "Conservation of Tropical Forests," *Science* 213 (1981): 1314, and Thomas E. Lovejoy, this volume.
3. See International Union for Conservation of Nature and Natural Resources (IUCN), *Red Data Book* (Morges, Switzerland: IUCN, 1974) and Norman Myers, "An Expanded Approach to the Problem of Disappearing Species," *Science* 193 (1976): 198-201.
4. Norman Myers, *The Sinking Ark: A New Look at the Problem of Disappearing Species* (New York: Pergamon Press, 1979), p. 4. This seemingly preposterous rate is based upon the assumption that systematic deforestation of moist tropical forests could result in the loss of one million species by the turn of the century (see Eisner et al., "Conservation of Tropical Forests"). Considering how close we are to 2000 A.D., the rate of 100 per day actually appears conservative. An average of more nearly 150 species extinctions per day would have to take place if one million species were to go extinct between now and the year 2000.
5. Eisner et al., "Conservation of Tropical Forests"; Myers, *Sinking Ark*, p. 5.
6. A. R. Wallace, *The Geographical Distribution of Animals* (London: Macmillan, 1876), p. 150.
7. This and the other questions in the paragraph are routinely posed rhetorical questions. Should the figure of 90+ percent be doubted, however, see David M. Raup, "Size of the Permo-Triassic Bottleneck and Its Evolutionary Implications," *Science* 206 (1979): 217-18.

8. See Normal D. Newell, "Crises in the History of Life," *Scientific American* 208 (1963): 76-92; David M. Raup and J. John Sepkoski, Jr., "Mass Extinctions in the Marine Fossil Record," *Science* 215 (1982): 1501-1503.
9. Two recent works, Myers, *Sinking Ark*, and Paul and Anne Ehrlich, *Extinction: The Causes and Consequences of the Disappearance of Species* (New York: Random House, 1981), are in large part convenient catalogues of utilitarian, or more accurately "homocentric," arguments for species preservation. Also see Bryan G. Norton, this volume, and Alastair S. Gunn, "Preserving Rare Species," in *New Introductory Essays in Environmental Ethics* (New York: Random House, 1984), pp. 289-335. Gunn provides a taxonomy and critical discussion of utilitarian or homocentric arguments for species preservation.
10. As a system of philosophical ethics, utilitarianism does not posit human happiness or human well-being as the *summum bonum*. Rather, Jeremy Bentham and John Stuart Mill, the founders of utilitarianism, declared that pleasure is good and pain is evil and that it is the duty of a moral agent to maximize the one and minimize the other no matter where located, i.e., no matter by whom experienced. Cf. Jeremy Bentham, *Introduction to the Principles of Morals and Legislation*, New Edition (Oxford: The Clarendon Press, 1823), chap. I, secs. I and X, and John Stuart Mill, *Utilitarianism* (New York: The Library of Liberal Arts, 1957), chap. 2. The implications of this view for animal liberation and the preservation of species are discussed below.
11. Woodwell, "The Challenge of Endangered Species," p. 5, and Howard S. Irwin, *Extinction Is Forever*, Preface, p. 2. Cf. also Michael Soule's comment in *Proceedings of the U.S. Strategy Conference on Biological Diversity, Nov. 16-18, 1981* (Washington, D.C.: Department of State Publication 9262, 1982), p. 61: "[I]t is regrettable that we must all pretend to be concerned exclusively with man and his welfare and put nearly all of our arguments for conservation for biological diversity in terms of benefit for man. [W]hen [will we] admit in public that conservation is not only for people, something most of us already admit in private [?]"
12. William Godfrey-Smith, "The Rights of Non-humans and Intrinsic Values," in *Environmental Philosophy*, edited by Don Mannison, Michael McRobbie, and Richard Routley (Canberra: Australian National University, 1980), p. 31, shares my suspicions: "Although environmentalists often use the rare herb argument, it seems to me that it is really only a lever; it does not express a very significant component of their thinking." See also Alastair S. Gunn, "Why Should We Care About Rare Species?" *Environmental Ethics* 2 (1980): 17-37.
13. Examples, in chronological order, are: John Muir, *Our National Parks* (Boston: Houghton Mifflin, 1901), p. 57, and *A Thousand Mile Walk to the Gulf* (Boston: Houghton Mifflin, 1916), p. 98; Aldo Leopold, *A Sand County Almanac* (Oxford: Oxford University Press, 1949), pp. 210, 211; Charles Elton, *The Ecology of Invasions by Animals and Plants* (London: Methuen, 1958), p. 144; David Ehrenfeld, "The Conservation of Non-Resources,"

- American Scientist* 64 (1976): 654; Bruce MacBryde, "Plant Conservation in the United States Fish and Wildlife Service," in *Extinction Is Forever*, p. 70; Ehrlich and Ehrlich, *Extinction*, p. 48; Roger E. McManus and Judith Hinds, eds., *The Endangered Species Act Reauthorization Bulletin* 1 (Washington, D.C.: Center for Environmental Education, Dec. 1981), p. 3.
14. Gunn, "Preserving Rare Species," p. 330.
 15. Mark Sagoff, "On the Preservation of Species," *Columbia Journal of Law* 7 (1980): 64, claims that "we enjoy an object because it is valuable; we do not value it merely because we enjoy it.... Esthetic experience is a perception, as it were, of a certain kind of worth." For a similar judgment about aesthetic experience as applied to the question of species preservation see Lilly-Marlene Russow, "Why Do Species Matter?" *Environmental Ethics* 3 (1981): 101-12. William F. Baxter, *People or Penguins: The Case for Optimal Pollution* (New York: Columbia University Press, 1974), p. 5, however, turns this argument on its head: "Damage to penguins, or sugar pines, or geological marvels is, without more, simply irrelevant. One must go further . . . , and say: Penguins are important because people enjoy seeing them walk about rocks. . . ." Ehrenfeld, "The Conservation of Non-Resources," p. 654, discusses the aesthetic rationale for species preservation and concludes that "it is rooted in the homocentric, humanistic world view," since it appeals, finally, to what "is stimulating to man." He finds the aesthetic rationale incompatible with the "humility-inspiring discoveries of community ecology or with the sort of ecological world view, emphasizing the connectedness and immense complexity of man-nature relationships, that now characterize a large bloc of ecological thought." This is also the case, I think with Donald Regan's novel argument for the intrinsic value of experiences regarding nonhuman species (this volume). The "organic unity" of the "complex" consisting of a natural object, human knowledge of a natural object, and the human pleasure taken in that knowledge notwithstanding, upon Regan's argument nonhuman species remain only instrumentally valuable as *epistemic resources*; the value Regan finds in nonhuman species is formally the same as aesthetic value, since species are valuable according to his account as objects of epistemic experience rather than as objects of aesthetic experience. The putative intrinsic value he claims for nonhuman species is susceptible to reduction to mere instrumental value. As either aesthetic or epistemic objects, nonhuman species are valued only as means to an intrinsically valuable state of human consciousness or so either Baxter or Ehrenfeld might insist.
 16. See, for example, Holmes Rolston III, "Are Values in Nature Subjective or Objective," *Environmental Ethics* 4 (1982): 125-51; and Don E. Marietta, Jr., "Knowledge and Obligation in Environmental Ethics: A Phenomenological Approach," *Environmental Ethics* 4 (1982): 153-62.
 17. See for example, Christopher Stone, *Should Trees Have Standing? Toward Legal Rights for Natural Objects* (Los Altos: William Kaufman, 1974) for an "operational" definition. It may be worth noting that the Endangered

- Species Act of 1973 confers rights upon specimens of endangered species according to Stone's operational criteria, although the Act does not specify "rights" per se and grounds its protection for endangered species exclusively in utilitarian terms.
18. See H.L.A. Hart, "The Ascription of Responsibility and Rights," in *Logic and Language*, edited by Anthony Flew (Garden City: Anchor Books, 1965), pp. 151-74.
 19. John Rodman, "The Liberation of Nature," *Inquiry* 20 (1977): 108, agrees with this analysis of the popular preservationist usage of "rights": "To affirm that 'natural objects' have 'rights' is symbolically to affirm that all natural entities, including humans, have intrinsic worth simply by virtue of being." Nicholas Rescher, "Why Save Endangered Species?" in *Unpopular Essays on Technological Progress* (Pittsburgh: University of Pittsburgh Press, 1980), agrees that species per se cannot be coherently attributed rights. He also asserts that we have an ethical duty to save endangered species because they possess a metaphysical intrinsic value. He does not, however, undertake to provide a *theory* of intrinsic value or detail a metaphysics which conceptually grounds the intrinsic value of species.
 20. David L. Hull, "A Matter of Individuality," *Philosophy of Science* 45 (1978): 335-60.
 21. For a general discussion, see Michael Ruse, "Definitions of Species in Biology," *The British Journal for the Philosophy of Science* 20 (1969): 97-119. For a critical discussion of Hull's views see D. B. Kitts and D. J. Kitts, "Biological Species as Natural Kinds," *Philosophy of Science* 46 (1979): 613-22, and Arthur L. Caplan, "Back to Class: A Note on the Ontology of Species," *Philosophy of Science* 48 (1981): 130-40.
 22. In the interests both of contemporary relevance and saving space I shall not discuss those classical moral metaphysics which might provide for the intrinsic value of nonhuman species, but which have few contemporary exponents. An example of one such theory is G. E. Moore's Intuitionism in which value or "goodness" is alleged to be an objective, but "non-natural," quality which one may discern by one's unaided moral sensibilities.
 23. Ehrenfeld, "The Conservation of Non-Resources," p. 654.
 24. Ibid., p. 655. Similar ideas are expressed in his "What Good Are Endangered Species Anyway?" *National Parks and Conservation Magazine* 52 (October 1978): 10-12; and *The Arrogance of Humanism* (New York: Oxford University Press, 1978), pp. 207-11.
 25. See John Passmore, "The Treatment of Animals," *Journal of the History of Ideas* 36 (1975): 195-218, for a definitive discussion.
 26. Lynn White, Jr., "The Historical Roots of Our Ecologic Crisis," *Science* 155 (1967): 1203-1207. White does not consider an alternative, environmentally more sympathetic interpretation of the verses in question, generally referred to as "stewardship." According to the stewardship interpretation of Scripture, man's superiority implies not only privilege but responsibility. For a scholarly elaboration and defense of a stewardship reading of Genesis 1:26-30 see

- James Barr, "Man and Nature: The Ecological Controversy and the Old Testament," *Bulletin of the John Rylands Library* 55 (1972): 9-32.
27. Lynn White, Jr., "Historical Roots," p. 1205.
 28. It should be kept in mind that the idea that human beings possess moral or natural rights was initially defended by John Locke in his quaint *First Treatise of Government* in Scriptural terms. God, according to Locke, conferred rights upon Adam and his descendants. In this connection we should remind ourselves of Thomas Jefferson's famous words in the Declaration of Independence: "all men . . . are endowed by their Creator with certain inalienable rights. . . ." Human worth and dignity thus were once commonly grounded in a theocentric moral metaphysic.
 29. John Muir, *Our National Parks*, p. 57 (emphasis added).
 30. Muir, *Thousand Mile Walk*, pp. 98-99.
 31. Arthur Weiser, *The Old Testament: Its Formation and Development*, translated by D. Barton (New York: Association Press, 1961).
 32. Ibid., p. 77.
 33. See F. M. Cornford, *Principia Sapientia* (Cambridge: Cambridge University Press, 1952), chap. 11, for a detailed discussion.
 34. Cf. "The Tübingen School," most notably, H. J. Kramer, *Arete bei Platon und Aristoteles: zum Wesen und zur Geschichte der platonischen Ontologie* (Heidelberg: Heidelberger Akademie, 1959); cf. also Konrad Gaiser, *Platons ungeschriebene Lehre* (Stuttgart: E. Klept, 1963); Konrad Gaiser, ed., *Das Platonbild* (Hildesheim: G. Olms, 1969) and J. N. Findlay, *Plato: The Written and Unwritten Doctrines* (London: Routledge and Kegan Paul, 1974).
 35. See Plato, *Gorgias* 503e-508c, for a reasonably clear and explicit statement of the nature of goodness (i.e., value).
 36. G. W. v. Leibniz, "Monadology," no. 58 in G. R. Montgomery, trans., *Leibniz* (LaSalle, Ill.: Open Court, 1962), p. 263.
 37. G. W. v. Leibniz, "Discourse on Metaphysics," sec. 6, in *Leibniz*, p. 11.
 38. See, for example, Noel J. Brown, "Biological Diversity: The Global Challenge," in *Proceedings of the U.S. Strategy Conference on Biological Diversity* (see n. 11 above).
 39. Leopold, *Sand County*, p. 224.
 40. Peter Miller, "Value as Richness: Toward a Value Theory for an Expanded Naturalism in Environmental Ethics," *Environmental Ethics* 4 (1982): 103.
 41. See Leibniz, "Monadology," nos. 53-59, for an explicit discussion of these conditions. In addition to order and variety, Leibniz also includes in the concept of value the tantalizingly "organic" characteristics of "interconnection," "relationship," "adaptation," and "universal harmony." For a fuller discussion see Walter H. O'Briant, "Leibniz's Contribution to Environmental Philosophy," *Environmental Ethics* 2 (1980): 215-20.
 42. See Leibniz, "Discourse on Metaphysics," sec. 5, where he compares God to "an excellent Geometer" and to "a good architect." He goes on to say, "that the reason [God] wishes to avoid multiplicity of hypotheses or prin-

- ciples [is] very much as the simplest system is preferred in Astronomy" (*Leibniz*, pp. 8-9).
43. Kenneth Goodpaster, "From Egoism to Environmentalism," in *Ethics and Problems of the 21st Century*, edited by Kenneth Goodpaster and Kenneth Sayre (Notre Dame: Notre Dame University Press, 1979), pp. 21-35.
 44. Kant provides the clearest possible illustration: "Its [the categorical imperative's] foundation is this, that rational nature exists as an end in itself. Man necessarily conceives his own existence this way, and so far this is a subjective principle of human action." In Kant's view this subjective principle becomes (relatively) "objective" by generalization, viz.: "But in this way also every other rational being conceives of his own existence, and for the very same reason; hence the principle is also objective, and from it, as the highest practical ground, all laws of the will must be capable of being derived." John Stuart Mill, Bentham's utilitarian protégé, employs the same general strategy as Kant to transcend egoism. According to Mill, "the happiness [previously defined in terms of pleasure and pain] which forms the utilitarian standard of what is right in conduct is not the agent's own happiness but that of all concerned. As between *his own* happiness and that of others, utilitarianism requires him to be as strictly impartial as a disinterested and benevolent spectator." Immanuel Kant, *Foundations of the Metaphysics of Morals*, trans. by John Watson (Glasgow: Jackson, Wylie and Company, 1888), second section, and John Stuart Mill, *Utilitarianism* (New York: Bobbs-Merrill, 1957), chap. 2 (emphasis added).
 45. Kant, *Foundations*, second section: "And even beings whose existence depends upon nature [including thus animals and plants], not upon our will have only relative value as means [i.e., instrumental value]. . . ." For a more elaborate statement see "Duties to Animals and Spirits," in Immanuel Kant, *Lectures on Ethics*, trans. by Louis Infield (New York: Harper and Row, 1963), pp. 239-41.
 46. Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation*, New Edition (Oxford: Oxford University Press, 1823), chap. xvii, sec. 1.
 47. J. Baird Callicott, "Animal Liberation: A Triangular Affair," *Environmental Ethics* 2 (1980): 311-38. See also similar views expressed by R. and V. Routley, "Human Chauvinism and Environmental Ethics," in Mannison et al., eds., *Environmental Philosophy*, pp. 96-189 (see n. 12 above).
 48. Peter Singer, "Not for Humans Only: The Place of Nonhumans in Environmental Issues," in Goodpaster and Sayre, eds., *Ethics and Problems of the 21st Century*, pp. 191-206. Tom Regan has expressed a similar view in *The Case for Animal Rights* (Berkeley: University of California Press, 1983), p. 360: ". . . the reason we ought to save the members of endangered species of animals is not because the species is endangered but because the individual animals have valid claims and thus rights. . . ."
 49. In response to this concern which I first expressed as an "irony" of animal liberation in "A Triangular Affair," animal liberationist Edward Johnson

- saw nothing wrong with it. According to Johnson, "the crucial point, though, is that there is no 'irony' here even if a species does become extinct, since it is not the species that is being liberated, but individual members of the species." Edward Johnson, "Animal Liberation Versus the Land Ethic," *Environmental Ethics* 3 (1981): 267.
50. Sagoff, personal communication.
51. Arthur Schopenhauer, *The World as Will and Idea*, trans. Haldane and Kemp (Garden City: Doubleday, 1961); see also, "Transcendent Considerations Concerning the Will as Thing in Itself," in *The Will to Live: Selected Writings of Arthur Schopenhauer*, edited by Richard Taylor (New York: Frederick Unger, 1962), pp. 33-42.
52. "Just as in my own will-to-live there is a yearning for more life . . . so the same obtains in all the will-to-live around me, equally whether it can express itself to my comprehension or whether it remains unvoiced." Schweitzer here says in effect, my essence and for me the source of my own preciousness is the will-to-live, but the same thing, a striving for life, is in every other living thing. There follows the transition from egoism to altruism: "Ethics thus consists in this, that I experience the necessity of practicing the same reverence for life toward all will-to-live, as toward my own." Albert Schweitzer, *Civilization and Ethics*, trans. John Naish, reprinted in Regan and Singer, eds., *Animal Rights and Human Obligations* (Englewood Cliffs: Prentice-Hall, 1976), p. 133.
53. H. J. McCloskey holds such a position, in "Rights," *Philosophical Quarterly* 15 (1965): 115-27. See also Meredith Williams, "Rights, Interests, and Moral Equality," *Environmental Ethics* (1980): 149-61. For the general relationship between interests and rights see also Joel Feinberg, "The Nature and Value of Rights," *Journal of Value Inquiry* 4 (1970): 243-57, and Bryan Norton, "Environmental Ethics and Non-human Rights," *Environmental Ethics* 4 (1982): 17-36.
54. Peter Singer, "All Animals Are Equal," in *Animal Rights*, p. 148, writes, "The capacity for suffering and enjoying things is a prerequisite for having interests at all, a condition that must be satisfied for having interests at all." See also Tom Regan, "The Moral Basis of Vegetarianism," *Canadian Journal of Philosophy* 5 (1975): 181-214; and William Frankena, "Ethics and the Environment," in Goodpaster and Sayre, eds., *Ethics of the 21st Century*.
55. Joel Feinberg, "Can Animals Have Rights?" in Regan and Singer, eds., *Animal Rights and Human Obligations*, p. 191. Paul W. Taylor, in "The Ethics of Respect for Nature," *Environmental Ethics* 3 (1981): 199-200, without using the term "conation," appears to understand "interests" along lines similar to Feinberg's: "We can act in a being's interest or contrary to its interest without its being interested in what we are doing to it. It may, indeed, be wholly unaware. . . . When construed in this way, the concept of a being's good [i.e., interest] is not coextensive with sentience or the capacity for feeling pain."
56. Kenneth Goodpaster, "On Being Morally Considerable," *Journal of Philosophy* 75 (1978): 306-25. Goodpaster here wisely avoids a discussion of rights. In his view rights would involve something more (what more he does not say) than interests. J. Kantor, "The 'Interests' of Natural Objects," *Environmental Ethics* 2 (1980): 163-71, also draws attention to Feinberg's inconsistency in defining "interest" in terms of conation and then denying interests to plants. In Kantor's view plants may have interests. However, he does not think that the interests of plants can serve as the basis of rights; siding with Singer and Regan, he thinks that in addition a being must consciously suffer from having its interests harmed in order to be accorded rights.
57. Schweitzer, *Civilization and Ethics*, p. 136; Goodpaster, "Being Morally Considerable," p. 324. For a discussion of Schweitzer on this problem see William T. Blackstone, "The Search for an Environmental Ethic," in Tom Regan, ed., *Matters of Life and Death* (New York: Random House, 1980), pp. 299-335.
58. Goodpaster, "Being Morally Considerable," p. 313.
59. Schweitzer, *Civilization and Ethics*, p. 137.
60. Donald VanDeVeer, "Interspecific Justice," *Inquiry* 22 (1979): 55-79, has made an attempt to do just this.
61. Doubts concerning the serviceability of the predominant individual-egalitarian bias of moral metaphysics in the modern tradition vis-à-vis environmental ethical problems have been publicly expressed by John Rodman, "Liberation of Nature"; Bryan Norton, "Environmental Ethics and Non-Human Rights"; Richard and Val Routley, "Human Chauvinism"; Peter Miller, "Value as Richness"; Tom Regan, "The Nature and Possibility of an Environmental Ethic," *Environmental Ethics* 3 (1981): 19-34; J. Baird Callicott, "Animal Liberation."
62. Cf. David Hume, *A Treatise of Human Nature* (Oxford: The Clarendon Press, 1960), bk. III, pt. I.
63. Charles Darwin, *The Descent of Man and Selection in Relation to Sex*, second edition (New York: J. A. Hill, 1904), p. 97.
64. Ibid., p. 107.
65. Ibid., p. 118.
66. Ibid., p. 124.
67. Darwin seems both aware and forthright about his dependency on the concept of group selection in his account of the origin and evolution of morals: "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 species. This conclusion agrees well with the belief that the so-called moral sense is aboriginally derived from the social instincts, for both relate at first exclusively to the community" (ibid., p. 120). V. C. Wynne-Edwards, *Animal Dispersion in Relation to Social Behavior* (Edinburgh: Oliver and Boyd, 1962), provides the most celebrated recent support for group selection. Wynne-Edwards was refuted to the satisfaction at least of most biologists by G. C. Williams in *Adaptation and Natural Selection: A*