

Teaching Holism in Environmental Ethics

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Students who enroll in my environmental ethics courses often come with a background in ecology and natural resources. Moreover, they often point to this background when they express their frustration with, or outright rejection of, individualistic or atomistic moral theories that simply strive to include individual living things within the purview of a moral community. They ultimately evoke the concept of holism as the source of their frustration. Addressing this concern requires trying to make sense of both the concept of holism generally and the supposed connection students sense between their training as young scientists and the attempt to ground a worthy environmental ethic. Many theories within the field of environmental ethics either evoke or rest upon the concept of holism. To date, however, the concept of holism has not been unpacked in any detail. To begin such an unpacking teachers need (1) to demonstrate how and when holism appears within the field of environmental ethics, (2) to explain the core idea underpinning holism and compare it to reductionism, and (3) to provide a general classification of how holism is employed in both a metaphysical and ethical sense within environmental ethics.

The idea of holism . . . has ebbed and flowed with extraordinary persistence throughout the modern period.

—DONALD WORSTER¹

I. INTRODUCTION

The motivation for this paper is primarily pedagogical. Students who study environmental ethics with me are often unimpressed with the possibility of traditional ethical theories — such as utilitarianism and deontology — adequately capturing the essence of what they consider an appropriate environmental ethic. These students are equally unconvinced that some variety of animal ethics or biocentrism might deliver a passable environmental ethic.² Interestingly, almost all of these students are thoroughly steeped in contemporary biological science, ecology, conservation

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¹ Donald Worster, *Nature's Economy: A History of Ecological Ideas*, 2d ed. (Cambridge: Cambridge University Press, 1994), p. 21 (emphasis added).

² I take *animal ethics* generically to be the position that, in addition to humans, at least certain non-human animals deserve direct moral consideration for some reason. *Biocentrism* I take as generically the position that all living things merit direct moral standing for some reason.

biology, and natural resources. They view the above approaches either as interesting sidelights to the work of environmental ethics: as historically quaint, preliminary, but finally failed methodologies on a path to something else, or as outright distractions. Given that these students are attracted to the study and import of environmental ethics, it is not philosophy and ethics in general they find at odds with their more scientific background, but rather it is certain ontological, epistemological, and ethical portrayals of the world that many philosophers presuppose when they build their ethical and environmental ethical systems: ontological, epistemological, and ethical assumptions that my students often see as woefully outdated and unfashionable.³

In our search for “an environmental ethic worth wanting,” there comes a point during the semester when one brave student finally voices this perceived discord between contemporary biological or ecological science and traditional ethical approaches by suggesting that traditional and most applied ethics “just don’t seem to be very ‘holistic.’”⁴ This observation is quickly met with nods and mutterings of agreement from the other students. The students’ discomfort with traditional philosophical and ethical theorizing, then, is motivated by a sense of external inconsistency: they sense these traditional approaches to environmental ethics are somehow at odds with the facts of the working world as they have come to know those facts.

This call for holism in environmental ethics, and environmental thinking in general, is surely widespread. One might suggest that according to the majority of environmental ethicists, regardless of their intellectual bent or preferred ethical position, environmental ethics is an inherently holistic pursuit. There is little agreement, however, on the extent or nature of this holism. This lack of agreement may be due to the fact that in much of the environmental ethics literature the very notion of holism is often unclear and unclarified. Many environmental ethicists—such as Arne Naess, Kathleen Dean Moore, J. Baird Callicott, Val Plumwood, Christopher Preston, Martin Goerke, and Freya Mathews⁵—quite intentionally set out to create an environmental ethical system inspired by and consistent with contemporary

³ For a helpful discussion of the connections (or lack of connections) between various scientific paradigms and ecotheological approaches to environmental ethics, see Lisa Sideris, *Environmental Ethics, Ecological Theology, and Natural Selection* (New York: Columbia University Press, 2003).

⁴ As a linguistic aside, students also often ask why *holism* is not spelled “wholism.” What happened to the *W*? According to the *Oxford Dictionary of English Etymology*, the word *whole* comes from the Old English *hal* and *houl* (interestingly related to the word *health*) meaning “in good or sound condition, not divided into parts, the complete amount, and a combination of parts.” The spelling change to include the “wh-” came about later. The *OED* tells us that *holism* is a word coined in 1926 by General J. Smuts. Evidently, Smuts went back to the original (Old English) spelling of the word without the “wh-” for some unknown reason.

⁵ See Arne Naess, *Ecology, Community, and Lifestyle*, trans. David Rothenberg (Cambridge and New York: Cambridge University Press, 1989); Kathleen Dean Moore, *The Pine Island Paradox* (Minneapolis: Milkweed Editions, 2004), J. Baird Callicott, *In Defense of the Land Ethic: Essays in Environmental Philosophy* (Albany: State University of New York Press, 1989) and *Beyond the Land Ethic: More Essays in Environmental Philosophy* (Albany: State University of New York Press, 1999); Val Plumwood, *Feminism and the Mastery of Nature* (London: Routledge, 1993) and *Environmental Culture: The*

scientific thought.⁶ Other ethicists sometimes attempt to show how their more individualistic ethical approaches can either subsume the holists' concerns, or they attempt to retrofit their ethical theories in what might seem a more *ad hoc* fashion as a way to gesture toward holism: ". . . if you are concerned about humans (or sentient animals, or experiencing subjects of a life, or individual living things, etc.), and since these humans exist in a certain context, then, as a matter of consistency, you have to be concerned about that context as well." The assumption underlying these "extensionist" approaches is that a genuinely holistic environmental ethic becomes unnecessary and hence inappropriately sought after—that an adequate environmental ethic can be reduced to an ethic inclusive of only those constituent parts.

II. TWO VIEWS IN ENVIRONMENTAL ETHICS

In addition to the above mentioned ecological philosophers, my students, then, find themselves in agreement with environmental philosophers such as Australian philosophers Richard Sylvan (formerly Routley) and John Rodman who suggest there is a need for a new, a holistic and ecocentric, environmental ethic. As early as 1973, Sylvan argued that in order for traditional Western philosophy to be able to focus its cognitive and creative abilities on the environmental crisis (a task he desperately urged), traditional Western philosophy needed to provide an acceptable nonanthropocentric ethic inclusive of both individuals and environmental collectives or wholes. Sylvan suggested that philosophers pick up on and develop the environmental ethic envisioned by ecologist Aldo Leopold:

If Leopold is right in his criticism of prevailing conduct, what is required is a *change* in ethics, in attitudes, values and evaluations. For, as matters stand, . . . men do not feel morally ashamed if they interfere with a wilderness, if they maltreat the land, extract from it whatever it will yield, and then move on; and such conduct is not taken to

Ecological Crisis of Reason (London: Routledge, 2002); Christopher Preston, *Grounding Knowledge: Environmental Philosophy, Epistemology, and Place* (Athens: University of Georgia Press, 2003); Martin Goerke, *The Death of Our Planet's Species: A Challenge to Ecology and Ethics* (Washington, D.C: Island Press, 2003); and Freya Mathews, *The Ecological Self* (London: Routledge, 1991) and *Reinhabiting Reality: Towards a Recovery of Culture* (Albany: State University of New York Press, 2005).

⁶ Environmental ethicists and students of the discipline are not the only ones who call for, or prefer, holism. This concept is frequently bandied about in conservation and land management circles as well. Here, however, the call seems to be more for a move away from a narrowly utilitarian valuation and management scheme and toward one whereby the good or health of such things as the ecosystem or biotic community (however construed) either serves as worthy of consideration or whereby this becomes the focus of consideration and management. The term *holism* is often applied to these approaches. For example, it is not uncommon to see Leopold's conservation ideas referred to as "a holistic approach to conservation" (quote from a flyer from the Aldo Leopold Foundation describing Leopold's management strategy).

interfere with and does not arouse the moral indignation of others. . . . Western civilization stands in need of a new ethic . . . setting out people's relations to the natural environment.

Hence, according to Sylvan, the times demand "a new, an environmental, ethic."⁷ If, indeed, what is called for is an ecocentric environmental ethic, and if such an ethical structure is something foreign to our individually oriented or reductionistic moral history, then Sylvan is surely correct. Underlying this ecocentrism are certain holistic assumptions: that corporate entities such as species, ecosystems, watersheds, or biotic communities exist as such (i.e., as I discuss below, that they have emergent properties or that they cannot merely be reduced to the sum of their parts)—that we can morally take account of them, and that we should, or even that we had better, register them directly within our moral community.

Four years after Sylvan's call, and in reference to extensionist varieties of "applied ethics," Rodman asked, "Why do our 'new ethics' seem so old?" He answered, "Because the attempt to produce a 'new ethic' by the process of 'extension' perpetuates the basic assumptions of the conventional modern paradigm, however much it fiddles with the boundaries."⁸ "Extensionism," as we have seen over the past three decades in environmental ethics, is the attempt to extend the moral community, or those deserving of direct moral standing, by simply applying traditional ethical theory to more and more individual living things; while the "modern paradigm" (as I suggest below) is characterized at least in part by reductionism and atomism, even in ethics. According to Sylvan, Rodman, and many of my students, given that our current modern metaphysical and ethical structures are, in their minds, ecologically confused or lacking, what is needed is a whole new ethical structure: one that serves to directly incorporate environmental wholes as well as individual living things directly within the moral community.

My students, then, find themselves at odds with certain other environmental ethicists—such as William Frankena, Kristin Shrader-Frechette, Don Marietta, Jr., and Bryan Norton—who do not believe that we need to seek an ecocentric or holistic environmental ethic.⁹ Before we raise the call for a new ethic dealing with the environment, Frankena urges that perhaps

. . . there is another possibility that should be explored first, namely, that our old ethics, or at least its best parts, is entirely satisfactory as a basis for our lives in the world, the trouble

⁷ Richard Sylvan "Is There a Need for a New, an Environmental, Ethic?" in *Proceedings of the XV World Congress of Philosophy* 1 (1973): 205.

⁸ John Rodman "The Liberation of Nature," *Inquiry* 20 (1977): 95.

⁹ See William K. Frankena "Ethics and the Environment," in Kenneth Goodpaster and Kenneth Sayre, eds., *Ethics and Problems of the Twenty-First Century* (Notre Dame: University of Notre Dame Press, 1979); Kristin Shrader-Frechette, *Environmental Ethics* (Pacific Grove, Calif.: Boxwood Press, 1981); Don E. Marietta, Jr., *For People and the Planet: Holism and Humanism in Environmental Ethics* (Philadelphia: Temple University Press, 1995); Bryan G. Norton, *Toward Unity among Environmentalists* (New York: Oxford University Press, 1991).

being only that not enough of us live by it enough of the time—that is, that what we need is not a new ethics but a new moral rearmament, a revival of moral dedication.¹⁰

Hence, for Frankena our problems are not the result of a lack of moral inclusivity, but rather they are the product of our collective weak will.

Shrader-Frechette backs such a view and argues for a simple reapplication of the traditional humanistic approach to encompass environmental issues. Using water pollution as an example, Shrader-Frechette claims that

... it is difficult to think of an action which would do irreparable damage to the environment or ecosystem, but which would not also threaten human well-being. . . . If a polluter dumps toxic wastes in a river, this action could be said to be wrong . . . because there are human interests in having clean water (e.g., for recreation and for drinking).¹¹

Norton, perhaps the most recognized of the reductionist anthropocentrists, argues that “active environmentalists . . . believe that policies serving the interests of the human species as a whole, and for the long run, will also serve the ‘interests’ of nature, and vice versa.”¹²

The environmental ethical holist, of course, finds such systems and presumptions unconvincing for a number of reasons. A few will suffice for the present purpose. First, the holist assumes that it is not necessarily true that I have to be concerned about a specific support network for sentient animals as a way to demonstrate or fulfill my commitment to those animals. I merely have to be concerned with *some* supporting context, and in fact, any old context might do (zoos or native habitat) as long as it provides for the well being of those animals. Second, such a maneuver only bestows *indirect* moral consideration to *some* supporting matrix, while at the same time reducing that matrix to something unimportant beyond its merely instrumental value. The argument from the holist is that there is a significant difference between the ethical desires of those who we think of as environmental ethical holists and those deemed ethical atomists or individualists (no matter how inclusive these atomists or individualists might be). Finally, whether an “ecologically informed anthropocentrism” will suffice in the sense that it will provide the environmental protection we deem important might, ethically speaking, be quite beside the point. I could agree with Frankena, Shrader-Frechette, Marietta, and Norton that all we need is an enlightened anthropocentrism in order to accomplish certain environmental ends, but still argue that nonhuman individuals and corporate entities deserve direct moral standing. It is far from clear that “what we *ought* to include” is reducible

¹⁰ Frankena, “Ethics and the Environment,” p. 3.

¹¹ Shrader-Frechette, *Environmental Ethics*, p. 17. It should be noted that in the second edition of *Environmental Ethics* (Pacific Grove, Calif.: Boxwood Press, 1991), pp. 16–18, Shrader-Frechette softens her humanism a bit by allowing for the possibility of the environment or ecosystem as having direct moral leverage or what she calls environmental ethics in a “primary sense.”

¹² Norton, *Toward Unity among Environmentalists*, p. 240.

to merely “what we *need*” or “what will *work*.” Given the health risks involved, a selfish health-conscious person might not engage in cannibalism. There seems to be good reason to think, however, that there is vast moral chasm between this person and a person who believes cannibalism is wrong, even though neither eats humans. Utilitarians, deontologists, and divine command theorists might all praise truth telling, but unless we assume ethics are nothing more than a given set of actions, their convergence on this matter is morally uninteresting.¹³

The holists’ discomfort with environmental ethical reductionism can be made by analogy. If what we desire is an adequate human rights ethic, then a system of imperialism (or even broadly based imperialism where we realize that providing for the context of those that provide for our interests is important) would not suffice as the basis for an adequate human rights ethic since the rights of the non-imperialist humans would be contingent upon the effect their welfare had on only those of the imperialist country. Imperialism and a human rights ethic are two distinct ethical stances, and pragmatism does not settle all of the moral questions at issue here. Likewise, it would not satisfy animal welfare ethicists to merely point out that, since nonhumans are valuable in various respects to humans, a human rights ethic (or a broadly based and enlightened human rights ethic) would suffice for an animal ethic. Animal ethicists argue that since the welfare of animals cannot be reduced to the enlightened interests of humans—no matter how broadly conceived—the argument regarding the direct moral standing of animals is a separate matter. An anthropocentric, animal or biocentric ethic, or even the most expanded version of each, is not the equivalent of an ecocentric environmental ethic; and the later simply cannot be reduced to the former.¹⁴

Practically speaking it is also quite difficult to imagine that the person arguing that a broadened imperialism is tantamount to an adequate human rights ethic, or the person arguing that a broadly based humanism is tantamount to an adequate animal welfare ethic, or the person arguing that a broadly based biocentrism is tantamount to an adequate environmental ethic, will, at the end of the day, always make the same decisions. The broadly based imperialist will, at times, make different decisions than the human rights ethicist (and, from the point of view of the human

¹³ Katie McShane develops this line of argument in more detail in “Anthropocentrism vs. Nonanthropocentrism: Why Should We Care?” *Environmental Values* 16, no. 2 (2007): 169–85.

¹⁴ The difference between an ethical theory which grants the entity moral standing by extension, and an ethical theory which grants the entity direct moral standing, might be most visible when considering what these theories would recommend under counterfactual, rather than actual, conditions. This corresponds nicely to the way scientific theories are distinguished; theory *A* and theory *B* may give identical predictions about what will happen under these, actual, or present circumstances, but are acknowledged to be genuinely different theories if they advance different predictions about what will happen in other, counterfactual or future, circumstances. Similarly, an ethic which *merely extends* moral consideration to animals and an ethic which grants animals *direct* moral standing, might both admonish us to care for nonhuman animals under the current circumstances, but under imaginable circumstances in which human interests can be detached from the interests of nonhuman animals, the imperatives generated by these ethical theories would diverge. Thanks to Dona Warren for articulating this point.

rights ethicist, the imperialists will sometimes make the wrong decision) because their basic notion of what directly morally matters (and even what constitutes a moral problem in a given circumstance) is different and, hence, their basic notion of what constitutes a right action or proper conduct will vary accordingly. The same can be said of the broadly based humanist and the animal welfare ethicist, and the broadly based extensionist and the ecocentric environmental ethicist. Since human rights ethics, animal welfare ethics, and ecocentric environmental ethics cannot be isomorphically collapsed into a broadened imperialism, humanism, or extensionism, respectively, this is at least *prima facie* evidence that they exist as separate categories.

In short, these broadened ethics are not tantamount to their assumed fellows because they fail to recognize the flavor of their fellows' argument. The broadened ethic remains a managerial ethic with regard to its fellows only; an ethic *about X*, not an ethic *of X*. The objects which the broadened ethic attempts to bring into the purview of ethical consideration do not come into the moral realm as themselves objects of direct moral standing. Their present lives, interests, and future survival are protected and defended on contingent and, therefore, ultimately uncertain grounds. The moral intuitions of the human rights, animal welfare, and ecocentric environmental ethicist, however, are not represented by such an approach. In fact, history is littered with examples of the abuses of those that were presumably taken care of by a broader ethical structure. If there is not the direct moral enfranchising of species and other environmental wholes—such as we seem to find in theories of deep ecology and the land ethic—then there is not an adequate environmental ethic in the holist/ecocentrist sense. It is not an adequate environmental ethic, for some, because it is not properly holistic in that it fails to account for all of those entities that actually exist and that might, therefore, properly pull on our moral sentiments.

Before such claims can fully be understood and assessed, however, a richer account of the basic concept of holism must be unpacked.

III. HOLISM VS. REDUCTIONISM

Not everyone who evokes notions of holism within environmental ethics seems to mean the same thing by it. In fact, seldom is it characterized at all. It would serve us well to attempt to clarify the use of the concept of *holism* within environmental ethics. Not only will it help us get a better handle on the term, and hence be more accurate with our use of it, but such clarification gives us insight into at least one of the ways theories of environmental ethics might actually differ. Hence, the main purpose of this paper is to at least begin to make sense of the various notions of holism that are evoked, but not necessarily to defend any particular type of holism or brand of environmental ethic.

A brief account of holism from within the philosophy of ecology might help us make sense of the use of this idea within environmental ethics. In many ways,

holism can best be understood in contrast to (and sometimes as a reaction against) reductionism.

Reductionism is arguably the central approach to Western science, traceable back to the Milesian school of thought attempting to discern the fundamental stuff out of which all else emanates.¹⁵ The basic idea behind reductionist science is that the experienced world is only understandable and explainable *via* an examination of its component parts—whatever they might turn out to be. For an environmental reductionist, as an example, a species would be considered nothing but a placeholder for a collection of specimens, a collection whose identity is explainable through—or collapsible into—that particular specimen collection. The popularized expression of reductionism is that the whole is merely the sum of its component parts.

The central popular tenant of holism, on the other hand, is the assertion that the whole is in fact greater than the sum of its parts. Holists believe there are certain properties or qualities that “emerge” at the level of the collective which do not attach merely to a collection of constituent individuals. For the environmental holist, then, a species is itself an entity, *not* merely a collection of specimens. Hence, a holist might point to emergent properties such as the quality of being “endangered,” “exotic,” “plentiful,” or “indigenous” as applicable to species and as evidence of the existence of species as such. A holist might suggest that when we assert the introduction of exotic species to an ecosystem can harm that ecosystem (or, conversely, when we suggest the removal of an exotic species from an ecosystem can benefit that ecosystem) we are assuming the ecosystem itself has interests, that it itself can be harmed or benefited quite apart from, or as a separate issue from, its constituent parts. For a holist ecologist, such as Eugene Odum, “new systems properties emerge in the course of ecological development.”¹⁶ As philosopher David Keller and ecologist Frank Golley explain in *Philosophy of Ecology*, with reference to Michael Polanyi’s example of life itself,

If life is an emergent property of matter, then life cannot be explained only in terms of physics and chemistry; if mentality is an emergent property of neural processes, then mentality cannot be explained only in terms of brain physiology.¹⁷

Interestingly, students often assume that the science of ecology is itself inherently holistic. However, approaches from within the science itself vary from the holistic to the strictly reductionistic. It is a mistake, therefore, to assume that holism is analytic to ecology as the study of organisms in context. That the entities of investigation are

¹⁵ Many environmental scholars, especially philosophers, have made this argument in detail. For especially good accounts, see Plumwood, *Feminism and the Mastery of Nature*; Mathews, *The Ecological Self*, esp. chap. 1; Callicott, *In Defense of the Land Ethic*, esp. chaps. 6 and 10 and *Beyond the Land Ethic*, esp. chap. 13; and Eugene C. Hargrove, *Foundations of Environmental Ethics* (Englewood Cliffs, N.J.: Prentice Hall, 1989), esp. chap. 1.

¹⁶ In David Keller and Frank Golley, eds., *Philosophy of Ecology: From Science to Synthesis* (Athens: University of Georgia Press, 2000), p. 197.

¹⁷ *Ibid.*, p. 197.

“complex amalgamations of biotic and abiotic components”¹⁸ does not mean that those objects of study are not merely reducible to a sum of their parts, or that they themselves have emergent properties. So, even though it is true that, as historian Donald Worster suggests, “ecologists frequently argue that breaking nature down into its atomistic parts cannot result in a true understanding of the whole,” and that ecologists also frequently argue that “special qualities emerge out of interactions and collectives; the whole of nature is different from the sum of its parts,”¹⁹ certainly not all ecologists do.

IV. HOLISM: A GENERAL CLASSIFICATION

There are, in general, at least three different types of holism that might find their way into environmental ethics discourse.

ETHICAL HOLISM

This is the position that those things—or at least some of those things (maybe even just one of those things)—that we have traditionally conceived of as corporate entities (or wholes) merit direct moral standing. This is the position that denies ethical reductionism, or the belief that only more or less traditionally conceived of individuals (e.g., humans, plants, other animals) can matter morally. An ethical reductionist, for example, would argue that the good of a species can be accounted for by considering the good of those individual living things which make it up—namely, specimens. For an ethical holist, however, a species, an ecosystem, or a biotic community garners, for itself, ethical weight and pulls on us for consideration. As Hargrove notes, this is one way to express the key tension between animal ethics and environmental ethics: “. . . from the perspective of environmental ethics, a rights approach focused exclusively on animals is too narrow to cover all the entities living and nonliving that members of the environmental movement feel ought to be considered morally.”²⁰ We are not, however, ethical holists “just because.” Ethical holism presupposes at least one of the other possible forms of holism.

EPISTEMOLOGICAL HOLISM

Epistemological reductionism in general is the belief that “the knowledge of the parts is both a necessary and sufficient condition to understand the whole” (e.g., that the properties of cells can be known or understood by an examination of the properties of those cell parts which make up a cell). An epistemological holist, on

¹⁸ Ibid, p. 176.

¹⁹ Donald Worster *Nature's Economy: A History of Ecological Ideas*, 2d ed. (Cambridge: Cambridge University Press, 1994), p. 22.

²⁰ Eugene C. Hargrove, *The Animal Rights/Environmental Ethics Debate: The Environmental Perspective* (Albany: State University of New York Press, 1992), p. xxii.

the other hand, believes that “knowledge of the parts is neither necessary nor sufficient to understand the whole” (e.g., that there are cellular properties or qualities knowable only at the cellular level).²¹ Epistemological holism also presupposes yet another form of holism.²²

METAPHYSICAL/ONTOLOGICAL HOLISM

This is the position that wholes exist independent of their constituent parts. Some holists even go so far as to suggest that the whole is the basic unit—some even that it is the only unit. The notion of emergent properties adhering to collectives belongs primarily in this category and is employed as evidence of the existence of the whole itself. Metaphysical reductionism, in contrast, is the position that the properties of wholes are always reducible to, or are found among, the properties of their component parts—implying that the parts exist but that the wholes do not. As mentioned above, an environmental metaphysical/ontological holist would point to the emergent properties of a species (“exotic” or “endangered,” for example) as evidence of the ontological reality of that species since such properties are not features of specimens but only emerge at the species level of organization. The environmental metaphysical/ontological reductionist would deny the presence of emergent properties adhering to the whole as a way to deny the existence of the whole in the first place.

It is important to note within this category, that there are perhaps infinite variations, and hence varieties, of metaphysical/ontological holism. While you and I both may be metaphysical holists, in that you and I both might believe that certain things we traditionally conceive of as wholes possess emergent properties at that collective level, which of those things we believe emergent properties might adhere to can vary wildly. I might believe that only biological species (such as cougars and caribou) possess emergent properties and therefore exist as such,²³ while you

²¹ Keller and Golley, *Philosophy of Ecology*, p. 173.

²² There actually may be two different kinds of reductionism here: a reductionism that claims that everything is ultimately *X* and one that claims that everything can best be understood as *X*. These do not seem to be the same thing and might effect my claim that metaphysical holism presupposes epistemological holism. Metaphysical holism may only presuppose the former but not the latter sense. While it does make sense to say that if “knowledge of the parts is neither necessary nor sufficient for the knowledge of the whole, then the whole exists independent of its constituent parts,” this could be nothing more than a consequence of our epistemological limitations. While we may not be able to understand the mind by understanding the brain, this may be because the mind is not reducible to the brain *or* it might be because we aren’t intelligent enough or intelligent in the right way to be able to do this. Perhaps a future “us” or some other being could understand our minds by understanding our brains. If so, the fact that our knowledge of the mind does not reduce to our knowledge of the brain would show the mind does not reduce to the brain. This might well apply to such things as species, ecosystem, etc., as well.

²³ In fact, one might believe, as does Goerke (*The Death of Our Planet’s Species*, pp. 30–31), that, according to certain measures such as uniqueness, collectives such as species and ecosystems are more genuine than are what we typically consider individual organisms: “Ecosystems are unique specimens to a much greater degree than organisms are. . . .”

might believe that not only do cougars and caribou exist but perhaps even that cars and computers possess unique emergent properties and therefore exist. As a result, we might also, therefore, infer quite different ethical conclusions or systems. While I would be willing to morally include species such as cougars and caribou, you may be willing to go further and directly morally enfranchise entities such as cars and computers.²⁴ This is what I mean above when I propose that ethical holism presupposes at least some variety of metaphysical/ontological holism.

V. HOLISM IN ENVIRONMENTAL ETHICS

I suggest that *holism* is employed in the environmental ethics literature in roughly the same three ways it is discussed in general above—metaphysical/ontological, epistemological, and ethical—although primarily in the first and third sense.

ENVIRONMENTAL ETHICAL HOLISM

This is the position that moral significance attaches to wholes over and above the individuals they include, or the idea that environmental wholes can and do matter morally and directly, or that they possess intrinsic value. Sometimes when we point to the holism of an ethical system, or the desirability of holism, this is what we are pointing to or looking for: we are exploring or desiring a system that allows us to directly morally include species, ecosystems, watersheds, biotic communities, or entities we typically consider collectives.

Some environmental ethicists are ethical holists and some are not. Moreover, within the realm of those who are ethical holists there exist differences (and potentially infinite differences) in environmental ethical systems. Callicott's system is not Naess' system and is not Mathew's system (the land ethic is not deep ecology and is not panpsychism), for example, even though all are examples of environmental ethical holism. I suggest these environmental ethical variations can ultimately be explained by reference to the metaphysical/ontological holism these various systems presuppose.

ENVIRONMENTAL METAPHYSICAL/ONTOLOGICAL HOLISM

Although there may, in fact, be an infinite variety of metaphysical/ontological holisms, they seem to fall in to two basic categories within environmental ethics: what I call logical or radical holism and what I call well-being or interest holism.²⁵

²⁴ I say "willing to" to include these things. While a certain degree of metaphysical holism is necessary for a corresponding ethical holism, the fact that I believe something exists does not mean I am therefore compelled to morally enfranchise that something.

²⁵ Sometimes, it should be noted, the focus of metaphysical holism seems to be more specifically on the place of humans in nature. Are humans part of nature or not? If they are not, then why not? If they are, then in what way and to what degree are they? I mention this point only because the reader will notice this focus in certain things that environmental philosophers attend to when they discuss holism.

(1) *Logical or Radical Holism*. This is the assumption that the embeddedness of organisms in their ecological matrix serves to essentially erase the individual. That is, ecological interconnectedness eliminates the individual—the individual is subsumed by the reality of the whole. Popular expressions of this might include such slogans as “all is one,”²⁶ or even perhaps certain metaphorical expressions such as the “web of life,” a web being little more than a complex of relationships and, as such, possessing no nodes we might recognize as individuals (more below). Referring specifically to the Selborne Cult prompted by the work of Gilbert White, which in many ways can be viewed as a staunch reaction against the dominant and overwhelming reductionism of the age, Worster characterizes *holism* as a view “in which all nature is approached as a *single indivisible unity*.”²⁷ One can also see at least flirtations with this more untempered form of holism in certain variations of the environmental philosophy of deep ecology. Deep ecologist Warwick Fox’s early work, as but one example, borders on radical or logical metaphysical holism when he famously comments on what deep ecologists George Sessions and Bill Devall endorse as “the central intuition”²⁸ of the theory:

It is the idea that we can make no firm ontological divide in the field of existence. In other words, the world simply is not divided up into independently existing subjects and objects, nor is there any bifurcation in reality between the human and the non-human realms. . . . To the extent that we perceive boundaries, we fall short of deep ecological consciousness.²⁹

Although, as I stated above, it is not my purpose herein to defend any particular form of holism or attendant environmental ethics, certain issues or problems certainly might be seen to arise given this particular variation on holism. One might, for example, speculate that logical holism goes too far, that it makes little philosophical sense, that it leads to certain unpalatable implications, and even that it is strategically disadvantageous for environmentalists. How can we even talk of an entity and its context without talking about “entities” and “contexts,” presupposing other “entities” and “non-contexts,” thus negating logical holism? Moreover, if an entity is not what it is apart from its context, then how could we say we ought to put it back in its context, for instance, since it is already not that entity because of its removal? Additionally, logical holism might well weaken our arguments for action. For example, to argue that we ought to remove a polar bear from the zoo and return it to the Arctic carries little weight if we have already concluded that a

²⁶ Sometimes I have heard this expressed as a very quick jump from a statement like “everything is connected” to the assumption that “all is one.” Sometimes these two slogans are blurred as an equivocation with one another. As I am arguing in this essay, neither of these moves is correct.

²⁷ Worster, *Nature’s Economy*, p. 21 (emphasis added).

²⁸ George Sessions and Bill Devall, *Deep Ecology: Living as if Nature Mattered* (Salt Lake City: Gibbs Smith, 1985), p. 66.

²⁹ Warwick Fox “Deep Ecology: a New Philosophy of our Time?” *The Ecologist* 15, nos. 5–6 (1984): 196.

polar bear in a zoo is not a polar bear at all—or even more radically that the polar bear in the zoo does not itself exist as a polar bear. Logical holism is arguably not a necessary (and perhaps not even an advisable) quality for an environmental ethic.

(2) *Interest or Well-Being Holism*. This is the metaphysical/ontological assumption that individual organisms are intricately entwined within a matrix larger than either their individual selves or the biotic community collectively.³⁰ It is, moreover, the idea that not only is the reality of the individual entwined within the collective, but that the well-being or interests of that individual are provided therein as well. Although they disagree upon the extent of this embeddedness, metaphysical holists of this bent seem to agree that an individual's matrix supports, sustains, and shapes that individual. While they do not allow for the individual to be subsumed by the whole, the individual cannot physically be entirely separated out from the individual's context. That is to say, the survival and well-being of living organisms is dependent upon the healthy functioning of their ecological matrix.

I would suggest the Leopold land ethic is perhaps most representative of this type of holism. Leopold's attempt to walk the line between the good of the biotic community and the good of the constituent parts of the biotic community seems to be exactly reflective of the metaphysical/ontological holism of this variety. Of course, the great task before the well-being or interest holist now is the balance between these two levels of interest that can, and do, at times come in to conflict.

Certain metaphors employed to capture the essence of these various types of holism can be illustrative. Ecologists and environmental ethicists alike often employ the concepts of "nets" or "webs" to articulate their holism. The metaphor of the "web of nature" maps well to radical or logical holism given that webs are but masses of relationships with no discernable nodes of identity, where wholes are understood as lacking tangible individuals. The metaphor of the "net of nature," while certainly not as popular or lyrical as that of a "web," alternatively maps more accurately to the various forms of interest of well-being holism. Nets have nodes or identifiable and unique confluences of relationships identifiable as things themselves. However, these nodes still exist as inseparable from, and dependent upon, those relational confluences.

Caution should be exercised here, however, since these two metaphorical expressions of holism are arguably not equivalent in that they represent two mutually exclusive visions of metaphysical holism. Expressions that slide between holisms and metaphorical expressions of such should be avoided.³¹ Again, Fox presents us with a particularly egregious illustration of metaphorical slipperiness:

³⁰ Sometimes it seems that this sense of holism is applied to an individual organism in relation to its biotic context, sometimes it seems applied to individuals in relation to their social or proto-social context, and sometimes it seems applied to collections of individuals (e.g., the human community) in relation to a larger biotic context.

³¹ The fact that they are carelessly conflated seems at least *prima facie* evidence for our lack of clarity and precision in our employment of holism in the first place.

Deep ecology thus strives to be nonanthropocentric by viewing humans as just one constituency among others in the biotic community, just one particular strand in the web of life, just one particular kind of knot in biospherical net.³²

Fox employs three distinct and incommensurable metaphorical expressions in this one brief passage: nature as a collection of constituencies and humans as but one part of that constituency, nature as a web and humans as but a strand in that radically holistic nature, and finally nature as a net with humans (individually or collectively, it's not clear here) viewed as a knot in that net of relationships.

VI. CONCLUSION BY WAY OF FOUR NOTES FOR CLASSROOM DISCUSSION

If we really are in the midst of an “environmental crisis” (and even perhaps if we are not), and if our wrong-headed beliefs, attitudes, and values are preventing us from adequately addressing said crisis, and if one such proposed solution is the replacement of our outdated atomistic or reductionistic metaphysical and ethical presuppositions with a more “holistic” framework, then we are arguably obligated to think carefully about what exactly holism means—something, I suggest, we have not done to date.

Given the relationship between ethics and values on the one hand, and metaphysical presuppositions on the other, the alteration of values ultimately depends on an alteration in the way we construe the world around us, and our place in that world. If we are in need of an ethical transformation, then, as Mathews puts it, “We stand radically in need of cosmological rehabilitation.”³³ Given the centrality of the concept of holism in this proposed rethinking—both at the metaphysical and the ethical level—a more serious treatment of holism in environmental philosophy is a critical task. While this task is quite beyond the scope of the present essay, four somewhat distinct items seem important when dealing with classroom discussions about holism in environmental ethics.

First, what about the inconsistency that my students sense between the many forms of environmental ethics that include only greater or fewer individual living things within the purview of the moral community, and their perceptions about their training in the ecological sciences? What is the connection between metaphysics and ethics, between the way nature and the environment are perceived and ideas about how we ought to relate to and treat nature? While it seems reasonable to expect resonance or consistency here—to expect, that is, that our ethic not be inconsistent with the facts of the working world—is it the case that ecology can more directly inform an ethic, or perhaps eliminate certain proffered environmental ethics? More specifically, does ecological knowledge (scientific knowledge) suggest anything about metaphysical holism?

³² Fox, “Deep Ecology,” p. 194.

³³ Mathews, *The Ecological Self*, p. 47.

For example, the very definition of ecology as the study of the relationships between living things and their environment, or the study of things in context, suggests that radical or logical holism and metaphysical and ethical holism would not jibe with ecology.³⁴ There are living things and there is a context. At the same time, it is also not clear that an ethic that failed to recognize some level of interdependence, or one that was radically atomistic, would also be out of synch with ecology. But while these metaphysical and ethical extremes might be eliminated, there is a huge middle ground still remaining and ecology might not have much to say about which ethic within this expansive grey area might be implied. Can science help clarify this metaphysical issue, or does science presuppose too much about metaphysics in the first place?³⁵ Moreover, there are differences here between the methods, the purposes, and the explanations of ecology. While the Isle Royale wolf-moose project employs the most reductionistic method imaginable (i.e., simply counting how many wolves and moose exist on the island for each of the past fifty-one years), it is certainly not accurate to therefore label the project as reductionistic in its purpose, in its explanations of the relationships between wolves and moose over time, or possible ethical implications.

Second, to a certain extent one can imagine either the view of reductionism or that of holism as something of a self-fulfilling prophecy. In fact, if science presupposes too much about metaphysics, then science itself will exemplify those presuppositions. That is, given our assumptions about what that something is in the first place (or even an inability to adequately purge preconceptions here), we often seem to find what we are looking for. In this case, someone who is, for one reason or another, inclined toward holism may look for and find or interpret their findings as proof of holism; while a reductionist, on the other hand, is going to examine that same subject and find reductionism and a lack of holism. I am struck by how often this is the case with my students and by how often an absolutist position is assumed as opposed to an “Einsteinian” one whereby we would allow for the possibility that both the reductionist and the holist might be correct given a certain fixed—though perhaps arbitrary or accidental—original position. In many cases, but certainly not all, the presuppositions employed (i.e., presuppositions about such things as what emergent properties can adhere to in the first place) will often wind up affirming the epistemological and metaphysical presupposition that the student might have begun with: a reductionist will find reductionism and a holist holism.³⁶ The answer

³⁴ While I think this is true, I want to be careful here. The ecological notion of a niche (i.e., that an individual is its relationships) might suggest a stronger sense of holism. The conservation scientists who prefer to conserve processes over states might also suggest that some scientists have leanings for radical, metaphysical holism.

³⁵ The narrative essays in part one of Moore’s *The Pine Island Paradox* are, I have found, an excellent way to jump into this conversation with both philosophy and science students.

³⁶ I am not necessarily defending relativism here; rather, I am pointing out a curiosity with my own experience of this discussion at both the metaphysical and ethical levels. I am uncomfortable with the implications of relativism in this case—if everything can be seen from both a reductionist and a holist perspective, and if both points of view are equally legitimate and self-confirming, how can anyone argue that we *should* have a holistic (or reductionistic) metaphysics or ethics?

to the question of what our original position—reductionism or holism—ought to be, then, seems hugely important.³⁷ My sense is that my students are reacting to what they intuit, rightly or wrongly, as resonance between certain metaphysics (reductionistic or holistic) and certain forms of ethics (extensionist or ecocentric). Moreover, my sense is that they are, again rightly or wrongly, conflating certain forms of ethics (extensionist or ecocentric) with certain levels of ethical inclusivity (linking extensionism with less inclusive ethics and holism with more inclusive ethics). They want the world to be a certain way, and they connect reductionism with a kind of morally offensive exclusivity, whereas they see in holism the possibility of a widely inclusive environmental ethic.

Third, caution should be exercised when making assumptions about the relationships existing between the various types of holism as applied to environmental ethics. Not all ethical holists are necessarily the same (i.e., not all would morally include the same corporate entities within their preferred environmental ethic). Not all metaphysical holists are the same (i.e., there would not necessarily be agreement on the extent and nature of emergent properties as applied to entities). Most certainly, not all of one class are of the other. If it is true, as some might argue, that ethical inclusion presupposes ontology (a thing must exist in order to count), an ethical holist must at the same time be a metaphysical holist.³⁸ However, since one does not necessarily have to morally enfranchise everything they believe to exist, a metaphysical holist is in no way compelled to be an ethical holist. This disconnection also demonstrates the necessity of the distinction between the various types of holism in the first place. That is, it demonstrates the non-reducibility of the very concept of holism itself.

Fourth, all environmental ethical systems that have assumed or attempted to employ any form of holism have risked the wrath of individualist reductionists charging them with fascism. Tom Regan most famously leveled this charge generally against holistic theories of environmental ethics and specifically against the Leopoldian land ethic in his book *The Case for Animal Rights*:

[It is difficult to reconcile] the *individualistic* nature of moral rights with the more *holistic* view of nature emphasized by many of the leading environmental thinkers. . . . It is difficult to see how the notion of the rights of the individual could find a home within a view³⁹ that, emotive connotations to one side, might be fairly dubbed “environmental fascism.”⁴⁰

³⁷ An in depth exploration of why we begin where we do, and perhaps even where we *should* begin would be wonderfully helpful.

³⁸ This is, I am aware, a contentious argument. We seem to morally enfranchise all sorts of things that we have little reason to believe actually exist: various divinities we die and kill for spring quickly, and tragically, to mind.

³⁹ Regan is referring specifically (perhaps exclusively) to the summary moral maxim of the Leopoldian land ethic here: “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.” Aldo Leopold, *A Sand County Almanac* (New York: Oxford University Press, 1949), p. 240.

⁴⁰ Tom Regan, *The Case for Animals Rights* (Berkeley: University of California Press, 1983), pp. 361–62.

The concern about the charge of environmental fascism is indeed understandable. The willingness to apply it to any and all forms of holism, however, is certainly not. Only radical or logical holism would clearly allow for the good of the whole to subsume any interests of the individual contained within (considering there are no individuals and hence no individual interests to begin with). Any theory built upon a different holistic foundation can most certainly avoid this charge because it would not inevitably subsume either the identity or the interests of the individuals within the whole.⁴¹

⁴¹ Defenses of the land ethic against this charge can be found in Michael P. Nelson, "Holists and Fascists and Paper Tigers . . . Oh My!" *Ethics and the Environment* 2 (1996): 102–17, and J. Baird Callicott, "Holistic Environmental Ethics and the Problem of Ecofascism," in *Beyond the Land Ethic*, pp. 59–76. An earlier and significantly different version of this essay appeared in Portuguese under the title "O Holismo na Ética Ambiental," in Maria Varandas and Christina Beckert, eds., *Éticas e Políticas Ambientais* (Lisbon, Portugal: Centro de Filosofia da Universidade de Lisboa, 2004), pp. 133–51.