Unifying Anthropocentrism and Ecocentrism

Roger Emmelhainz

University of Colorado, Boulder

16 March 2016

Environmental political thought, and environmentalism generally, is divided on the question of whether to ascribe moral standing to nonhuman entities, such as animals or entire ecosystems. As human activity increasing comes to dominate and reshape our world, effectively instrumentalizing everything nonhuman, the question becomes: do we continue with our traditional conception of politics, inclusive only of human interests, merely modifying our behavior to avoid ecological consequences destructive of our interests (e.g., Nordhaus and Shellenberger 2007)? Or do we have a moral responsibility to expand the political community, eschewing an anthropocentric view and instead taking the interests of nonhuman entities into account (e.g., Eckersley 1995; Ball 2011). If so, is it even possible to take account of an Other that cannot speak for itself?

I suggest that this debate involves a false dilemma: the anthropocentric approach, when properly understood, leads us to the same conclusions as an ecocentric approach, because human interests and ecological interests ultimately converge. More than merely converging, in fact, they are inseparable throughout; an anthropocentrism that does not encompass ecocentrism is an anthropocentrism that fundamentally misrecognizes its own commitments.

This thesis, however, comes with three caveats. It engages the problem at the level of environmental politics and policy, rather than personal environmental convictions. It seeks broad philosophical guidelines, rather than absolute prescriptions for every specific situation. Finally, it requires reevaluating the nature of anthropocentrism, in terms of temporality, holism, and our epistemological limitations. I do not suggest that the argument necessarily holds outside of these conditions. In this paper, I will first explore some important problems with each extant approach, then offer

an alternative understanding by which they may be reconciled, and finally discuss a few practical implications for environmental politics.

Anthropocentric, biocentric, and ecocentric moral positions each have a number of weaknesses. I will begin by discussing a few of the problems in each that can help shed light on the nature of the debate. Some of these critiques may already be well-trodden (particularly the line-drawing issues involved with anthropocentrism), but I think reviewing them will be helpful, to frame this conflict in terms of problems of representation and subalternity—areas in which the problems of anthropocentrism and ecocentrism are actually related, and that will prove a fruitful starting point for reconciling them.

Anthropocentrism's problem of justification.

As political subjecthood[1] has traditionally been anthropocentric, it is worth first addressing why this traditional framework of political morality is inadequate when considering the interaction of humans with the environment. The biggest issue with an anthropocentric approach is its justification, or lack thereof. The domain of the political is intersubjective, involving relationships between entities, including humans. Obviously, then, environmental *politics* still needs to take human interests into account (even if *personal* environmental values might not need to). But on what grounds can anthropocentrism justify excluding nonhuman interests?

1 Note: I am employing the term "subjectivity" to refer to the quality of an entity's *being a subject*, rather than only an object; "subjecthood" will refer to political recognition that the entity possesses subjectivity.

Political morality, in modern democracies, is by definition universal. A given system may be limited by geography in practice, but within that territory, it applies to and should take account of all human beings, regardless of their actual ability to claim moral standing on their own behalf. This has been a historical transformation in modern democracy: moral standing is presumed, and does not require voice. Humans have moral standing by default of being human.

I would highlight this idea's relationhip to the subject-object distinction. There is a close relationship between that and the human-nature distinction (Bruno Latour, in Barron 2003, p.79). We give moral weight to those we believe to possess subjectivity, even if we do not experience them as subjects in themselves. Other persons do not make themselves known to us *as* subjects. Conversely, we know ourselves to be subjects, but also know that others do not share our subjective experience. In the end, this gives us no grounds to deny the subjectivity of others—nor, as an implication, can we demand that it be demonstrated.

On the basis of our own experience, then, we impute subjectivity (that is to say, affirm subjecthood in the political sense) to other humans as a matter of *faith*. Now, this assertion that it is not grounded in anything more than faith alone may seem too strong. Couldn't one object that this is a matter of inductive inference? If our own being a human being includes a conscious experience of subjectivity, we might reasonably expect other, similar human beings to be similar in this way. But there is a problem with appealing to induction: we can only observe one example—ourselves. If our self-knowledge is truly

grounds for inferring anything about others' experiences, then it would would be grounds for inferring everything, i.e., absolute denial of differences.[2]

Exploring all the problematic consequences of applying induction to a single observation is beyond the scope of this paper. Suffice it to say at this point that the imputation of subjectivity to all humans is not epistemologically robust; we do not ground it in any "proof", but we rather commit to accepting it as a moral principle that we should .

And, in general, we do seem to consider this principle itself to have moral weight: Declining to presume subjecthood on the part of another (treating a human as an object) is abhorrent behavior, politically or personally. Yet, when it comes to nonhumans, our presumption is in favor of objecthood rather than subjecthood (cf. Latour 1993).

Ultimately, we have a line drawing problem here—and a difficult one. When dealing with humans, our default position is to include them as moral beings. We consider all humans to be persons even if we may have grounds to believe that they do not possess subjective consciousness (as in a vegetative coma). There is no requirement to justify inclusion; it is necessary, rather, to justify exclusion.

With regard to humans, the safe position seems to be over-inclusion. Safe, in the sense that protecting an object, under the erroneous assumption that it is a subject, may involve an opportunity cost (from limiting action)—but harming a subject, under the

2 My response here might raise a further objection: aren't we actually inferring from more than one observation, if my imputing subjectivity to others relies not only on my own experience as a subject, but on the fact that everyone else I encounter likewise claims to experience themselves in this way? But, aside from the circularity of the objection, it has the further problem that this evidence only involves others claiming to experience subjectivity—I am still not observing their subjective experience. Inductive inference can here go no further than saying that we reasonably expect all human beings to claim to possess subjectivity (if capable of making that claim), which is not the same as reasonably expecting that they actually are.

erroneous assumption that it is an object, involves a moral wrong. The harm done is not symmetrical across the two types of error.

But, even if subjective consciousness is the criterion for moral personhood (it is not clear that it is the best one, but it seems to be our default one presently), it is increasingly difficult to exclude many nonhumans. Great apes, dolphins, and even corvids show indications of self-awareness, insofar as indications exist for something that cannot directly be observed. The more we learn, the more the "distinctions that in the past distinguished humans from animals disappear" (Steve Fuller, in Barron 2003, p.85).

It is fairly clear that the appropriate line delimiting moral standing does not lie at the boundary of the human species—that line is more likely under- than over-inclusive. If we accept the moral reasoning that leads us to impute moral worth to all humans inclusively, the same line of thinking demands that we go further. An anthropocentric view, if taken so far as to deny any intrinsic moral worth to nonhumans, is arbitrary. Any justification relying on a definition of grounds for political subjecthood will encompass either less than, or more than, the whole of the human species. While it is unclear where exactly to put the line, a human-nonhuman divide is not justified.

Strong and weak biocentrism, and their problems.

Can we go the other direction, and be entirely inclusive of all life? One way to picture this would be: should life itself be our criterion for deserving moral consideration? A 'strong' biocentrism of this type suffers from the major flaw that it is impossible to achieve (among other things, everything must eat). Life relies on interaction with life. Our presence affects our surroundings, just as we are affected—and it can do so in ways having nothing to do with the choices we make. That is, while our

choices may matter, we do not have a choice *not* to alter the world. This is not unique to humans. All life affects other life.

This points us toward the real problem with strong biocentrism: life feeds on life, except for photosynthetic organisms (which also nevertheless require organic building material). Not being capable of photosynthesis ourselves, attempting to respect all life equally is impossible. Only a living entity could make such an attempt, but such an entity's continued existence requires the destruction of other life. This moral principle would negate the existence of the actor. Moreover, ending one's existence does not even solve the problem, as that itself would have effects. For example, starving yourself to avoid murdering life forms will eventually kill your gut flora. And, of course, such an act would be against one's own interests; but even within a biocentric view there is no clear reason to privilege nonhumans *above* human.

Human interest, or rather human survival (which surely qualifies as a critical interest), does not allow for the protection of all life forms indiscriminately. We can leave aside here the question of whether, on a metaphysical level, ought implies can. On the practical level of politics, entailing moral coercion, it necessarily does. Equal respect for all living organisms cannot then be a political 'ought'.

Now, one might argue that considering such an extreme form of biocentrism is misleading. The boundary around sentience, consciousness, or similar, might not be all-or-nothing; the line-drawing problem might not reflect an actual "line", and so rejecting the possibility of defining the line does not entail expanding the presumed boundary to be all-inclusive. There would then be a composite fallacy involved in demanding that a line be drawn where there is in fact a continuum. We might get around the practical

impossibility of strong biocentrism by conceiving of valuing "higher" life forms above "lower", and microorganisms least of all.

In many ways, that is how we already behave. Many people who would not hesitate to crush a wasp because its presence is inconvenient would nevertheless find killing a dog out of mere convenience objectionable. But there are two big problems here. Firstly, our ideas of "higher" and "lower" don't necessarily line up with an organism's importance to its ecosystem. Secondly, these ideas are generally based on similarity or evolutionary proximity to human beings. These facets reappear in other guises below, in ways that will help show why they are problematic; I will touch back on this idea then.

Ecocentrism (or holistic biocentrism), and its problem of representation.

Of course, full biocentrism is not the only alternative to anthropocentrism. We could also take a big-picture ecological view. An ecocentrism of this sort expands the scope of political subjecthood beyond human beings alone, but stops short of valuing each individual organism. This avoids the arbitrary restrictions of an anthropocentric view, while also avoiding the contradictions that emerge from the fully biocentric view. It involves thinking on the level of ecosystems (and even global systems), rather like the 'biotic view' that Aldo Leopard proposes (Leopold 1939). We would concern ourselves not with the interests of every individual tree, but with the interests of the forest; not preserving every inch of forest, but enough for the ecosystem to flourish.

But an issue still remains with an ecocentric (as well as any form of biocentric) view. How can we represent or take account of such interests politically? Thomas Nagel famously argues that it is like *something* to be a conscious organism (Nagel 1974, p.

436), but we cannot know *what* it is like. The world is a particular way *for* an entity, in a manner that cannot always be observed from outside. To speak of that entity's interests is to speak of how the world should be (or rather, how it would be good for the world to be) for that entity. Without experiencing its existence, we cannot tell how the world *is* for it, so cannot know how it should be, or even whether it is or is not as is should be.

Nagel is speaking of consciousness. But when thinking about extending political subjecthood to nonhuman organisms or ecosystems, the same problem applies to understanding their interests—even, or perhaps especially, if those entities possess no consciousness. What is the way the world needs to be for that being? Can we speak for the forest, or are we always and only speaking *our* perception of what is good for the forest?[3]

This is essentially the same problem as that of representing the subaltern, as Andrew Dobson points out (Dobson 2010). In a political system in which representation depends on speaking for one's interests, how can those without a voice in the system be represented? To speak on behalf of an Other is not the same as the Other speaking (Spivak 1988). Even if speaking for oneself is not a formal requirement of subjecthood, the impossibility of speaking for the Other means that this is an implicit requirement—for us somehow to take account of the interests of a voiceless entity without oneself possessing those interest.

3 In this regard, the very language of "interests" is already loaded. I employ it here out of convenience, intending it only in a more descriptive sense, referring to the factors of which we take account in making political decisions. I would suggest that the precise content of what does and does not qualify as an "interest" has little bearing on my overall argument, aside from the weak assumption that survival plausibly qualifies as an interest under any definition.

This connection to subalternity is important, because we could otherwise raise the same "ought implies can" objection here as justification for anthropocentrism: that representation of the nonhuman is impossible, and therefore their interests cannot bear moral weight for us. But the same argument would also entail denying the moral standing of humans that are institutionally voiceless. If we are committed to the personhood of all humans, the line drawing problem still exists. The problem of representation does not seem to me grounds to reject an ecocentric approach on a theoretical level. It is not necessarily a sign of an erroneous moral claim, but rather is a practical problem of implementation. The problem could be in our idea of representation just as much as in our idea of subjecthood—and, in fact, this possibility is the heart of my argument.

The possibility of convergence.

Our situation, then, is this. Traditionally, only humans have been granted political subjecthood. We have some moral grounds to suspect that this is inadequate, and that anthropocentrism cannot be justified on its own. A more ecocentric view is less arbitrary from the perspective of moral philosophy, but there are huge practical problems with representation in a non-anthropocentric politics.

There is, however, a "third way" approach that provides a possible path around this impasse. This is the idea of convergence, most famously promulgated by Brian Norton. His view would suggest that the divide between anthropocentrism is illusory, built on a false assumption that they are simply incompatible (Norton 1991, p.238). Norton's view, however, is a hypothesis emerging from the history of environmental politics and the observation that the practical implications of either view tend to become

identical. His argument is empirical and ultimately faith-based, with little positive grounding for the actual possibility of reconciliation (beyond calling into question the assumption that reconciliation is necessary in the first place); "The convergene hypothesis functions...as an item of faith" (p. 240).

I do not aim to disagree or criticize Norton here, so much as to give his hypothesis a stronger grounding. Moving beyond the idea that we have no firm reason to believe that anthropocentric and ecocentric views are incompatible—and that we may have observational reasons to believe that they converge in practice—I suggest that we actually have both philosophical and scientific reasons to believe that they *are* compatible, even inseparable, and that even in cases in which this is uncertain, we have reasons to adopt a presumption of compatibility. The apparent conflict rests not only on a false presumption of incompatibility, but also on a flawed understanding of human interests. This expaned idea of convergence, however, requires reevaluating what exactly we mean by "anthropocentrism".

Argument for convergence.

If the understanding of human interests involved in a traditional anthropocentric view is flawed, how then *should* we understand human interests? In the first place, we humans are dependent on our ecological context to fulfill our material needs. But this context is not just a space within which we exist as independent entities. A human being is a node in relationship network, ecologically as well as socially (Birkin 1996, p. 232; also cf. Latour 1991). The components of an ecosystem are interdependent; there is no reason to see humans as distinct in this area. As a result, it is impossible to distinguish

human interests (at least long-term human interests) from interests of the immediate local ecology.

Secondly, these ecosystems themselves do not exist in isolation. Speaking of *an* ecosystem is misleading. Such systems are interdependent in ways characterized by emergent complexity on a global scale. By "complex" I do not merely mean "complicated"—I mean that they interact in ways that cannot be characterized by simple, linear cause and effect. By "emergent", I mean that these interactions cannot be predicted a priori from any initial conditions. They emerge to become knowable only as the relationships play out over time. It is this interdependence of local ecosystems that allow us to conclude that it is also impossible to distinguish long-term human interests from the interests of *global* ecology.

This is all to say that a healthy ecosystem at all levels—a healthy biosphere—is itself critically important to human beings. Now, one might argue that ecology always reaches an equilibrium: disruption may transform an ecosystem, but an ecosystem of some sort will always exist and nearly always be able to be made habitable or useful. Drain a wetland under conditions such that it begins to desertify, and it will eventually develop from a wetland ecology into a desert ecology. There may be no particular reason why humans should prefer the former ecology to the latter.

But there is an additional component: human interest involves ecological stability as well. Sustainability is a necessary principle, whether we are thinking anthropocentrically or ecologically. And most sustainable human actions that impact the environment require stability. If you build a farm to grow one type of crop and the local ecology changes so that the crop is no longer supported, the change involves harm to you, if only as a matter of disrupting your pursuits (but typically with far greater negative

implications). Natural changes occur, of course, but the moral question involves the effects of *human* actions. And there is also the possibility of deliberately introducing positive changes. Yet unintended consequences that are ecologically destabilizing are still bad for humans.

If survival is a plausibly universal human interest (at the level of humanity considered holistically, at least), then such interests include a healthy, stable, and sustainable ecological context. Given our dependence on global ecology, if human and ecological interests were to be opposed, the ecological consequences of pursuing supposed human interests (to the exclusion of ecological interests) will eventually rebound against human interests—a contradiction. My argument, then, is that any apparent conflict is best understood as being *symptomatic* of an incorrect understanding of human interests. A purportedly anthropocentric argument justifying actions that are contrary to ecological interests is not, in fact, anthropocentrism rightly understood.

Thinking of the problem within this framework, I suggest that there is ultimately no difference between the politics of an anthropocentric versus an ecocentric position. This is not merely to say that their implication converge on a practical level, but that they are inseparable throughout: true anthropocentrism must necessarily incorporate a holistic ecocentrism. Anthropocentrism, however, shifts definitions here. I am offering an understanding of anthropocentrism that is temporally unbounded, holistic, and that continually reevaluates its self-understanding in light of ecological symptoms.

Intertemporal and holistic anthropocentrism.

There will, of course, be conflicts between human and ecological interests in the short term, but only if we are thinking within bounded time. If the world will end in a

biblical apocalypse 50 years from now, then there is really nothing wrong (in terms of human interests) with greenhouse gas emissions, for example. But without knowledge of an end of time, it is not clear that we can justify thinking in bounded time. And it is in the long run (unbounded time) that the demands of the anthropocentric and ecocentric approaches converge.

The difference between anthropic and ecological timescales creates a tricky problem here. Many of the ecological effects of our activities do not manifest for extended periods of time. I have suggested that interests converge over a temporally infinite horizon. But within a given human lifespan, these interests may not be convergent.

So, is morality blind to temporal proximity? I would argue that it is. If we are to care about the future interests of our unborn grandchild, why would our great-great-great grandchild be any different?[4] Unless moral standing has something to do with proximity to ourselves. Yet perceived proximity does not necessarily tell us anything—as with the issue of "higher" and "lower" life forms already discussed, in which those labelled "lower" might well be more critical to our interests.

In addition, the symptomatic approach would seem to confirm this take. Our tendency to discount the future causes many ecological problems. This suggests that future discounting involves misunderstanding the interests of humanity (although not necessarily that of individual humans). In other words, our treatment of the environment should not be taking temporal proximity into account. However, it should be noted that

4 Obviously, our own genes are more diluted over the generations; Darwinian evolution might suggest an explanation for why, as individuals, we do tend to discount the interests of future humans—but explaining that phenomenon in no way implies that we *should* do so.

ecological time does make the symptomatic approach more difficult, due to potentially long delays before seeing the results of our actions.

The issue of holism also emerges here. I make no suggestion that individualist anthropocentrism is inseparable from ecocentrism. The interests of individual organisms can clearly conflict. And, of course, individual organisms exist only within bounded time; it is likely that their interests do as well. But the interests of *humanity* and of our global ecology are, I suggest, inseparable. This is the level on which we see convergence.

The idea of such a holistic view might be concerning if it is taken to imply that individual persons should be subordinated to (or sacrificed to) some "greater good". But I would argue that privileging the interests of humanity as a whole does not itself justify acting to harm individual persons—these are not mutually contradictory values. It would, however, imply that individual interests do not justify individual action that harms humanity. And if a holistic anthropocentrism and holistic ecocentrism do converge, this would suggest that maintaining an inividualistic anthropocentrism involves ignoring not only non-human interests but also the good of humanity.

The presumption of ecological interdependence.

It should be noted that the discussion so far depends upon the claim that humans and their ecosystems are irreducibly interdependent. This is a critical point, as it serves as the foundation for my entire argument. If not interdependent in this sense—or rather, if not sufficiently likely to be interdependent in many cases (although see discussion of zero-infinity dilemmas below)—then the possibility of an essential conflict between anthropocentrism and ecocentrism reemerges even with regard to their holistic forms.

But there is an obvious potential objection here: what about some type of organism that has no effect on human beings, even indirectly? Suppose it is a fungus in a remote region of the Amazon basin, where humans never go. Why then would its well-being be interrelated with human well-being?

One response would be that, if components of an ecosystem are interdependent, and ecosystems themselves are also interdependent, it is not enough for the fungus' ecosystem to contain no human beings and no observed links to human welfare. By affecting its ecosystem, the fungus would still have the potential to affect other, more distant systems. In order to sustain the objection, then, one of two conditions must hold. Either the organism's ecosystem must be isolated from global ecology—which would seem to be impossible, as any ecology involves forces of potentially global scope, such as weather. Or the organism itself must be wholly isolated and self-sufficient, not embedded within any ecosystem. We have grounds to be skeptical that such a thing exists, if only because it must be part of some food chain. Perhaps there is also a substitutability argument to be made—that some other organism is a perfect equivalent for its ecological role. But it is not clear that we could ever determine this a priori in any particular case.

That leads us to my second response to the objection: my argument is, ultimately, reasoning from ignorance—from our knowledge of what we don't know. It does not depend on the claim that there is no organism with which humans are not interdependent. It merely claims that there is no way to *know* this to be true in any single case. The intrinsically complex nature of ecosystems makes it impossible to be certain that any aspect is unimportant to our interests. Given the generally irreversible characteristic of ecological destruction, we cannot, from a risk analysis perspective (discussed below), afford to make the assumption that any component of an ecosystem is superfluous.

This is really a variant of the idea of moral overinclusion from earlier, which is also grounded in ignorance. These argument take their force from the basic principle that human knowledge is necessarily finite. By the same token, substitutability may theoretically be possible, but cannot be known—thus should not be relied upon as an assumption. The same is true of the issue of "higher" and "lower" organisms in the "chain of being" variation on biocentrism.

Ignorance, risk, and the zero-infinity dilemma.

The argument that any component of an ecosystem is potentially indispensable—and therefore should be presumed to be indispensable—runs into some tricky problems when analyzing risk. This is a situation involving fat-tail risk, in which certain outcomes may be low probability but have extremely large consequences. The extreme case of fat-tail risk is a zero-infinity risk: there is almost no chance of the event occurring, but there are catastrophic consequences if it does (Norton 1991, p. 208). An example would be the possibility that eliminating a critical species might trigger spiraling feedback effects that lead to the collapse of human civilization—a downside that should essentially be treated as infinite, from our point of view. My argument suggests that the very possibility of such an outcome would demand that we treat the survival of that species as an aspect of human interest.

A standard approach to risk analysis would weight the effects of various outcomes by their probability. An infinitely negative outcome breaks this analysis, because any such outcome will mathematically outweigh all other considerations, no matter how infinitesimally improbable the outcome. It might seem as though we could simply employ a precautionary principle to resolve such cases, erring on the side of inaction, but

there is in fact a real dilemma here. There might well exist *no* action that does not bear at least an infinitesimal risk of triggering catastrophe. Taking a precautionary approach to zero-infinity problems amounts to paralysis: any and every action should be prohibited (Haller 2000, p. 179)

However, I suggest that the presumption that human interests include the interests of non-humans is not truly bound by the zero-infinity dilemma, for multiple reasons:

(1) Stephen Haller makes a prudential argument for exaggerating ecological risks even in the face of the dilemma (Haller 2000), which I will not replicate here, except to add an intergenerational element: if it is indeed a dilemma, then neither option is more clearly "correct"—it is a matter of choice, and of the relative weight that an agent ascribes to risk versus inaction. But, because the consequences of ecological risk-taking so often emerge on long time scales, by rejecting a precautionary approach we would not be choosing to accept potential consequences for ourselves. While we would be the ones taking the risks, we would be exporting the consequences of our decision onto others (future humans), who thus have every stake in the decision, but no input. The prudential approach would reserve for them the possibility of choice in their attitudes toward the dilemma; risk-taking would arrogate to ourselves the decision concerning others' risks.

(2) Holistic anthropocentrism involves thinking about our actions and their effects on a broad, systemic level. And multiple repeated iterations of actions involving the same low-risk outcome increase the cumulative probability of that outcome. (Multiply iterated on a long enough timescale, the odds of any possible event, no matter how improbable, converge asymptotically on 100%). So any single action may face the zero-infinity problem as a true dilemma. But when we know that an action contains some risk, a pattern of repeating that action is inflating the probability of the catastrophic

outcome. Thinking on the level of our more general patterns of behavior, rejecting a precautionary approach to ecosystem destabilization produces much higher odds of catastrophic outcomes than the zero-infinity dilemma would imply for a given action.

(3) The emergent properties of ecosystem interdependence also reinforce this probability inflation. Both the nature and the scope of unintended consequences are unpredictable, but many are likely to be harmful (and the greater the change, the higher the probability it will be harmful, under the logic of long-branch variation). In addition, emergence alters the problem that a precautionary attitude toward zero-infinity risks reverses the standard burden of proof (Haller 2000, p. 180-181). The normal burden of proof in this case would not be to establish that particular risks are associated with any particular action, but merely to establish the more general possibility that such actions are likely to produce emergent effects.

(4) Finally, there may be a pragmatic argument for, rather than against, a precautionary approach to ecological zero-infinity risks. If actors already have a tendency to privilege their own individual and short-term interests, this approach could offset more general patterns of behavior skews in the opposite direction. Even if the dilemma would suggests a more limited application of precaution, a guideline of generally presuming that our interests depend upon ecosystem interests might counterbalance that tendency, in specific decisions, that results in an actual bias against precaution in the aggregate.

The foregoing suggestions offer a number of ways in which the problem of the zero-infinity dilemma may not really apply to the presumption that ecocentric risks are

always also anthropocentric risks. However, the problem of risk analysis also implies that the idea of convergence does not apply to double-fat-tail risk situations (in which a low-probability, high-cost outcome is balanced by a low-probability, high-benefit outcome—e.g., an experimental project that might destabilize an ecosystem, but might also result in a new technology providing endless carbon-neutral energy). In such a situation, a variant of the dilemma reemerges in full force.

I should also note that there is one real overall weakness to such an argument from ignorance overall. It means that morality is here intertwined with epistemology. If, at some point in the future, we were hypothetically to achieve such a comprehensive understanding of ecological interdependence that we *could* correctly identify components of an ecosystem as being wholly superfluous to human interests, then the problem of ascribing moral weight to nonhuman interests would reemerge.

Or, more plausibly, if we reached a point at which technology allows us to survive in an entirely artificial ecosystem, the argument from ignorance would also break down. But, even then, the convergence of human and ecological interests would hold true for the artificial ecology on which we depend.

Symptomal anthropocentrism and the problems of representation.

Repudiating the anthropocentrism/ecocentrism conflict is not merely an abstruse philosophical point. It has some concrete implications for environmental politics. It is widely understood that evaluating environmental resource use on the basis of utility or market value is flawed (cf. Norton 2007, Ball 2011), not just in assessing ecological impacts, but also in regard to its impact on human beings. But it is entirely unclear how to value the invaluable—which is also to say, it is unclear how to bridge the gap between

the things that we account for when thinking about our interests, and the things that are actually in our real interest.

The idea of a "symptom" mentioned earlier is helpful here. We may not be able to identify human interests precisely, let alone nonhuman interests. But if it is true that human and ecological interests are aligned, then conflicts may allow us to infer when we are identifying interests wrongly. An apparent conflict between anthropocentrism and ecocentrism indicates that we are misunderstanding either the human or the ecological interests involved. More importantly, ecological devastation resulting from human activity can serve as a symptom allowing us to diagnose that activity as being counterproductive for human pursuits—and thereby, perhaps, refine our assessment of the nature of our own interests. This is what I describe as *symptomal* anthropocentrism, continually revising its assessments of human activity in light of ecological evidence.

We are really up against two problems of representation: representing nonhuman interests, as discussed above, and representing latent or unrecognized human interests. The problem arises due to the lack of voice on the part of both forms of interest. In a sense, we can understand these symptoms as a form of voice—the voice of ecological and of latent human interests, both at once. This cannot positively solve the problem of biorepresentation, but can help in a negative sense, diagnosing failures of representation.

I would also suggest that there are two additional implications for how we think about biorepresentation:

1) If human interests, properly understood, are represented, *the biosphere will be in effect represented*, without getting us hung up on the problem of speaking for the Other. Enlightened anthropocentrism brings ecocentrism along for the ride.

2) We don't, of course, have biorepresentation at present. But my reading suggests that our environmental problems are not driven by prioritizing human over nonhuman interests. Instead, the problem is that *real human interests are not in fact represented*—or represented only incompletely.

Still, there are some troubling aspects to this proposed relationship between representation and the symptomatic approach. Even if symptoms can serve as a form of voice, using symptoms to infer something about interests still involves interpretation on the basis of our prior values and assumptions. How, then, can we know something to be a 'good' or 'bad' outcome, if that is determined by the interests that we are trying indirectly to discover? It seems there is a possibility that the basic problem of representation rears its head again here.

On the other hand, there may be some limits to that problem of representation. We may not be able to define the 'good', but perhaps can sometimes define the 'bad'. A habitat turning to wasteland, to such a degree that it cannot support any ecosystem, is bad. The extinction of a species, being irreversible, is bad. There are again similarities to the problem of subalternity here; a marginalized peasant farmer who is starving can still be seen to be suffering, even without being able to speak politically on their own behalf. Additionally, the idea of over-inclusion discussed above—coupled with the argument from ignorance discussed below—may in part mitigate this problem. But overall this issue of representation and symptomal interpretation deserves further scrutiny.

Conclusion, and implications for further research.

In closing, I offer a few initial thoughts on what this holistic anthropocentric representation might look like in practice. Conceptually, it requires moving away from imposing a clear human/nonhuman divide on the world. As citizens, we should seek to see our world as populated by a nexus of "quasi-objects" and "quasi-subjects" (Latour 1993, p. 139). We also need to avoid thinking in short time horizons and discounting the future. Any policy program capable of fostering these tendencies is likely to be helpful.

Christopher Stone, among others, has proposed a "Guardian" role, providing representation for nonhumans (Stone 2010). Such proposals run into many problems of representation, as discussed. But those problems also exist within the purely human political community. The flaws of democracy are an entirely different question than those this essay seeks to address. Given the commitment to democracy within which we operate, I suggest that Stone and Latour are on the right track here.

One difference would be that such representatives, rather than indulging the impossibility of representing nonhuman interests, would seek to represent currently unrepresented human interests pertaining to ecology. The symptomatic approach outlined might provide a diagnostic tool improving their ability to represent such interests. However, the long timescale on which ecological impacts play out means that representation requires ongoing monitoring rather than responses after the fact. Finally, ecological interdependence suggests that national boundaries are irrelevant—which we might see as an indication that thinking in terms of national interests or national politics is itself a case of failing to understand true human interests. Representation would have to have global scope, although that does not automatically mean that it requires centralized governance (Carter 1993).

This paper has sought to demonstrate several things. An anthropocentric approach to ecology is itself lacking in justification, while an ecocentric approach is impractical in light of the conceptual problems of biorepresentation. However, given the global scale of ecological interdependence and the known unknowability of the consequences of ecological destruction, I argue that anthropocentric and ecocentric interests ultimately converge. The perceived incompatibility is a symptom that we have misunderstood what anthropocentric ecology should really encompass. But this perceived gap can itself be a useful heuristic for uncovering our true interests.

This points us toward a more 'enlightened' form of anthropocentrism: one that is holistic, emphasizing humanity rather than individual humans; intertemporal, thinking in unbounded time and declining to discount the interests of future humanity; and symptomal or self-reflexive, in that it holds its ideas of the interests of humanity to be only contingent and subject to continual revision in the face of apparent emerging gaps between ecological health and human ends. In the end, such an enlightened anthropocentrism would also achieve the goals of ecocentrism. We can fulfill the moral necessity of accounting for nonhuman interests by means of an enlightened anthropocentrism, while in part bypassing some of the problems of representation involved in ecocentrism.

WORKS CONSULTED

Ball, Terence. 2011. "Green Political Philosophy," *Routledge Encyclopedia of Philosophy.*

Barron, Colin, editor. 2003. "A strong distinction between humans and non-humans is no longer required for research purposes: a debate between Bruno Latour and Steve Fuller". *History of the Human Sciences* 16(2): 77-99.

Barry, Brian. 1997. "Sustainability and Intergenerational Justice". *Theoria* 45: 43-65.

Birkin, Frank. 1996. "The Ecological Accountant: From the Cogito to Thinking Like a Mountain". *Critical Perspectives on Accounting* 7: 231-257.

Carter, Alan. 1993. "Towards a Green Political Theory". In *The Politics of Nature: Explorations in Green Political Theory*, ed. Dobson and Lucardie. Routledge: 39-62.

Dobson, Andrew. 2010. "Democracy and Nature: Speaking and Listening". *Political Studies* 58: 52-68.

Eckersley, Robyn. 1995. "Liberal Democracy and the Rights of Nature: The Struggle for Inclusion". *Environmental Politics* 4: 169-198.

Eckersley, Robyn. 2003. "Politics". In *A Companion to Environmental Philosophy*, ed. Dale Jamieson. Blackwell: 316-330.

Eckersley, Robyn. 2004. "The State and Access to Environmental Justice: From Liberal Democracy to Ecological Democracy". *Environmental Defender's Office WA Conference*, keynote speech.

Haller, Stephen. 2000. "A Prudential Argument for Precaution under Uncertainty and High Risk". *Ethics & the Environment* 5(2): 175-189.

Latour, Bruno. 1993. *We Have Never Been Modern.* Trans. Catherine Porter. Cambridge: Harvard University Press.

Leopold, Aldo. 1925. "Wilderness as a Form of Land Use". *The Journal of Land & Public Utility Economics* 1(4): 398-404.

Leopold, Aldo. 1939. "A Biotic View of Land". *Symposium on Land Use*. 727-730.

Nagel, Thomas. 1974. "What Is It Like to Be a Bat?" *The Philosophical Review* 83(4): 435-450.

Norton, Bryan. 1991. *Toward Unity Among Environmentalists*. Oxford: Oxford University Press.

Norton, Bryan G., and Noonan, D. 2007. "Ecology and valuation: Big changes needed". *Ecological Economics* 63(4): 664-675.

O'Neill, Onora. 1997. "Environmental Values, Anthropocentrism and Speciesism". *Environmental Values* 6: 127-142.

Samuelsson, Lars. 2013. "At the Centre of What? A Critical Note on the Centrism-Terminology in Environmental Ethics". *Environmental Values* 22: 627-645.

Sterba, James P. 1994. "Reconciling Anthropocentric and Nonanthropocentric Environmental Ethics". *Environmental Values* 3: 229-244.

Steverson, Brian K. 1996. "On the Reconciliation of Anthropocentric and Nonanthropocentric Environmental Ethics". *Environmental Values* 5: 349-361.

Stone, Christopher D. 2010. *Should Trees Have Standing? Law, Morality, and the Environment*. 3rd edition. Oxford: Oxford University Press.