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MORAL PRINCIPLES AND THE LIFE WORTH LIVING

1.1 Philosophy and the Environment

1.1.1 Philosophy and the Life Worth Living

While many disciplines have a vested interest in the environment, its inhabitants and ecosystems, its biotic diversity, and its future stability, it falls to philosophy perhaps more than to any other to offer organizing concepts for a viable—actionable, livable, realistic—environmental *ethic*. Ethics isn't about what merely *is* the case, but what *should be*. As an organizing feature of our ways of life, moral decision-making always has one foot in the context or conditions of our present actions and another pointed toward the future. A life that lacks self-reflection concerning our place in the many contexts or roles we occupy, the impacts of our decisions on our relationships with others, human and nonhuman, present and future, is not as likely, as Socrates might have put it, to be a life worth living. Even from the point of view of simple self-interest, such a life is bound to reap more pain than pleasure, more sorrow than joy. The reason, of course, is that life on planet Earth includes more than human beings and human relationships. Our self-interested motives and the consequences that follow from our actions are rarely constrained to ourselves alone. Our lives include values that reach beyond the moral, for example, the aesthetic, the economic, the social, and the civic. As our recent confrontation with the Covid-19 pandemic surely reminds us, we cannot value our own health without valuing that of others, and as the climate crisis illustrates more clearly with each firenado, tsunami, or bomb cyclone, human actions have impact well beyond single communities, regions, and countries.

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Every time we sit down to eat, buy a car, read a book, go on vacation—every ordinary thing we do—is woven throughout with the often invisible labors of other people, with institutions like governments, and systems of economic exchange that inform virtually every action, and with nonhuman nature, living and nonliving, plant life, and sentient animal. Our bodies bleed these intimate relationships; our cars run on them; our books are woven of fibers extracted from the wood of an industry that threatens several endangered species. Our aspirations are made realizable through the labor and resources of countless others, most of whom we'll never see or know anything about. Some are exploited in developing world cell-phone cities, banana plantations, diamond mines, sneaker factories, and sweat shops. Others become characters in dystopian novels and films that explore environmental apocalypse, the consequences of uncontrollable viral outbreak, species extinctions, or war over water scarcity. In these, the life worth living is displaced by stories of hardship and survival that often seem closer that we'd like to admit to the lives of people and their communities in the world as it is. They warn us of a world we do not want, but that the trajectory of our current environmental crises promise is coming. A robust practicable environmental ethic cannot save us from some of the crises we have already set into motion, but it can help us formulate plans of action that will blunt some of the impact and, if we act with well-informed deliberation and urgency, see our way to a more sustainable and more just future. In the spirit, then, of a modestly modified version of Socrates' claim, here are some important ideas that inform this work:

- *Moral considerability* raises the question whether a thing, living or nonliving, human or nonhuman, local or foreign, is worthy of consideration with respect to its welfare, and if so on what grounds. It's as often as not a difficult question to answer since while it might be easy to condemn ExxonMobil for harm to endangered Polar Bears, many other nonhuman animals, even if endangered, have not evoked similar empathy. And we needn't look much further than the history of coal-mining or the timber industry to see that ecosystems evoke even less consideration. One aim of moral considerability is to situate the examined life not only in the value of human beings, relationships, practices, and institutions across culture, geography, economic class, social status, and time, but to encourage recognition of the interdependencies that characterize the relationship of human beings to nonhuman nature, nonhuman animals,[1] and the planet's atmosphere. A life worth living derives value not only from the goods that accrue to self-interest, but from those made possible by a stable environment rich in biodiversity, connections with human and nonhuman others, and a deep-going appreciation of the idea that considerability is closely connected to justice—environmental, economic, and social.[2]

- *Science* forms a key component of a life worth living even, or especially, when it dislodges us from the bad habit of denial by its evaluation of the effects of human action for the planet and its atmosphere. It charts a course to a future habitable or otherwise, and thus lays before us the decisions we can still make. It illustrates for us is plain numbers, for example, CO_2 parts per million,[3] rising incidents of viral infection, the last living Javan Rhinoceros,[4] golden tree frogs, Sumatran elephants, or polar bears, the consequences of our recklessness and what, at our peril, we continue to ignore. Science reminds us of our finitude whether we're counting in ventilators or drought-scorched hectares, in bullet forensics or hurricane categories.
- "*Worth*" (or value) is an important idea whether we think it an intrinsic quality or not.[5] The concept of moral considerability needn't require commitment to the contentious claim that living things have value inherent or intrinsic to being that (kind of) thing, or that "worth" is a function of an intrinsic property of a creature or thing. Even if assigning "worth" is an activity (as opposed to a discovery), it doesn't commit us to assigning it solely with the aim of advancing human interests. Moreover, while worth is related to moral considerability, it's not identical to it. Something can, for instance, have aesthetic value without necessarily being *morally* considerable. One might race into a burning building to retrieve a painting because of its beauty, originality, or the fame of the painter. But surely, upon seeing a kitten sitting terrified in front of the painting, most people would get the kitten out first, even if the painting was lost. Most would find condemnable someone who reached for the painting, regardless its aesthetic value, over the kitten. Similarly, the political worth of a charismatic candidate is not the same thing as her moral considerability as a human being; she might be a fantastic speaker, but if we found out that she had threatened to murder her opponent, surely her political capital would be squandered.
- *Human-centeredness* need not imply human chauvinism, and while we may need reminding at times, "centeredness" needn't mean narrow self-interest, but rather epistemic responsibility. This idea can help us avoid the contentious issue of trying to decipher what has intrinsic worth by shifting the duty to assign value onto human decision-making, serious reflection concerning the morally considerable, and the duty to consider the possible consequences of our actions, individually and collectively. If we're the deciders, in other words, among our responsibilities is to recognize that the human chauvinism of our current trajectory has produced a poor quality of life for many, great suffering for some, loss of biodiversity, and that the ecological damage it has created is ultimately nihilistic. But it's also precisely *because* we're the deciders that this trajectory can be altered. We can't escape decisions, and decisions signal value; but we *can* individually, collectively, and internationally make better calls. This re-imagined human-centeredness leaves to the side intrinsic worth for the still rocky, but more promising

> road paved by a commitment to the future informed by science. To be clear: science does not (and cannot) dictate moral action, government policy, or best practice. Indeed, far too often science is put to nefarious objectives. But, equipped with the right moral compass, what science can do is provide the foundation for a well-informed consideration of *fact*. Facts about a warming atmosphere, facts about the effects of toxic waste, coal ash, or ozone for human and nonhuman health, facts about the sentience of nonhuman animal species, facts about what supports or weakens ecosystem integrity—and countless others crucial to the very way we conceive a future for lives worth living. Adopting human-centeredness as an important aspect of the life worth living does not necessarily solve our moral problems, but it can serve as a reliable axis around which we can examine issues through a lens more objective, less chauvinistic; more oriented toward the imperiled future, less mired in the nihilism of the unsustainable.

Equipped to go forward with these important moral ideas, three difficult questions become apparent: (1) can any of our available, well-established, moral principles be *extended or expanded* in a way that not only demonstrates the moral relevance of what we're in a position to know, but provides direction toward making defensible judgments about what we should do in light of that knowledge? (2) Given that some version of *moral extensionism* offers the best route for developing an environmental ethic, what qualities, characteristics, or capacities, should we prioritize in nonhuman animal species and/or ecosystems such that our judgments of moral relevance lead to actions, policies, and programs whose impacts are environmentally sustainable, or better: tend to the desirable future? (3) Who and/or what should be the intended beneficiaries of moral extensionism, and why?

Moral extensionism is, of course, not really a new idea and several philosophers, including Peter Singer and Christopher Stone, among others, sought early on in the growing 1970s environmental movement to answer these questions, and thereby provide a robust defense of their intended beneficiaries. Still, fifty years have passed since their landmark arguments, and science has opened many doors to a deeper understanding of the similarities and differences that characterize our relationship to nonhuman animals, the ecological value of biodiversity, or the impacts of extractivist industries such as oil and gas drilling. These open doors raise anew the question how we ought to conceive the morally considerable, whether our twentieth-century theories are adequate in light of newly discovered facts, and whether an appreciation of the facts should prompt us to rethink and revise. This brings us to another modification of Socrates' "the unexamined life is not worth living":

- *Existential security is synonymous with a sustainable environment*.[6] Whatever endangers the planetary environment imperils the human condition.

> Given a future impacted by environmental crisis, any environmental ethic consistent with a life worth living must include at least this straightforward incarnation of the *precautionary principle*: wherever an action, practice, policy, law, or (de)regulation implies a well-supported likelihood of causing harm to the planet's atmosphere and ecologies, thus to its capacity to support life, or its critical resources, water, air, soil, and biodiversity, the burden to demonstrate that harm will *not* occur as a consequence of that action, etc. falls directly on the actor(s) or agencies responsible for it.[7] If the responsible party is not able to show that harm, short or long term, will not be the result of that action, etc., caution councils that it not be undertaken. Policies, laws, practices, and regulations currently in force, but demonstrably culpable for harm (or failing to prevent harm contrary to their stipulated purpose), to ecosystems, their human or nonhuman members, are legitimate targets for review and potential repeal as inconsistent with at least minimum conditions of life worth living, namely, a sustainably protected atmosphere, clean water, breathable air, arable soil.

Taking the precautionary principle seriously could mean significant changes in the way many of us live. The aim of an ethic after all isn't necessarily to make us comfortable with what we already do; it's to make us think about what we *should* do.

Few understood the potential consequences of our current trajectory more clearly than writer and zoologist Rachel Carson when in 1962's *Silent Spring* she observes that

> [t]he most alarming of all man's assaults upon the environment is the contamination of air, earth, water, rivers and sea with dangerous and even lethal materials. This pollution is for the most part irrecoverable; the chain of evil it initiates not only in the world that must support life but in living tissues is for the most part irreversible… The rapidity of change and the speed with which new situations are created follow the impetuous and heedless pace of man rather than the deliberate pace of nature. (6–7)

Yet even Carson might have been left speechless by the "chain of evil" that has given rise to the climate crisis and its likely cascade of irreversible implications. While this "assault upon the environment" ultimately affects the existential conditions for every living thing, it's important to see, as a number of ecofeminist, environmental justice, and indigenous theorists will show us, that climate change doesn't affect all human beings, all nonhuman animal species, or all ecologies equally. Developing world communities of the Global South, economically depressed communities in the Global North, and the increasingly

beleaguered ecologies upon which they depend bear a disproportionate share of resource exploitation, pollution, and exhaustion. Thus, the challenge Carson poses to the "impetuous and heedless pace of man" is not merely a challenge to radically rethink what we mean by "moral considerability," but also to come to a clearer understanding of how structural inequalities of sex, gender, race, geography, indigenous status, and species inform social, political, economic, *and* environmental injustice.

1.1.2 The Precautionary Principle

Integrating the precautionary principle into the ordinary operations of our moral reasoning offers a clear point of departure toward a livable environmental ethic. But "clear" doesn't necessarily mean expedient. It means (at least): if X causes harm to human or nonhuman others, and it's not necessary to my life or health, I should (at least) reconsider it, possibly decide against it, or opt for a less harmful alternative even if it's not convenient. If the magnitude of harm is potentially great, perhaps I ought to forego it altogether. In my life as a public person or *citizen*, the precautionary principle might require even more: if I'm in a reasonable position to know this governmental policy, regulation, or law is likely to cause (or be causing) harm to human or nonhuman others, I (may) have a responsibility to make others aware of this fact and, depending on the magnitude of harm and an appraisal of the potential risk to myself or my family, I might have a moral duty to take public action (at least) in the form of alerting my elected representatives, participating in public actions, or joining with others in nonviolent civil disobedience.

The precautionary principle is thus somewhat like the Hippocratic Oath taken by physicians: *first*, do no harm.[8] What can make its application challenging is that we're used to thinking that human beings are special or privileged, that we're exempt from the laws of nature that govern other species, that we're entitled to use the planet's resources, including other living things, however we see fit. We like to think we know better, but we'd probably not be confronted with the climate crisis or the sheer magnitude of fatality from the Covid-19 pandemic had we acted both individually and collectively on the precautionary principle sooner. As Carson details in the foreboding elegance of *Silent Spring*, we didn't. Now we're left with the question whether this version of "*first*, do no harm," or for that matter any moral principle, will be enough to inspire us in sufficient numbers to undertake the hard work of re-imagining a world whose citizens take environmental stability so seriously that the possibility of other basic goods like justice (economic, social, geopolitical), or the exercise of rights, or the experience of things like beauty, joyousness, and laughter, seem unthinkable without it.

A truly frightening volume of evidence, however, suggests we're running in the other direction—away from any notion of a moral responsibility to the future. As environmental hero Bill McKibbon puts it: there's no vaccine for the climate crisis.[9] We go to considerable effort, contrary to fact, to convince ourselves that we're exempt from the existential constraints that govern the lives of other species of evolved animal whose members are born, eat, eliminate waste, reproduce, suffer, and eventually die. This is more than just hubris; it's delusion accompanied by denial.[10] We offer a thousand excuses to smoke, but we know our lungs aren't immune to cancer or emphysema. We eat the desiccated bodies of cows, pigs, chickens, and dogs, but we know we share more in common with other species of creature than not, especially the capacity for pain. We refuse to mask or socially distance, preferring to risk our own lives and those of our elders in order to pretend we're immune from the virus that killed our neighbor. We know that death comes for us just as surely as it comes for snails and Labradors, kings and commoners. Yet we behave as if our own lives were as inexhaustible a resource as the planet's—even though we know both of these are false. Human history is witness to the struggle to conquer death, a subset of that more grandiose venture to show-up the universe.[11] "Heedless," as Carson puts it, but—counterintuitively—more heedless now *because* we know more now.

Consider, for example, the vitriol displayed by some climate change deniers,[12] or the spleen vented at anti-masking "freedom" rallies.[13] It seems we can measure denial by the momentum it takes to avoid confrontation with fact. A legitimate worry, of course, is whether an idea as unpretentious as the precautionary principle can even be heard over all this noise. Given the crises we're facing, it's not crazy to wonder how bad things might have to get—how hot, how dry, how deluged, how burnt down, how polluted, how diseased, how terrorized, how diaspora—before we take seriously the fact that inaction is nihilism, and nihilism is resignation. But giving up also seems out of character for a species of scrappy pugilists like us. After all, human history is also witness to monsters like smallpox, cancer, AIDS, fascists, and autocrats—each different kinds of threats, but all united by the moral imperative that they must be defeated; some have, some will be, but the climate crisis? Some, like the emergence of fascists and autocrats, seem always to be with us, yet so too is the reaffirmation of democratic principles and institutions. Coronavirus variants like Delta are monsters partly the product of our own making, but so too is *Operation Warp Speed's* vaccine development.[14] The climate crisis is bigger than all of these and more. But what that means is that what might seem simply a point of departure for environmental ethics is actually a rubicon. We can either continue to race blindly toward apocalyptic world wars over water, oil, and food driven by escalating environmental crises, or we can change. "First, do no harm" points squarely in one direction.

1.2 Human Chauvinism versus Responsible Human-Centeredness

1.2.1 Human-Centeredness: Taking Responsibility

It's at this crossroad, where our capacity for principled action meets its equal in hubris, that we can begin to understand the difference between human-centeredness and the human chauvinism that endangers the planet's ecologies and species life. Centeredness is ubiquitous to human nature, and thus must be accounted for in any realistic ethic. It recognizes human beings as a species of animal limited or "centered" with respect to an evolved array of cognitive, epistemic, psychological, perceptual, and somatic capacities. For example, human beings have two eyes at the front of our heads and color vision, but none at the back, and limited visual range; we have ears that can hear just so far, noses that can smell just so much, legs that can only run so fast, and brains that, while we sport an impressive cognitive cortex, are prone to a litany of ailments ranging from Tourette's Syndrome to schizophrenia, Alzheimer's to autism.[15] We cannot help but be human-centered: we experience the world as members of *homo Sapiens*. But this fact doesn't imply an invitation to narrow self-interest. Just because we cannot experience the world as anything other than human beings doesn't mean that being human is the only worldview worth having, or even that it offers any special insight to the way things are.

The ways in which we act on our centeredness can be re-visioned consistent with an environmental ethic grounded in *taking responsibility* for the capacities *and* limits that define our species membership and our place in the planetary ecosystem. Such an ethic recognizes that human engineers, not Chimpanzees, can build nuclear power plants *and* weapons of mass destruction, and it acknowledges the possibility that our own intellect could be dwarfed by others yet undiscovered (or who've not discovered us). We know that the difference between human engineers and our close primate relatives, or for that matter, parrots, ferrets, and iguanas, is a matter of *degree* of cognitive capacity, not kind of animal.[16] Chimpanzees and human beings are both big-brained mammals. We're both social creatures capable of learning and culture; we both recognize and care for our offspring. We both experience psychological as well as physical pain. *But because only one can create a nuclear weapon, only one can take responsibility for the magnitude of destruction that is that weapon*. The theory of evolution has, of course, its own deniers, but like their climate crisis analogues it's not hard to discover that at the root of denial is human chauvinism, not settled science.[17]

While it's hard to imagine any defensible strategy for confronting environmental crisis not grounded in the relevant science, we must also keep firmly in mind that the same science that informs us of parts per million, vanishing

shorelines, and tipping points, is also conscripted by governments and multinational corporations to develop technologies that disgorge natural gas from shale deposits, weaponize nuclear fission, and create the Frankenseeds of GMO fame.[18] There are many difficult questions here, but one thing is clear: we can no longer afford to ignore the potentially negative environmental consequences of our technological development. We are the *only* animals culpable for the climate crisis in virtue of what we do with what we know. It's in precisely this sense that the ethical cannot be divorced from the epistemic. To claim intellectual superiority over nonhuman animals, and yet deny we're the cause of climate change is as transparent a form of hypocrisy as is applause for the SARS-CoV-2 vaccine while refusing to wear masks. Being this planet's smartest animals is not license to evade responsibility for what we do with brains we insist are so big.[19]

In short, a human-centered environmental ethic that seeks to avoid the pitfalls of human chauvinism must embrace humility, avoid hypocrisy, and value truth. Climate change denial is only one example of where these basic moral proscriptions have so far failed. Some still deny that cigarettes cause cancer, that the flesh on our dinner plates is the result of immense suffering, or that our sneakers are the product of child labor and wage-slavery. For a human-centered ethic, however, the denial of fact is a debauchery of reason, and where reason is treated merely as a tool for achieving human objectives, ethics can gain no traction.[20] Perhaps this explains where we are, but it cannot help us chart a course to a sustainable, or even habitable, future.

1.2.2 The Desirable Future

The appeal to knowledge in the service of environmentally defensible ends is at the same time an appeal to the value of a future that incorporates nonhuman nature as essential to the life worth living. But, as our current crises make clear, we cannot, as it were, "fake it until we make it" simply by driving more gas-efficient cars or sending donations to environmental organizations like the Sierra Club.[21] Indeed, insofar as many of these Big Greens avoid treating animal agriculture to the same blistering critique they aim at the fossil fuel industry, we must assume that for them demanding meaningful review of human chauvinism is a bridge too far. Driving an electric car still allows us to drive; giving up "meat" feels like we're being deprived of *food*. The latter doesn't secure a donor base; the former does.[22]

But the point is not simply to beat up on the Big Greens for their hypocrisy; it's that facts about the culprits of greenhouse gas emissions alone won't motivate us to change. We have to want to. We don't need philosophy to tell us about racism, heterosexism, classism, or speciesism. We are well aware; we *experience*

it. Science can show us the difference between the extinguishable fires of past environmental dilemmas and the frying pan climate of the future. But even good science can't get us to put down our cigarette, lay off potato chips, or go vegan. Our only realistic hope, then, for escaping climate catastrophe is the decision to value the interdependencies, *the ecologies of our existential conditions*, and that is a *philosophical* as well as moral decision no matter our educations or experience. It's the philosophical project of deciding what counts as value and thus *what has value* that can help us see our way through to a future that, while it may be difficult to achieve, still can offer a life worth that struggle. In short, facts can't tell us everything we need to know about what to do but, suitably appreciated via the right system of value, they provide substance to epistemic responsibility, and epistemic responsibility provides the scaffolding for a moral responsibility informed by both the precautionary principle and a commitment to a future not merely livable, but desirable.

A life worth living thus takes its point of departure in appreciating the difference between the environmental crises of the past and the climate crisis of the present; it recognizes that decision-making must be undertaken *in light of* that difference, not *heedless* of it. A morally defensible ethic demands a transformation of disposition or attitude; it supposes a world wherein our only choices are about *how* we'll adapt, not whether we have to. It remains human-centered with respect to accountability, rejecting the chauvinism that feeds every form of injustice, social, economic, and environmental. It aims not to see through climate change in order to preserve the status quo, but takes climate change into account in order to gain a clearer view of in what our relationships to human and nonhuman others consist, what morally defensible motives look like given this world, and what a desirable future given this circumstance includes.

Articulating an ethic for a life worth living, even amidst crisis, is still possible. Indeed, incorporating the climate crisis into the operational premises of such an ethic is, comparatively, the easy part. What comes next is the harder work of hammering out moral principles, criteria for judgment and action, and, perhaps most challenging of all, what it means to be a good person, citizen, and member of a community made fundamentally global by the fact that the climate crisis knows no geographical or political boundaries.[23] Can we modify principles we already know to make them adaptable to the moral issues we're likely to confront? If Naomi Klein is right when she argues that climate change changes *everything*, issues we don't think of as "environmental" such as civil war, terrorism, disease, or human trafficking must be included in our environmental ethic precisely because they're impacted by the consequences of shifting weather patterns as well as the advantage taken by the beneficiaries of hierarchically structured social institutions of those already at risk. Consider an example: food. A warming planet increases the potential

not only for drought, flood, crop-destroying insects, and blight, but also the necessity of insecticides, pesticides, and chemical fertilizers that, while preventing crop loss, are attended by a number of other hazards for soil, water, human and nonhuman health.[24] Few would contest the claim that food is the stuff of any ethic; little is more basic, more existential. But what counts as "food," how and where it should be cultivated, who should have access to it, and who's entitled to profit from its production, are all issues affected by a warming planet in significant and often unpredictable ways.

The prospect, moreover, that food crop production could be jeopardized by environmental conditions rapidly spinning out of control is doubtless a driver of climate change denial.[25] Hunger also fuels the vulnerability exploited by terrorist organizations looking for recruits,[26] or governments in need of an acceptable public narrative for restricting immigration.[27] The upshot is that any ethic we adopt *must* be able to address not only abstract philosophical questions about why we should value the environment; it must also be able to tackle the morally contentious intersection of issues that, while they may not be original to climate change, are clearly accelerated by it. Social, political, and economic justice are not only dependent on environmental stability, but are rather an expression of the value we invest in the future, the value we invest in a specifically *ecological* understanding of the planet as *home*. If the history of ethics has shown us anything it's that while appeals to concepts like moral consistency can move us to shame in our hypocrisy, shame rarely spurs us to action, much less to the kind of transformative decision-making that a life worth living in the age of climate change will demand.

1.3 An Aerial View of Moral Extensionism

1.3.1 Is Moral Extensionism a Good Idea?

Now that we have some grounding premises and a rough framework on the table, we can turn our attention to our first set of four questions:

- What moral principles characterize modern discourse in ethics?
- Can any or all of these be extended, expanded, or modified to address morally weighty *environmental issues*? Will we still recognize them as applications of their originals?
- Can any or all of these be extended, expanded, or modified to address issues concerning *nonhuman animals*? What qualities or capacities must a species of nonhuman animal possess to qualify for moral consideration?
- Can any or all of these be extended, expanded, or modified to address the often complex intersection of environmental, economic, social,

geographical, and political injustice that impacts vulnerable human populations? Where, in other words, do analyses of structural inequality fit into a practicable environmental ethic?

Three points about context and concepts: first, most moral decision-making is not the result of careful assessment of fact followed by application of principle. It might be a better world if this were true, and the aim of any discourse in ethics is, of course, to make that true. But, we typically don't write out our quandaries and options. We don't always discuss them attentively with others, or review decision variables before we act. We want to do the right thing, but we're ethically disorganized and tilted to self-interest. We tend toward "act now, justify later." As Rachel Carson shows, the trouble with this approach is that the impacts of environmental damage can be irrecoverable. Second, whether it's possible to extend some moral principles beyond human agents and communities to the environment and/or to nonhuman animals is as contentious as determining what qualities, characteristics, or capacities justify the inclusion of an animal, species, or ecosystem within the domain of moral considerability. Although it's commonplace in environmental ethics to treat the moral status of nonhuman animals as a separate domain for theory, we're going to eschew at least a rigid version of that distinction here on the grounds that it's demonstrably arbitrary, and as such distorts how we might understand important questions about the extension of moral principle:

- To what exactly does an extension of a particular moral principle apply? Does it make sense to extend some principles to a moral consideration of the status of nonhuman animals, but not ecological systems, or vice versa?
- What are the criteria for extending a particular principle? What difference does this make to articulating an actionable environmental ethic?
- Are these criteria defensible in light of what science tells us about what is included in or excluded from the extension?
- What difference, if any, do urgent environmental crises make to our appraisal of a given principle and its criteria for inclusion (or exclusion)?

These questions are important not because they're especially difficult, but because what the answers show is the extent to which the distinction between nonhuman animals and the ecologies they inhabit is itself more conventional than substantive, more an explanatory tool than a description of reality. There *are* distinctions to be drawn between living and nonliving, sentient and nonsentient, organic and inorganic. But the bodies of animals, from insects to lizards, to human beings, to mega fauna, are themselves ecologies—systems whose complex interactions, symbioses, and interdependencies are

not necessarily neatly captured by the artifice of "animal" or "environment." Animal bodies, including human bodies, don't end at the boundary of skin, tentacle, scale, wings eyelash, or fang. Plant bodies may extend beyond their petals, leaves, stems, and stamens. The predator/prey relationship makes the bodies of some food for others. It makes waste, decay, and decomposition food for countless species of living organism.[28] Even questions about whether viruses behave sufficiently like bacteria to count as living are important here in that "living" belongs as much to chemistry as to biology, ecology, zoology, or even to philosophy, and is itself contentious.[29]

It's thus a mistake to treat "environment" versus "animal" as if the distinction "carves nature at its joints." Like the nature/nurture distinction, or metaphors like "king of the jungle," it helps us understand (however imperfectly) what things are and do, but that doesn't mean it offers reliable grounds for settling moral considerability. The more the sciences show us about the intimacy and complexity of relationships that compose eco-systems, the more evident that animal bodies are reflections of their ecologies, and that ecologies are made manifest as/in the bodies of animals. The upshot's important: whether a moral principle crafted for application to human beings and communities can be extended beyond its original intent will depend, at least in part, on the qualities, capacities, or characteristics that count for it as morally considerable. But what does so count is itself subject to review and revision as we learn more about nonhuman animal species, their ecologies, and their relationships to other living and nonliving things. Moral considerability is thus an epistemic charge as well as an ethical one, the precautionary principle its grounding point of departure.

1.3.2 The Problem of Sentience

Consider the possible extension of a principle that appeals to sentience, *the capacity for consciousness*, as a necessary condition of moral considerability.[30] It must assume (as a condition of application) that we can differentiate sentient entities from nonsentient ones neatly enough to determine to what our candidate principle applies: puppies but not petunias, black bears but not bacteria. When we look more closely, however, what we discover is that the sentience criterion not only relies implicitly on the animal/environment distinction, but on the assumption that the environment is essentially just material background or resource for sentient entities. It assumes, in other words, that we can know what counts as a sentient *living* thing as opposed to non-sentient living things, that we can identify non-sentient *nonliving* things, and that there's something about sentience, say the capacity for pain, that recommends it as a criterion for moral considerability, delegating all else to background, or necessary

condition, but only so long as "necessary" remains the case. This is problematic in at least two ways:

- First, insofar as the bodies of animals are composed out of living and nonliving materials made available in their environments and through the bodies of other animals, it's not necessarily self-evident where a body ends and an environment begins. Skins are permeable surfaces; tissues, including muscle, organ, bone, and brain, are composed of the ingested processed bodies of other things. Bodies, their organs, bones, and tissues, *are* ecologies; they're ecologies that consume and produce bodies, living and nonliving. Sentient/nonsentient, living/nonliving must thus be understood as useful artifacts of explanation, but neither more nor less supported by nature than the animal/environment distinction.
- Second, consider the possibility of androids, *nonliving sentient entities*. The prospect that such feats of engineering might someday come to pass shows, among other things, that it is possible to divorce the capacity for consciousness from the capacity for pain, and that recognizing pain as a condition for moral considerability makes sense only if we're willing to deny it, for example, to women in labor who've opted for pain-relieving epidurals, or to people who suffer neurological conditions that depress their pain response.[31] It will do no good, moreover, to insist that the future existence of androids is unlikely. Their mere possibility demonstrates how fickle, and ultimately chauvinistic, are our definitions of what counts as morally considerable: we create sophisticated robots that mimic an extensive array of human abilities, but insist that should some future generation of these robots achieve consciousness, they're still not "like us," at least not enough to warrant consideration of their status as autonomous, self-regarding beings. In other words, we deny moral status to creatures who are sentient, insisting that they're unlike human beings in some other relevant way, yet we also deny moral status to androids who are sentient precisely *because* we have engineered them to be as humanlike as possible—yet deny them moral status anyways. This, of course, is simply arbitrary, and as such reflects the significance with which we invest sentience, so long as it's ours.

Sentience also raises serious issues not only of moral considerability, but of epistemic responsibility. The scientific consensus concerning what kinds of brains can support sentience is by no means settled. Dogs and cats are sentient creatures, but the jury remains out concerning jellyfish and Venus flytraps. Lobsters, goldfish, and honeybees did not use to rate very high on the sentience scale, but that thinking has evolved as we've come to understand more about cognitive activity across the broad spectrum of animal life.[32] To be clear, we're not entertaining the thesis put forward by, among others, the Bioneers that Poppies and Irises feel pain or deliberately lean into the sunshine.[33] But

insofar as "sentience" is neither a fixed trait whose typical examples are settled science, nor a capacity that can be divorced from the ecological and evolutionary conditions that give rise to it, its significance as a register of moral worth must remain open to review.

1.3.3 What Counts as a Living Thing?

Consider a very different criteria of value, namely, *the capacity for being alive*. While a stone can be damaged, we typically don't think of it as a thing that can be harmed because it's not a living thing. A stone can be destroyed—but not killed. The kinds of entities included in the living thing criterion of value are, of course, many more than on the sentience criterion since being alive is at best a necessary but not sufficient condition for being sentient. The precautionary principle also has wider application for the living thing criterion since determining whether a thing is alive, generally, is less difficult to determine than whether it's sentient. We don't doubt, for example, that the slow-moving snail is alive even if we're not sure about its sentience, but we might mistakenly infer that a hologram was sentient, and thus alive, simply because it behaves in ways we identify as human. On one hand, then, "living" is a less contentious concept than "sentience" in that "living" offers a more obvious and measurable set of indicators such as respiration, heartbeat, nervous system response, cell replication, photosynthesis, growth, self-locomotion, consumption of nutrients, elimination of waste, or behaviorally evidenced brain activity. Nonliving does not, of course, necessarily mean "dead," but both mean nonsentient. On the other hand, once we consider indicators other than those we apply to organic entities, particular forms of electrical activity in a robotic brain, for example, determining what counts as "living" becomes more difficult. Explored in TV shows like *Star Trek: New Generation*, the android Data doesn't perform any activities from the list above, yet insofar as he considers himself to be a living thing, we'd be hard-pressed to deny it.

We also don't have to resort to science fiction to raise this more difficult question about what qualities define a living thing. Consider viruses. They behave in many ways like bacteria, yet such simple replicators may not quite rise to the bar of "living." Like bacteria, they pose a deadly health hazard to human and nonhuman beings. We actively seek to kill HIV, Ebola, and Covid-19 just as we take antibiotics for bacterial infection. Yet we don't regard this killing as murder, and we might justify that difference by arguing that murder requires the thing killed be sentient. But this too is problematic since fetuses up to at least 26 weeks' gestation are not yet capable of sentience, yet some regard abortion as murder.[34] We seek to destroy bacteria and viruses because they pose a hazard to human and nonhuman health, yet some argue that a pregnant

woman has a duty to carry a fetus to term even if there is great potential for harm to her health or life. What's contentious, however, is less whether any of these are living things, but rather whether being a living thing confers a right to life, or if it does for some things but not others, what counts as the morally relevant difference. *When* something counts as living is also as difficult a question as *what*. Consider once more developing embryos. Few doubt that a clump of dividing cells is a living thing, but whether that fact alone gives it a *right* to life is hotly contested, at least for human embryos, precisely because so many of the other qualities we typically identify with living are not yet present. While some argue that merely being an instance of Homo sapiens confers the right to life from conception, others wrangle over when along the developmental trajectory, if at any time before birth, such a right emerges. And, of course, if it's merely "living" that confers moral considerability, even a right to life, the same criterion of value applies just as well to species of nonhuman animal as it does to human beings—raising difficult questions about the many ways in which we discount "living" when our interests are served by killing.

Another potential difficulty with "living" as a criterion of value occurs when we try to provide a convincing justification for the *exclusion* of *nonliving* things from moral considerability. Clean water, breathable air, arable soil—these are just some of the most obvious examples of nonliving things that, because they form necessary conditions for life on the planet, cannot be excluded from our judgments of value—at least if we want to avoid existential peril. Moreover, all living things die at some point, and decompose into biochemical translations of H_2O, oxygen, microbes, etc., and both philosophers and physicians have debated the point at which a living thing dies.[35] Our temptation might be to argue the difference is that water, air, and soil compose the environment whereas living things subsist *in* it; one *is* the environment, the other *inhabits* it. This seems reasonable, though it does raise the problem once again of treating the environment merely as the backdrop against which the actions of morally considerable agents play out, and a host of problems that accompany this artifact of human interest:

- First, even if we consign the environment to narrowly defined existential value as background, we're still left to clarify what *is* the environment from what's *in* it. If only the latter counts as morally considerable in virtue of including potentially living things, we have to decipher not only what qualifies as a necessary condition, but what of that environmental background can be excluded from consideration in virtue of not being existentially critical. Stones do not themselves form a necessary existential condition for any living thing, nor are stones alive. Yet mountains composed, among other things, of stones might form an ecosystem that, taken as a whole, provides the existential conditions for countless species of living thing. Similarly,

dead animals can be, but aren't necessarily, food for living things. If not consumed, they become part of the biota that forms the soil for the cultivation and growth of living things later. Time doubtless plays some role in this calculation of value, but that role seems entirely dependent on many other factors—some calculable, some not. In short, it may seem sensible to assume that there exists a natural and morally relevant distinction between "the environment" and "living things in the environment." But insofar as direct questions like "how should we determine the value of stones?" quickly become intractable, we are inevitably compelled to review whether this distinction does, in fact, make sense. It may turn out that, while language invites simple distinctions, the existential conditions of actual living things and their ecosystems requires a much more nuanced appreciation of the limits of our concepts and the self-interest with which we invest them.

- Second, consider things *in* the environment: we certainly distinguish entities like rocks, puddles, and embankments from moss, tadpoles, and daffodils. We hold the former to be nonliving, the latter living. But insofar as we can stipulate many points of intersection, say, tadpoles swimming in puddles, daffodils growing out of grassy embankments, moss clinging to stones, it once again becomes apparent that merely stating that a tadpole is not a puddle is not all that informative; even less so in the case of the moss and the stone since some properties of the moss itself certainly derive from the stone just as the yellow of the daffodil may derive in part from chemical properties in the soil under the grass, or be affected by the angle of the embankment's tilt toward the Sun. In any case, the more we come to know about the biochemical properties of these living things as well as their evolutionary histories, the less obvious that the living/nonliving distinction offers much by way of explanatory value.
- Third, consider the extinction of a species of living thing. The relationship of species to environment is an intimate one informed by a range of evolutionary pressures and changing environmental conditions. Whole species can face extinction in as little as a single generation if conditions for its reproduction are not met. Yet, among these conditions are included many things, living and nonliving, each of which is itself *in* the environment—as opposed to being the whole of the environment itself. Indeed, if we conceive the environment as the collection or evolving sum of each of these factors, "the environment" begins to seem like a vacuous placeholder. Things like natural caves, ice sheets, abandoned shells, or decomposing bodies all offer homes to specific species of animal without which, as we've seen with climate change and polar bears, they can quickly become imperiled. If, in other words, we regard "species" as itself morally considerable apart from other qualifiers—living or nonliving, the capacity for sentience, what counts as an existential condition—this too seems to count against

> the usefulness of distinguishing "the environment" from "in the environment." Put differently: what natural selection teaches us is that species, including Homo sapiens, are embodied incarnations of environmental and evolutionary processes over time, very long stretches of time. The idea that a species can be abstracted and examined from its evolutionary history inevitably distorts the account of what it is; for "what it is" is an ecologically informed moment of time engaged in the struggle for survival, that is, the struggle to reproduce *that* moment.

For the purpose of articulating a realistic environmental ethic, however, what we need is something a bit more prosaic. We might think about the environment/in the environment distinction this way: living bodies *are* the environments for all kinds of things like bacteria, parasites, viruses; *and* living bodies occupy particular ecologies as agents and subjugates of various complex relationships—predatory, symbiotic, competitive, parasitic, cooperative, etc. We can recognize that distinctions like living versus nonliving are conventional, useful if limited fictions, without being committed to the view that the environment is mere background against which evolutionary history plays out. We can, in other words, consider the environment an enfranchised agent whose long, sometimes violent, often unpredictable trajectory makes our own survival a matter of making useful distinctions, drafting practical fictions, organizing a story of the "world," that bolsters our chances. That hubris gets in our way is not the only obstacle to an ethic that would otherwise keep "environment" at the forefront *as a useful fiction*, but hubris does tend to overshadow the humility we need to cultivate to have a chance of surviving our current endangered circumstance. Yet insofar as that hubris seems to be routinely translated into other fictions—the myth of endless resources, that all value is exchange value, and that qualities like sentience or even life pose no impediment to commodification—humility seems as far as the climate crisis seems ever closer.

For most, it's easy to grant that in the quest to identify what counts as the morally considerable it's important to cultivate qualities like humility, forthrightness, objectivity, and compassion. The reason is that ethics is about something more than prudence, more than avoiding the reckless or the crassly selfish, more than merely appearing to be good. But just as denial, cognitive dissonance, and willful ignorance are common traits of the human chauvinism that has led to so much environmental blight, so too false humility; that is, the pretense to concern dressed in the defense of policies or institutions behind which is the advance of motives selfish, profiteering, and sometimes even cruel. In defense of zoos, for example, some argue that captivity for the sake of preserving an endangered species from extinction effectively evinces a form of

moral considerability because, like a Noah's Ark, it values the species if not the individual animals. But the principle winners are human zoo-goers, not zoo animals. Zoo captives are neither likely to know they're endangered nor experience captivity as good, no matter how humane the prison.[36] Conservation and restoration of habitat rarely enters that conversation, as the relevant lands have already been sequestered to human use. Indeed, one of the rarely acknowledged assumptions of the zoo argument is that we don't have any particular responsibility to preserve a species' original habitat in order to mitigate against the pressures that lead to extinction. But, of course, we might do just that.

Or consider the argument for eating animal bodies so long as they're raised as "free range," and not on factory farms.[37] This seems a reasonable compromise that, once again, appears to include cows, chickens, pigs, bison, dogs, etc., as morally considerable, until we realize that the people who observe us eating them probably don't know that what we're eating might have led a more or less natural life. Our fellow diners are reinforced as carnivores, animal agriculture continues unabated, and while "free range" may be conscience-saving, it rarely means a better life for factory farm animals. This seems, once again, like a violation of the precautionary principle: if our moral principles don't demand we set a good example, what are they for? In sum, taking moral extensionism as a serious candidate not only for an ethic, but for a life worth living presents some daunting challenges. How we define the range of application of a principle depends at least partly on how we define key terms like "living," "sentient," and "value." The traits of character suitable to making an environmental ethic capable of tackling urgent issue like the climate crisis possible stand in stark contrast with a deeply enculturated capitalism that would have us assume value is a function of marketability. There are also some very immediate, very urgent issues: if we aren't willing to extend moral consideration to unmistakably sentient creatures like chickens and cows, how much more difficult will it be to conceive the atmosphere as a worthy candidate? If being a sentient entity poses no impediment to commodification, does anything? For some, the difficulty of these questions leads to apathy or despair; realizing the nihilism inherent to the capitalist myth of endless resources can certainly lead to a kind of moral paralysis. Moral extensionism asks us to make some determination about what to include in our calculus of moral value. But perhaps it's the precautionary principle we should adopt as our North Star. That is, perhaps the right questions are less about inclusion and more about *exclusion*, less about coming up with qualifications for belonging to the moral community, and more about determining grounds for why a thing (or species, or ecosystem) should be left out. As we'll see, this approach won't make our task of articulating an environmental ethic easier, but it will solicit the qualities—humility, forthrightness, objectivity, and compassion—that make it an *ethic*.

1.3.4 Summary and Questions

Like the philosophical tradition generally, it's not surprising that study of the moral life has been reserved mostly to how we conceive the good for human beings, our relationships and institutions, our practices, customs, laws, and the expectations we associate with civilization. Environmental ethics, however, poses a serious challenge to how we understand our human-centeredness—our *anthropocentrism*. Insofar as we now know that human activity can have adverse, even devastating, consequences for nonhuman animals and ecosystems, rethinking what counts as a life worth living has become a priority for both personal and collective moral decision-making. While some concepts such as *moral considerability* take on renewed meaning and urgency, others like inherent worth seem more suspect, or at least less obviously useful, in the light of scientific discoveries that undercut some of our most basic assumptions about what constitutes an animal, consciousness, cognitive wherewithal, or even what counts as a living thing.

While a sustainable future may not be out of reach, we now know that sustainable doesn't necessarily mean desirable, and that even the lowest common denominator conditions for a desirable future demand expanding the range of moral consideration beyond narrow human interest. Part of what makes this achieving these goals difficult is that we haven't done a very good job of treating our fellow human beings equally, justly, or with compassion—let alone nonhuman animals or nonhuman nature. It seems that any effort to extend traditional moral principle, *moral extensionism*, requires some careful rethinking about how human chauvinism intersects with racism, sexism, and other forms of structural inequality. When we consider the potential impacts of the environmental crises we face, especially the climate crisis, it becomes clear that environmental justice cannot be divorced from social and economic justice.

Difficult questions arise as to whether any of the moral principles with which we're familiar can provide adequate grounds for their extension to nonhuman nature and/or nonhuman animals. If we're the narrowly self-interested chauvinists of our checkered history, this doesn't seem promising. But if our understanding of human-centeredness, anthropocentrism, can be reconceived to include *taking responsibility* for what we know about the consequences of our actions for nonhuman nature and nonhuman animals, we might be able to formulate versions of moral extensionism better-suited an environmental ethic that can meet the challenges posed by the climate crisis. We cannot undo the harm we've done to the planet, its atmosphere, and its inhabitants, but we needn't continue the destructive course we've thus far charted. Beginning, then, by embracing the *precautionary principle*—err on the side of caution, compassion, and care—our goal is to

undertake a careful investigation of our moral principles to see whether some version of *moral extensionism* can be made to work toward a future desirable not only to the most fortunate, but to the least.

1. What is the basic idea behind moral extensionism, and why is it important to developing a sound and actionable environmental ethic?
2. What is the precautionary principle? How does it ground the basic conditions for an environmental ethic?
3. Distinguishing human chauvinism from human-centeredness, we've anchored the latter to taking responsibility not only for what we *do*, but for what we're in a position to *know*—epistemic responsibility. Why is this important to an environmental ethic?
4. What do we mean when we refer to the intersection of environmental stability and social or economic justice? Give an example where/when environmental destruction intersects with racism and/or sexism.
5. How are questions about sentience or the difference between living and nonliving things relevant to moral extensionism?

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After developing a view of being a moral patient—an entity to whom we may owe moral consideration even if they do not owe it in return—Bernstein argues that we have "unjustly disenfranchised some individuals from our moral domain," and that recognizing this will "pave the conceptual groundwork for a detailed examination of the sorts of revisions that morality requires of us."

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