

Humans, Nature, and Ecological Restoration
Great Questions Essay

When I found out my fifth grade class field trip to the wetlands might be cancelled because of rain, I cried. I already had my garbage-bag poncho made and a bag packed with snacks and notebooks; is this the reason I was so invested? I had never been to these wetlands, part of the San Luis Wildlife Refuge, which was perhaps a 45-minute drive from my childhood home in California. Because a freeway edged it, I had been driven past the moist, unassuming expanse of reeds and bunchgrass, but that was it. Although I had never been there, I like to think that I already had a sense that natural places were precious and that to be in them was spiritually significant.

The trip wasn't cancelled after all, and it fully lived up to my expectations. I treasured the shimmering vernal pools, the squiggly organisms we collected in jars, the grass that seemed to glow green next to the wild gray of riparian brambles, the funny black coots trailing across the water, the way the gray sky seemed to tear and bleed as the rain swept toward us across the open land. When the rain came, I sat under an umbrella in a reverie, writing down my impressions in my school notebook until my legs fell dead asleep.

After a few more scattered visits, I returned to these wetlands one last time as a teenager to volunteer with a U.S. Fish and Wildlife Service restoration project. The volunteers met the ranger in the gravel parking lot, where she told a surprising story: the wetlands had once been completely regraded—the reeds leveled, the complex waterways squeezed out and filled in, levees added—to become agricultural fields. The government purchased the land and began restoring it in the 1960s, planting a variety of native shrubs and trees and installing an entire infrastructure of pumps and canals to replace the destroyed wetland hydrology. Restoration clearly didn't end there: here I was 60 years later as part of the significant volunteer force necessary to continuously maintain this habitat. With carefully orchestrated flooding and

draining, new plantings and subsequent irrigation, removal of invasive species, reintroduction of dwindling wildlife species, and even placement of artificial dens and nesting boxes, the San Luis Wildlife Refuge was (and still is) very actively managed. As a result, waterfowl migrating along the “Pacific Flyway” have a resource-rich and watery place to rest and breed; endemic tule elk¹ rebounded from only a few individuals to over 4000; and many other animals, including raptors, deer, coyotes, kit foxes, rabbits, salamanders, and even invertebrates such as fairy shrimp² can thrive there.³

Our job was to plant. We knelt in the mud, troweled out holes, nestled in shrublings and wild rose cuttings, and installed plastic skirts to protect the plants from rodents. After a few hours in the cool spring air under the patchwork sky, we had repopulated only a small muddy patch with living plants, which we hoped would fill that space with their growth. I left feeling more connected to the wetlands than ever.

Even with the knowledge that the San Luis wetlands were under restoration, it didn't enter my mind until I joined the academic ranks of Ecology in college to question the natural value of the place. Those wetlands have stood in my mind as the backdrop for some of my most defining encounters with nature, as brief as they were, and I even learned some lessons about ecology there. As I became familiar with scientific literature, ecological concepts, and environmental philosophy, however, I was surprised to learn that some ecologists and philosophers consider ecological restoration a waste of time because the product isn't as meaningful as “real” nature. The San Luis wetlands are far from a pristine, self-sustaining ecosystem—humans are involved at nearly every level. Does that mean that this conglomeration of plants, animals, water, and soil is no different than a human-manufactured machine? What

¹ Found only in central California

² An endangered species, along with the riparian brush rabbit and the California tiger salamander

³ http://www.fws.gov/Refuge/San_Luis/about.html

about the fact that this land *did* house a self-sustaining ecosystem before humans leveled it? Can bringing it back make up for destroying it (and do we humans owe this to nature)? Or does its restoration only represent continued human meddling, just in a different form? Is true nature gone from this place forever? Why does our presence seem to diminish nature in our minds?⁴

Beneath these questions is a more fundamental one: Are humans part of nature? For most of us who live in manufactured houses, walk on concrete, spend the majority of our time interacting with other humans, and who have a sense of a long human history of building, expanding, and mastering our surroundings, this isn't a question we often consider. The way we tend to use the word "nature," however, at least in Western society, reveals a distinction that seems to be part of our societal subconscious. In my experience, by "nature," we usually mean everything *but* humans and their built environment.⁵ *Nature* is the living and physical world outside of our boundaries. Society, on the other hand, is the world we've invented and engineered for ourselves as humans. Another word for society—or humans and all their socially-driven paradigms, customs, and contexts—is *culture*. Philosophers have accordingly dubbed this pervasive mindset that separates humans from their natural context "nature-culture dualism."

Why do we think this way? There are volumes written about the historical foundations for this dualism in Western thought, covering reasons from religion to science as conceived by the Enlightenment.⁶ Whether we see ourselves as special creations of divine design or as objective observers of the natural world, we seem to stand out from the rest of nature by virtue of being human. Perhaps being physically separated from other forms of life by urban structures reinforces the idea that nature is somewhere and something else. We've also been largely

⁴ And in practice, as critics of ecological restoration would say—we simply can't recreate natural systems perfectly, can we?

⁵ Admittedly, *nature* is an incredibly broad and ambiguous word, which is part of the problem.

⁶ Egan et. al "Why People Matter in Ecological Restoration," in *Human Dimensions of Ecological Restoration*

successful in circumventing a good number of natural limits through technology (agricultural, medical, transportation, and more), which is the basis for the idea of limitless progress. Because we reason, plan, communicate, reflect, study, modify and engineer our environment so much more than any species we've observed, it's easy to assume we're a favored species, at the top of the value hierarchy, in charge of the world.

Fundamentally, most people would agree that humans did at least originate with the rest of nature. Our bodies are made of the same materials as other animals; we're subject to the same physical laws; we evolved under the pressures of the same physical world that we inhabit now. Sociobiologists, in fact, believe that all human behavior and culture stem from evolutionary history. Along these lines, I remember wondering as a child why something humans made or did was any different from, say, a beaver building a dam. With the kind of propensity for nature-loving I already had, however, I was also aware that there is something morally different about what we do to change the environment—that there's often loss involved. I still couldn't answer the question of whether human actions should be considered just as natural as other events in nature; in fact, it seemed like a dangerous question if it justified destructive behavior. So I set it aside.

Studying ecology has reinforced for me the concept that our interactions with the rest of the natural world are significant. The etymology of "ecology" is fairly basic at face value. Nineteenth-century German biologist Ernst Haeckel coined the German word *Ökologie* from the Greek word *oikos*, which means house or dwelling place.⁷ Living somewhere, however, means more than simply existing independently in that place. This is reflected in the focus of ecology as a field. Ecology is really the study of interconnectedness, or in other words, the dynamic relationships between living things and their environment. One of the key concepts of ecology is

⁷ *Online Etymology Dictionary.*

the ecosystem: a network of organisms like plants and animals and the physical environment they inhabit. An ecosystem is more than just an assemblage of species in a certain habitat, however; it exists in time as well as space and the way its parts interact is essential to its character. It's a classic example of a whole being more than the sum of its parts.⁸ Any change in the system, whether it's a new species of plant, a change in weather patterns, or an influx of an industrial chemical, can potentially change the overall character of the system.⁹ The decline of a species that plays a certain role, such as a predator which keeps prey populations in check, can also have a domino effect on other species and even physical characteristics of the system. The large-scale killing off of predators like wolves and bears in the American West, for example, had negative consequences for plant populations as herbivore populations exploded, which in turn crashed as the herbivores eliminated their food sources.¹⁰

The takeaway is that whether we think we are in charge or not, our unique ability to modify our environment, especially at the scale and rate that we do, has consequences that are beyond our control. And unfortunately, many of the ways we affect the systems around us tend to remove link upon link of these systems, causing collapse rather than only changing them. Removing an entire mountaintop for strip mining, for example, or a forest for a housing development, doesn't leave any semblance of the original network behind.

Clearly, human society has a role to play in the makeup of the environment. The ecological situation can't settle the question of what this role means, however, or what we should value and prioritize in our relationship with nature. As it turns out, the question I asked as a child—what's different about human actions in nature?—has also plagued environmental

⁸ The question is whether an ecosystem is ever really a tidy whole—this is undoubtedly something of a simplification.

⁹ Although the degree of change varies—sometimes systems have buffers, or the change is only temporary. This seems more morally ambiguous than total destruction.

¹⁰ Aldo Leopold, *Sand County Almanac*.

philosophers. Nature-culture dualism is hard to escape, even for environmentalists and conservationists. Assumptions about where humans stand in relation to nature have played a large role in their conclusions, and several movements of environmental thought have in turn had a large influence on the way our society handles our relations with the environment.

One historically dominant view of nature is that of a pool of resources. Especially in a capitalist and progress-oriented society like the United States, harvesting these resources for gain tends to be an overriding interaction with nature. Before the mid-1800s, few people questioned this mindset and raw materials were treated as limitless. As the American frontier shrank, as millions of acres of forests were felled, and as buffalo were hunted nearly to extinction, some realized that wanton killing and subduing of animals and landscapes would result in their permanent loss.¹¹ In 1864, George P. Marsh, an extremely well-read lawyer, published a book called *Man and Nature* which detailed the ecological consequences of this kind of domination.¹² This new awareness informed the efforts of resource-minded leaders such as Theodore Roosevelt and Gifford Pinchot to begin setting aside land as wildlife habitat and regulating resource extraction. Although this was progressive for the time and helped establish a culture of land stewardship, this traditional conservation attitude was squarely utilitarian and human-centered.¹³ Roosevelt wrote of preserving land that was “valueless for agricultural purposes and unfit for settlement as playgrounds for rich and poor alike and to preserve the game so that it shall continue to exist for the benefit of all lovers of nature....”¹⁴ Nature needed to be treated carefully, but it was there for human use and enjoyment. This attitude matured into government-

¹¹ Willcock, Collin. *Wildfight*.

¹² Udall, Stewart. *The Quiet Crisis and the Next Generation*.

¹³ Jordan, William R. *The Sunflower Forest*.

¹⁴ Roosevelt, Theodore, *The Wilderness Hunter*, qtd in *Wildfight*.

supported forestry, range management, soil conservation, and other forms of regulation informed by science.

At the same time that foresters and hunters began to advocate wise use of resources, another view of conservation was developing that, although it shared common ground with resource conservation, soon grew apart from it. Known as preservationism, this movement inherited the romantic views of the Transcendentalists Ralph Waldo Emerson and Henry David Thoreau, who thought of nature as sacred and valued it for its intrinsic beauty and spiritual qualities. The well-known champion of preservationism, John Muir, was motivated by his own spiritual relationship with nature, and fought tirelessly, along with the conservationists, for the setting aside of public land¹⁵. He was appalled by the “utter destruction” caused by private interests in timber, mining, and sheep grazing (he called sheep “locusts with hooves”),¹⁶ and any restrained management was better than this. The difference was that although Muir accepted some managed use of the raw materials found there, he also wanted some lands to be left completely undeveloped as relics of true wilderness—as temples, in fact. This difference has grown more pronounced over time, polarizing those who value nature for its usefulness and those who view its use or abuse as a violation of its sacredness.

A possible compromise between these two ends of the spectrum can be found in Aldo Leopold’s “land ethic.” Leopold was a twentieth-century forester whose love of the natural places where he worked led him to shift his attention more and more to ecology. An experience he had as a young man seems to me to symbolize the relationship with nature that he developed. After shooting excitedly at some passing wolves, he describes the following encounter:

¹⁵ In fact, Muir was good friends with the conservation leader Gifford Pinchot, but they grew apart as their views on management diverged.

¹⁶ Miller and Morrison, *John Muir: Family, Friends, and Adventures*.

We reached the old wolf in time to watch a fierce green fire dying in her eyes. I realized then, and have known ever since, that there was something new to me in those eyes - something known only to her and to the mountain. I was young then, and full of trigger-itch; I thought that because fewer wolves meant more deer, that no wolves would mean hunters' paradise. But after seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view.

Over time Leopold came to the conclusion that, like all the other species he observed, humans are part of a biotic community. He blended the practical relationship with the land characteristic of resource management with a strong sense of ethical obligation toward the land for its intrinsic value. This makes nature, by virtue of being included in our own community, valuable to human well-being as well. In recognizing the interconnectedness of all life, Leopold argued for the extension of our sense of community to all parts of the web of which we are only one part. "In short," he wrote, "a land ethic changes the role of *Homo sapiens* from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such."¹⁷ While this philosophy deemphasizes humans' role as the only species on the planet that matters, it also allows us self-respect as part of nature, in which we play an active role.

Interestingly, although the effect of human activity is usually considered as a background influence in ecological studies, the subject of these studies tends to be human-less, "natural" systems. At least in my experience, ecologists do not tend to view humans as members of ecosystems in the same way that they do trees and mountain lions within their scientific paradigm. They study nature with a dualistic mindset. Ecologist Arthur Tansley, who challenged the then-current concept of ecology that characterized communities as tightly-knit "superorganisms," recognized this in 1935 when he said,

¹⁷ Leopold, Aldo, "The Land Ethic," in *A Sand County Almanac*.

It is obvious that modern civilized man upsets the “natural” ecosystems or “biotic communities” on a very large scale... Is man part of “nature” or not? Can his existence be harmonized with the conception of the “complex organism”? Regarded as an exceptionally powerful biotic factor which increasingly upsets the equilibrium of preexisting ecosystems and eventually destroys them, at the same time forming new ones of a very different nature, human activity finds its proper place in ecology.¹⁸

In fact, some scientists now refer to our current time as a new geological era, the “Anthropocene,” indicating that our presence is changing the earth on a geological scale.

Although this designation is certainly warranted by our impact, it seems strange to think of ourselves only as a single though “exceptionally powerful biotic force” in the networks we inhabit just as fully as other animals. Perhaps ecology simply isn’t equipped to deal with the variety and complexity of the interactions that humans experience as a result of culture and as agents in an ecosystem. It’s important to us as humans to know how we live and thrive—in other words, how these connections inherent in ecology affect us in addition to our objective impact on the environment. Sociology is one avenue for this understanding. Sociology is similar in some ways to ecology because it examines the influence of relationships between people and institutions (rather than between organisms and the physical environment) on the structure and trends of society. Even sociology alone isn’t enough to understand our interactions with nature holistically, however. What’s really needed is an interdisciplinary approach. Environmental Sociology as well as Human Ecology have attempted to bridge this gap, but these disciplines aren’t widely utilized by environmentalists.¹⁹

The dominant interaction among environmentalists has instead been the rift between conservationism and preservationism. While government agencies such as the Forest Service as

¹⁸ Qtd in Egan et. al, “Why People Matter in Ecological Restoration,” in *Human Dimensions of Ecological Restoration*

¹⁹ *ibid.*

well as those who depend on the land for livelihood tend to be resource-minded, many environmentalists see themselves or are seen by others as heirs of preservationism. One strain of environmentalism, known as Deep Ecology, has taken preservationism's view of humans' relationship with nature even farther, removing any special status for humans and magnifying the unalienable right of all of nature to flourish.²⁰ Key in the philosophy is rejection of "anthropocentrism"—preference toward or motivation by human interests and values—in favor of "ecocentrism," which gives other species equal consideration. This is why the preservationist camp doesn't always agree with the conservationists despite some shared goals: a resource-minded conservation philosophy like forestry tends to be economically motivated (or otherwise anthropocentric) rather than ecologically motivated. It acknowledges and works with ecology, but chiefly (at least traditionally) to produce a viable resource pool for our use rather than to maintain a diverse and integral ecosystem. Even environmentalism that gives higher priority to ecological integrity but with human welfare in mind is considered "shallow" by the Deep Ecologists.²¹

Crucial to a discussion of ecological restoration is the more basic philosophical question of why we value or give ethical consideration to the rest of nature at all. My biology and ecology classes usually include at least one lecture on conservation in which we list reasons we think conservation matters, or in other words, why biodiversity matters enough to be protected. I've already touched on the philosophical motivations of some of the contrasting views of nature, which generally fall into utilitarian and intrinsic value. These are the two types of reasons the class usually comes up with. Some of them stem from a broad ecological concept: the more

²⁰ Naess, Arne, "The Deep Ecological Movement," in *Ecocriticism: The Essential Reader*; This may sound similar to Aldo Leopold's philosophy, and in fact Naess quotes Leopold—but others have pointed out that Leopold was always a manager in addition to an ecologist and didn't go as far as radical environmentalists in rejecting anthropocentrism; he was more of a moderate.

²¹ *Ibid.*

diversity, the more resilient a system is likely to be. From a utilitarian standpoint, since we depend on healthy ecosystems for resources and services, we care by extension about biodiversity. There are other utilitarian arguments: who knows, there may be a cure for cancer in an obscure rainforest plant. Even an appreciation of the beauty in diverse life is basically utilitarian. The professor usually ends, however, with “What about the intrinsic value in all of these species and ecosystems?” In other words, value in and of itself, independent of usefulness or relevance to us?

Intrinsic value is difficult to pin down. One philosopher, Robert Elliot, wrote page upon abstract page trying to untangle it, which I won't try to reproduce.²² It's worth exploring, however, as intrinsic value can lead to a variety of philosophical platforms, from the Transcendentalists to the Deep Ecologists. For me, it boils down to a question like the one Jonathan Franzen asks (echoing Rachel Carson): “Are we really ok with eliminating birds from the world?”²³ I think that with frequent contact with other living things, it isn't difficult to develop an inherent sense of wonder about the complexity of the place we live and an abhorrence of wanton destruction of intricacy and beauty. Some ecologists have determined that a sixth mass extinction is ensuing, which seems to qualify as wanton destruction.²⁴ For nature-lovers, at least, the idea of losing a single species, let alone thousands, to extinction is devastating because of its irreversibility. The same could be said of whole ecosystems that disappear. There's a sense of unique, irreplaceable living riches slipping through our fingers more and more quickly because of our own unchecked expansion as a species.

²² Elliot, Robert, *Faking Nature*.

²³ Franzen, Jonathan, “Carbon Capture.”

²⁴ Barnosky et al., “Has the Earth's sixth extinction already arrived?”; A mass extinction occurs when more than three-fourths of species disappear in a short interval, which was the fate of the dinosaurs. There is certainly a natural background level of extinction that makes mourning a single species seem sentimental, but a mass extinction is more serious.

What about the broad intrinsic value many philosophers (and others) find in the state of “naturalness,” beyond the value of individual species and ecosystems? This seems to be the crux of the ecological restoration debate and a central question for addressing nature-culture dualism. What precisely does it mean for something to be “natural”? Andrew Brennan and Y.S. Lo have identified several definitions of “natural” from the writing of a pioneering environmental philosopher, Holmes Rolston III: 1) subject to physical laws, 2) spontaneously arising and not dependent on human intervention, and 3) accordant with evolved behavior.²⁵ Brennan and Lo introduce a fourth definition of natural: not arising from rational reflection. These definitions have complicated implications for humans’ place in nature. Humans are certainly subject to physical laws, but culture tends to obscure this fact as we try to circumvent them. Also, unreflective behavior and even culture may reflect evolution—something natural, right? However, reflective thought is what leads to many aspects of culture, thus making culture unnatural. The second definition is most problematic for ecological restoration and is the attitude behind wilderness: once we intervene in something, it is no longer nature, hence reducing its value.

This is the reasoning of perhaps the most vocal critic of ecological restoration, philosopher Eric Katz. According to Katz, there *should* in fact be dualism between humans and nature—not between humans as biological beings and the natural processes they depend on, but between human artifacts and natural entities. He defines artifacts as phenomena that “exist only because of human intention and design.” When it comes to intervention in nature, he continues, “Artifacts are the physical manifestation of human purpose imposed on the world of nature.”²⁶ Even if the ecological outcome of restoration—he uses the example of reintroducing wolves into

²⁵ Brennan, Andrew, and Y.S. Lo. 2010. Understanding Movements in Modern Thought : Understanding Environmental Philosophy.

²⁶ Katz, Eric, “Another Look at Restoration: Technology and Artificial Nature” in *Restoring Nature*.

Yellowstone—was exactly the same as a natural event, the system would still be an artifact of human intentionality and would not have the same ontological value as real, authentic nature. He compares this conceptualization of ontology to the authenticity of art: a copy (or even a damaged and restored painting) of a famous painting does not have the same value as an unchanged original, even if it is indistinguishable. More similar to dynamic nature, a work of performance art such as a ballet modified by anyone but the original creator—by an “outsider”—is not authentic (though the original steps can be interpreted and performed by different dancers and still retain value).²⁷

Katz acknowledges that ecological restoration, as well as other forms of ecological management, can have positive human-oriented benefits, but he worries that acceptance of ecological restoration will encourage already rampant human hubris, the anthropocentric attitude encouraged by science and technology that we “wield supreme power in our dealings with the natural world.”²⁸ Katz wants us to realize that we are in fact powerless to restore natural value, and as a result to prioritize preservation. This reflects a common and valid fear that restoration will be used to justify wasteful or exploitative behavior with the assumption that we can just put it back—e.g. mine reclamation or restoration after mountaintop removal.²⁹

I understand this concern, as well as the sense that there is something in unmodified nature that can't be recreated. Since becoming an ecology major, I've started to realize how little we really know about the natural world. In attempting to break down, quantify, and demystify

²⁷ For Katz, at least within this argument, the analogue to an artist in nature isn't a Creator such as God, but simply the non-human origin and historical continuity of nature.

²⁸ Katz, Eric, “Another Look at Restoration: Technology and Artificial Nature”; In fact, that is basically the view of a sociological theory called Ecological Modernization—that technology will continually allow us to adapt and stay in harmony with nature.

²⁹ Other philosophers such as Andrew Light have pointed out in response that it is possible to distinguish between policies of mitigation (to satisfy regulation when damming or mining) and true restoration. In other words, not all restoration is the same.

nature, we've unveiled a level of complexity that we will likely never be able to reduce to terms we can understand, let alone replicate. Although ecology provides important insights into interactions and processes necessary for active conservation, its broader theories and attempts to predict simply can't capture all the variation across the globe and over eons of time. Trying to control and produce the complexity we can't even wrap our minds around, it seems, will only reduce nature to the stunted version we can grasp, no matter what our intentions. It can even result in unforeseen consequences that defeat our purposes.

This brings us back to the crux of the natural value paradigm: we want nature to be more than us. We value nature *because* it's separate and a power beyond us. It has incredible force, but the fact that we can change and diminish that force is devastating. If we have all control over nature, we're left only with ourselves, and that's not enough. In fact, that is exactly what Katz concludes: if we accept restoration, eventually, "[n]atural value will no longer exist, and we will live in a world that is totally human."³⁰

How can I account, then, for the realness of my experience with the San Luis wetlands? I experienced there the realness of a flock of geese pumping their wings, landing on the water, feeding and resting there; of a hawk hunting songbirds in the riparian brush; of fairy shrimp proliferating in the ephemeral rain-fed pools and hibernating in the soil season after season; of oaks and willows growing, breathing; of grass and mud crawling with microscopic life. These organisms and their networks are all here, rather than a monoculture sprayed with insecticide and mowed down every year, because of the efforts of restoration. They may not represent the exact network of living things once present, and humans may control the flow of the water they depend on, but aren't these living, interacting organisms still the real "other" that we seek in nature?

³⁰ Katz, Eric, "Another Look at Restoration: Technology and Artificial Nature."

It could be that although my childhood perception of this place made it seem equivalent to something wild, the complete ecological reality would tell me otherwise. Perhaps the animal network was painfully lopsided and the shrubs were planted in too neat of rows; perhaps the controlled flow of water prevented the correct balance of aquatic insects and the birds were never there for long. Even if this weren't the case, Katz would say it was too late. The original wild nature was wiped out, and these wetlands were entirely composed of human intention, worth little. For me, a human, however, there was something there. My contact with the wetlands has stayed with me ever since my fifth-grade field trip, and along with other experiences with living landscapes from my backyard to Yosemite, that contact has nurtured a love for these places and organisms outside of myself. This is the basis for my relationship with nature, and that is certainly valuable to me.

A significant downside to the preservationist, wilderness-oriented mindset, as important as it is for preventing unhindered destruction, is precisely the way it devalues nature that has been influenced by humans. Inherent in the idea of preserving wilderness is that as our influence grows, wilderness disappears irreversibly. As Aldo Leopold put it, we transform "raw stuff" into civilization, and then the raw stuff is gone. Because that raw stuff has value that our civilization, as valuable as it is, can't replace, we must preserve what we can as "tag-ends of wilderness, as museum pieces."³¹

Our influence, however, has already become pervasive. The effects of globalization, climate change in particular, have a ripple effect on the interconnected systems of the globe which can't be stopped by park boundaries. This concept shaped the theory of one sociologist influential in environmental thinking, Ulrich Beck. His "risk society" theory challenges the idea that modernization allows ever-increasing mastery over our environment; instead modernization,

³¹ Leopold, Aldo, "The Land Ethic," in *A Sand County Almanac*, p 265.

while reducing some threats to survival, introduces new risks, which have become the dominant structuring influence in society rather than old social classes.³² The environmental hazards created by technologies such as fossil-fuel power are not localized, but distributed (rarely equally) among humans as well as nature. The ecological responsiveness to change represents a compounded risk, especially when you consider the persistence of ecological complexity an essential goal, or, as anthropocentric as this is, important for human welfare as well.

Considering humans trespassers in nature, or considering our influence to devalue nature, defeats the purpose of environmentalism, because there is no untouched nature. Because our social and political systems are what they are, and because nature is dynamic, a “museum” mentality isn’t enough—leaving it alone, in fact, constitutes just as much of an impact as intervening. Under a view as strong as Eric Katz’s, it’s simply too late. I know I don’t want to think that way. Although physical protection is one important way of respecting ecological systems, we need practical ways of living ethically in a community with nature, not just removing ourselves from it. Both visiting and participating in the ecology of a human-invested wetland provided this, on a small scale, for me. I saw myself as a part of the landscape, and at the same time, that it was more than me. This is the goal of a land ethic like Aldo Leopold’s.

Aldo Leopold was, in fact, one of the first people to practice ecological restoration. Although he didn’t think of it as a conservation practice, he helped to recreate a 300-acre patch of native prairie and forest as part of the University of Wisconsin Arboretum in the 1930s,³³ which is still maintained as a research and outreach site. William R. Jordan, a staunch advocate

³² Cohen, Maurie J. 1997. “Risk Society and Ecological Modernisation Alternative Visions for Post-Industrial Nations.” *Futures* 29 (2): 105–19.

³³ Jordan, William R, *The Sunflower Forest*, p 1.

should be defined not simply by local interactions but, more broadly, by “moral proximity,” or the “sphere of individuals, institutions, and activities for which a person feels responsible,”³⁶ regardless of physical distance. And in fact, that is basically what Leopold proposes: “The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land.”³⁷ The importance of a human-informed definition of community in relation to nature begins to shed light on the need for human culture and understanding in guiding this relationship. In other words, respecting nature doesn’t take only an ecological understanding or an ecocentric philosophy. To live with nature in a meaningful way, our cultural lenses, even anthropocentrism, must be part of the process, because that is what we have to work with as humans.

William R. Jordan, the ecological restorationist, takes issue with the simplicity of Leopold’s (and environmentalism’s) approach to community, however. It seems to him that most environmentalists don’t go much farther than declaring that there should be community with nature. In human experience, however, achieving membership in a true community requires effort, sacrifice, and conflict. Overcoming separateness and relating to others, although central to human experience, is not an easy, “natural” process. In some ways this comes back to the trouble of ecological relationships in which killing, destruction, and tradeoffs are inherent—perfect harmony doesn’t exist in nature, and if we are part of nature, there’s no way of escaping this fact completely. Despite the allowances made by environmentalism for “necessary use” but not “exploitation,” Jordan sees no real difference in the terms: any consumption requires a violation of egalitarianism that would seem inherent in community. Being human, however, gives us resources of culture to deal with this dissonance. Different cultures have approached this

³⁶ Goodsell et al., “Community as Moral Proximity: Theorizing Community in a Global Economy.”

³⁷ Leopold, Aldo, “The Land Ethic,” in *A Sand County Almanac*.

differently; Jordan highlights religion, initiation rites, and hunters' ritual sacrifice as central examples. Our modern culture as a whole, however, minimizes community and its conflicts. We don't often stay in one place; we're separated by globalization from the origins of our resources; we tend to prefer the anonymity and distance of virtual relationships.³⁸ We would rather be safe, secure, and separate if it means avoiding conflict and confrontation of shame. In some ways this cultural reality mirrors the inadequacy of environmentalism.

For Jordan, ecological restoration is one answer to this inadequacy: in its challenges, it allows us to break those barriers surrounding community.³⁹ It provides the closeness with and awareness of the natural community that Leopold proposed as a way to expand our moral proximity. Process is just as important as product, as it is in ecology. Restored nature may not be an ideal replacement for untouched wilderness, but it's better than allowing our impact to continue unimpeded.

Environmental philosopher Andrew Light also recognizes the importance of restoration in allowing us to pursue a healthy relationship with nature. In his critique of Katz's philosophy, Light is willing to accept the idea that we can't bring back ontologically "real" nature for the sake of argument, and yet he does not think ecological restoration should be rejected on this basis. Instead, he says, "restoration restores the human connection to nature by restoring the part of culture that has historically contained a connection to nature."⁴⁰ Similar to a relationship between humans, a relationship with nature requires working and playing together—interacting, influencing each other, giving and taking. Ideally, restoration provides this rich interaction, making Katz's or even the Deep Ecologists' perception of nature as a place without humans

³⁸ Also covered by Goodsell et al.; they quote Zygmunt Bauman who sees modernization as "liquidizing" social life to avoid the kind of commitments necessary in community.

³⁹ Jordan, William R, *The Sunflower Forest*, p 28-53.

⁴⁰ Light, Andrew, "Ecological Restoration and the Culture of Nature" in *Restoring Nature*.

natural value or as evidence of human domination and arrogance. I see a partnership between humans and nature, a committed working relationship. A place where even a child, alongside others, can learn to love nature by being part of it.

As Michael Pollan points out, figuring out how to intervene in the myriad of natural spaces across the world, clearly separated from humans or not, is more difficult than determining that intervention is warranted.⁴⁵ That is a shared task of ecologists, philosophers, community members, and agency officials alike, and perhaps there is no one correct path in any case—nature doesn't have just one path. The most important thing is that we need this relationship with our home. We need to put in the effort to join the community we seek with nature, just as we do with each other. This is what it means to be human.

⁴⁵ Pollan, Michael, *Second Nature*, p 185

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