

Ecological Restoration and the Culture of Nature: a Pragmatic Perspective

Andrew Light

Most environmental philosophers have failed to understand the theoretical and practical importance of ecological restoration. I believe this failure is primarily due to the mistaken impression that ecological restoration is only an attempt to restore nature itself, rather than an effort to restore an important part of the human relationship with nonhuman nature. In investigating this claim, I will first discuss the possibility of transforming environmental philosophy into a more pragmatic discipline, one better suited to contributing to the formation of sound environmental policies, including ecological restoration. Specifically, I will advocate an alternative philosophical approach to the ideas about the value of ecological restoration raised by Eric Katz and other philosophers who claim that restored nature can never reproduce the actual value of nature. I will make this contrast more explicit and further argue that Katz's views in particular are not sufficiently sensitive to the values at work in the variety of projects falling within the category of ecological restoration. We need a more practically oriented philosophical contribution to discussions of ecological restoration policies than environmental philosophers have provided so far. A richer description of the ethical implications of restoration will identify a large part of its value in the revitalization of the human culture of nature. Before reaching this conclusion, however, I will briefly consider an alternative framework for environmental philosophy as a whole.

Environmental Philosophy: What and for Whom?

Two underlying questions that I believe still confound most environmental philosophers are "What is our discipline actually for?" and, consequently, "Who is our audience?" So far, most work in environmental ethics has been concerned with describing the nonanthropocentric value of nature – that is, the value of nature independent of human concerns and reasons for valuing nature – and determining the duties, obligations, or rights that follow from that description. But one can easily wonder whether such work is directed only toward other environmental philosophers as a contribution to the literature on value theory or whether it has a broader aim. Certainly, given the history of the field – formally beginning in the early 1970s with the work of thinkers as diverse as Arne Naess, Val Plumwood, Holmes Rolston, Peter Singer, and Richard Sylvan, all concerned with how philosophers could make some sort of contribution to the resolution of environmental problems – one would think that the aspirations of environmental philosophy would be greater than simply continuing an intramural discussion about the value of nature.

But if environmental philosophy is more than a discussion among philosophers about natural value, to what broader purposes and audiences should it reach? I pose at least four responses. Environmental philosophy might serve as (1) a

guide for environmental activists searching for ethical justifications for their activities in defense of other animals and ecosystems, (2) an applied ethic for resource managers, (3) a general tool for policy makers, helping them to shape more responsible environmental policies, and (4) a beacon for the public at large, attempting to expand their notions of moral obligation beyond the traditional confines of anthropocentric (human-centered) moral concerns.

Environmental philosophy should, of course, aim to serve all of these purposes and groups, although I think that most importantly we should focus our energies on guiding policy makers and the public. My rationale is this: If the original reason that philosophers established this field was to make a philosophical contribution to the resolution of environmental problems (consistent with other professionals' response to environmental concerns in the early 1970s), then the continuation – indeed, the urgency – of those problems demands that philosophers do all they can to actually help change present policies and attitudes involving environmental problems. If we talk only to each other about value theory, we have failed as environmental professionals. But if we can help convince policy makers to formulate better policies and make the case to the public at large to support these policies for ethical reasons, then we can join other environmental professionals in making more productive contributions to the resolution of environmental problems.

As it now stands, however, the current focus in environmental philosophy on describing the non-anthropocentric value of nature often ends up separating environmental philosophy from other forms of environmental inquiry. One prime example of this disconnection from practical considerations is that many environmental philosophers do not think of restoration ecology in a positive light. My friend and colleague Eric Katz comes near the top of the list of these philosophers; his chapter [in the volume in which the original of this essay appeared] is the latest in a series of articles in which he argues that ecological restoration does not result in a restoration of nature and, in fact, may even create a disvalue in nature. Robert Elliot is another influential thinker in this camp, although his views have moderated significantly in recent years. Katz, Elliot, and others maintain that if the goal of environmental philosophy is to describe the non-human-centered value of nature and to distinguish nature from human ap-

preciation of it, then presumably nature cannot be the sort of thing that is associated with human creation or manipulation. Thus, if restorations are human creations, argue philosophical critics such as Katz, they can never count as the sort of thing that contains natural value.

In this view, restorations are not natural – they are artifacts. To claim that environmental philosophers should be concerned with ecological restoration is therefore to commit a kind of category mistake: it is to ask that they talk about something that is not part of nature. But to label ecological restorations a philosophical category mistake is the best-case scenario in this view; at worst, restorations represent the tyranny of humans over nature and should not be practiced at all. Katz has put it most emphatically in arguing that “the practice of ecological restoration *can only* represent a misguided faith in the hegemony and infallibility of the human power to control the natural world” (Katz 1996, 222, my emphasis).

I have long disagreed with claims like this one. My early response to such positions was to simply set them aside in my search for broader ethical and political questions useful for a more public discussion of policies concerning ecological restoration (e.g., Light and Higgs 1996). But I now think it is dangerous to ignore the arguments of Katz and Elliot, for at least two reasons. First, their arguments represent the most sustained attempt yet to make a philosophical contribution to the overall literature on restoration and thus ought to be answered by philosophers also interested in restoration. Second, the larger restoration community is increasingly coming to believe that the sorts of questions being addressed by Katz and Elliot are the only kind of contribution that philosophy as a discipline can make to discussions of restoration. And since Katz has explicitly rejected the idea that ecological restoration is an acceptable environmental practice, the restoration community's assumption that environmental ethicists tend to be hostile to the idea of ecological restoration is a fair one. Given this disjunction, there would be no ground left for a philosophical contribution to public policy questions concerning ecological restoration, since none of these issues would count as moral or ethical questions.¹

I believe that philosophers can make constructive contributions to ecological restoration and to environmental issues in general by helping to articulate the normative foundations for environ-

mental policies in ways that are translatable to the public. But making such contributions requires doing environmental philosophy in some different ways. Specifically, it requires a more public philosophy, one focused on making the kinds of arguments that resonate with the moral intuitions most people carry around with them every day. Such intuitions usually resonate more with human-centered notions of value than with abstract non-anthropocentric conceptions of natural value.

"Environmental pragmatism" is my term for the view that makes it plausible for me to make this claim about the importance of appealing to human motivations in valuing nature. By this I do not mean an application of the traditional writings of the American pragmatists – Dewey, James, and Pierce, for example – to environmental problems. Instead, I simply mean the recognition that a responsible and complete environmental philosophy includes a public component with a clear policy emphasis (see, for example, Light 1996a, 1996b, 1996c). It is certainly appropriate for philosophers to continue their search for a true and foundational nonanthropocentric description of the value of nature. But environmental philosophers would be remiss if they did not also try to make other, perhaps more appealing ethical arguments that may have an audience in an anthropocentric public. Environmental pragmatism in my sense is agnostic concerning the existence of nonanthropocentric natural value. It is simply a methodology permitting environmental philosophers to endorse a pluralism allowing for one kind of philosophical task inside the philosophy community – searching for the "real" value of nature – and another task outside of that community – articulating a value for nature that resonates with the public and therefore has more impact on discussions of projects such as ecological restorations that may be performed by the public.

This approach modifies the philosophical contribution to questions about restoration ecology in a positive way. As mentioned, many philosophers have criticized ecological restoration because it is a human intervention into natural processes. In contrast, I have argued that such projects as the prairie restorations at the University of Wisconsin–Madison Arboretum would be fully supported by a pragmatic environmental philosophy (Light 1996b). Restoration makes sense because on the whole it results in many advantages over mere preservation of ecosystems that have been substan-

tially damaged by humans. More significantly, this pragmatic approach exposes other salient ethical issues involving the practice of ecological restoration beyond the discussion of natural value, such as whether there are moral grounds that justify encouraging public participation in restoration (see Light and Higgs 1996). It is therefore the duty of the pragmatic environmental philosopher to become involved in debates with practitioners about what the value of restoration is in human terms, rather than to keep the discussion restricted to a private debate among philosophers on whether restored nature is really nature. In the rest of this chapter, I will offer a specific critique of Katz's claims about the value of restoration, a critique, however, that does not rely on a pragmatist foundation for environmental philosophy. I will then go on to and discuss some pragmatic issues that contribute to a fuller philosophical analysis of the practice and ethics of ecological restoration.

Ecological Restoration: A Preliminary Distinction

Following the project described above, in previous work I have outlined some preliminary distinctions that paint a broader picture of the philosophical terrain up for grabs in restoration than that presented by Katz and Elliot. Specifically, in response to Elliot's early critique of restoration (1982), I have tried to distinguish between two categories of ecological restoration that have differing moral implications.

Elliot begins his seminal article on restoration, "Faking Nature," by identifying a particularly pernicious kind of restoration – restoration that is used to rationalize the destruction of nature. On this claim, any harm done to nature by humans is ultimately repairable through restoration, so the harm should be discounted. Elliot calls this view the "restoration thesis" and states that it implies that "the destruction of what has value [in nature] is compensated for by the later creation (recreation) of something of equal value" (Elliot 1982, 82). Elliot rejects the restoration thesis through an analogy based on the relationship between original and replicated works of art and nature. Just as we would not value a replication of a work of art as much as we would the original, we would not value a replicated piece of nature as much as we would the original, such as some bit of wilderness. Elliot's

argument that the two sorts of value choices are similar is persuasive.

In responding to Elliot's (1982) criticisms of the value of restoration, I have suggested a distinction implicit in his analysis of restoration to help us think through the value of ecological restoration (Light 2002). The distinction is based on an acknowledgment Elliot makes in his 1982 article (and expands upon in his 1997 book): "Artificially transforming an utterly barren, ecologically bankrupt landscape into something richer and more subtle may be a good thing. That is a view quite compatible with the belief that replacing a rich natural environment with a rich artificial one is a bad thing" (Elliot 1982, 87).

Following Elliot's lead that some kinds of restoration may be beneficial, I distinguished between two sorts of restorations: (1) malicious restorations, such as the kind described in the restoration thesis, and (2) benevolent restorations, or those undertaken to remedy a past harm done to nature although not offered as a justification for harming nature. Benevolent restorations, unlike malicious restorations, cannot serve as justifications for the conditions that would warrant their engagement.

If this distinction holds, then we can claim that Elliot's original target was not all of restoration, but only a particular kind of restoration, namely malicious restorations. While there is mixed evidence to support the claim that Elliot was originally going after only malicious restorations in his first work on the topic, the distinction is nonetheless intuitively plausible. The sorts of restorations undertaken at the Wisconsin Arboretum, for example, are certainly not offered as excuses or rationales for the destruction of nature. In contrast, the restorations involved in mountaintop mining projects in rural West Virginia can definitely be seen as examples of malicious restorations. Mountaintop mining – where tops of mountains are destroyed and dumped into adjacent valleys – is in part rationalized through a requirement that the damaged streambeds in the adjacent valleys be restored. The presumed ability to restore these streambeds is used as a justification for allowing mountaintop mining, making this practice a clear instantiation of Elliot's restoration thesis. The upshot of this malicious-benevolent distinction is that one may be able to grant much of Elliot's claim that restored nature is not original nature while still not denying that there is some

kind of positive value to the act of ecological restoration in many cases. Even if benevolent restorations are not restorations of original nature, and hence more akin to art forgeries than to original works of art, they can still have some kind of positive content.

The idea that many restorations can have positive content may be developed more by pushing the art analogy a bit further. If ecological restoration is a material practice like making a piece of art (fake or not), why isn't it like art restoration rather than art forgery? After all, we know that some parallels can be drawn between restoration projects and mitigation projects. A mitigation often involves the wholesale creation of a new ecosystem designed to look like a bit of nature that may have absolutely no historical continuity with the natural history of the land on which it is placed. For example, in order to meet an environmental standard that demands no net loss of wetlands, some environmental managers will sanction the creation of a wetland to replace a destroyed one on a piece of land where there had been no wetland. Conversely, a restoration must be tied to some claim about the historical continuity of the land on which the restoration is taking place. In some cases, this might simply entail linking original pieces of nature together to restore the integrity of the original ecosystem without creating a new landscape altogether (as in the case of the Wildlands Project to link the great western parks in the United States and Canada with protected corridors). In that sense, a restoration could be more like repairing a damaged work of art than like creating a fake one.²

The possibility of having benevolent restorations does much to clear the way for a positive philosophical contribution to questions of restoration. Katz, however, unlike Elliot, denies the positive value of any kind of restoration. For him, a restoration can only be malicious because all restorations represent evidence of human domination and arrogance toward nature. But surprisingly, even though Katz draws on Elliot's work in formulating his own position, he seems to ignore the fact that Elliot's original description of the restoration thesis was primarily directed against particular kinds of restorations. In his earliest and most famous article on restoration, "The Big Lie: Human Restoration of Nature," Katz acknowledged that while Elliot claimed that the restoration thesis mostly was advocated as a way of undermining conservation

efforts by big business, he (Katz) was surprised to see environmental thinkers (such as forest biologist Chris Maser) advocating "a position similar to Elliot's 'restoration thesis.'" This position, as Katz interprets it, is that "restoration of damaged nature is seen not only as a practical option for environmental policy but also as a moral obligation for right-thinking environmentalists" (reprinted in 1997, 96). But Maser's position is not the restoration thesis as Elliot defines it. Katz never shows that Maser, or any other restoration advocate whom he analyzes, actually argues for restoration as a rationale for destruction of nature. He never demonstrates that those in the restoration community endorse restorations for malicious reasons. If in fact they do not, then what is wrong with restoration, in Katz's view?

Katz Against Restoration

Just as Elliot's original target of the restoration thesis has faded from philosophical memory, Katz's original target has also been somewhat lost in the years since he began writing on this topic in 1992. At first, Katz seemed most concerned with the arguments of fellow environmental ethicists like Paul Taylor and Peter Wenz, who advocated variously "restitutive justice" and a "principle of restitution" as part of our fulfillment of possible human obligations to nature. If we harmed nature, according to Taylor and Wenz, we should have to compensate it. Restoration would be part of a reasonable package of restitution. According to Katz, in these views humans have an "*obligation and ability* to repair or reconstruct damaged ecosystems" (1997, 95, my emphasis). But I think it is crucial here to note the argument Katz is actually taking on and the objection he proceeds to make.

As Katz describes it, there are actually two separable questions to put to Taylor, Wenz, and other advocates of restoration: (1) Do we have an obligation to try to restore damaged nature? and (2) Do we have the ability to restore damaged nature? Katz argues quite forcefully that we do not have the ability to restore nature because what we actually create in ecological restorations are humanly produced artifacts – not nature, nonanthropocentrically conceived. Based on this claim, he assumes that the first question – whether we have an obligation to try to restore nature – is moot. Katz's logic is

simple: we do not have an obligation to do what we cannot in actuality do.

But even if we were to grant Katz his position that it is impossible to restore nature, we may still have moral obligations to try to restore nature. How can this be true? There are a number of reasons, but before fully explicating this view, we need to first better understand Katz's arguments.

In examining Katz's papers on this topic,³ I have identified five separable but often overlapping arguments he has made against both the idea that we can restore nature and the practice of trying to restore it. I call these arguments KR1–5. They are listed below in the order they arise in his work, each accompanied by an example of supporting evidence from Katz's various papers on restoration.

KR1. The Duplicious Argument

"I am outraged by the idea that a technologically created 'nature' will be passed off as reality" (1997, 97).⁴

KR2. The Arrogance (or Hubris) Argument

"The human presumption that we are capable of this technological fix demonstrates (once again) the arrogance with which humanity surveys the natural world" (1997, 97).

KR3. The Artifact Argument

"The re-created natural environment that is the end result of a restoration project is nothing more than an artifact created for human use" (1997, 97).⁵

KR4. The Domination Argument

"The attempt to redesign, recreate and restore natural areas and objects is a radical intervention in natural processes. Although there is an obvious spectrum of possible restoration[s]... all of these projects involve the manipulation and domination of natural areas. All of these projects involve the creation of artifactual realities, the imposition of anthropocentric interests on the processes and objects of value. Nature is not permitted to be free, to pursue its own independent course of development" (1997, 105).⁶

KR5. The Replacement Argument

"If a restored environment is an adequate replacement for the previously existing natural environment [which for Katz it can never be], then humans can

use, degrade, destroy, and replace natural entities and habitats with no moral consequence whatsoever. The value in the original natural entity does not require preservation." (1997, 113)⁷

I disagree with all of these arguments and have articulated what I hope are thorough responses of them elsewhere. Here I will focus on KR4, the domination argument, which is perhaps the one that arises most often throughout all of Katz's restoration papers. It is arguably the case that one can answer all of Katz's arguments by conceding one important premise of all of his claims as long as KR4 can be independently answered. KR4 also is interesting to me because his original articulation of it involved a very slim admission that there is some sort of difference between various kinds of restoration projects. Even though these differences are not ultimately important for Katz, he still nonetheless acknowledged them, and they give me a space in which I can critique his position.

In addition, I believe that KR1–3 and KR5 can be ignored in rejecting Katz's position as long as we are prepared to concede for now one important premise of all of his arguments. This is Katz's ontological assumption (a claim concerning the nature or essence of a thing) that humans and nature can be meaningfully separated so as to definitively argue that restored nature is an artifact, a part of human culture, rather than a part of nature. As Katz has admitted in a soon to be published forum on his work, he is a nature–culture dualist. This means that for Katz, nature and culture are separate things entirely.⁸ If one rejects this overall ontological view, then one may reject most of Katz's objections to restoration. But metaphysical debates are often intractable, and rarely does either side give quarter.⁹ Thus, even though I disagree with it, I will accept Katz's underlying assumption that restored nature does not reproduce nature.

But even if I grant this point that restored nature is not really nature, KR4 is still false because it is arguably the case that restoration does not dominate nature in any coherent sense but instead often helps nature to be free of just the sort of domination that Katz is concerned about. The reasoning here is straightforward enough. If I can show that restorations are valuable for nature, even if I concede that they do not re-create nature, then the various motivations for restoration will

distinguish whether a restoration is duplicitous (KR1) or arrogant (KR2). A benevolent restoration, for example, would not risk KR1 or KR2 because in principle it is not trying to fool anyone, nor is it necessarily arrogant. Further, and more simply, conceding Katz's ontological claim about the distinction between nature and culture eliminates the significance of KR3 – since we no longer care whether what is created is an artifact – as well as KR5, since we have given up hope that a restoration could ever actually serve as a replacement for "real" nature.

Now, back to the domination argument. KR4 is a claim that could hold even for a view that conceded Katz's nature–culture distinction. The reason, following Katz, would be that even a failed attempt to duplicate natural value – or create something akin to nature while conceding that in principle real nature can never be restored by humans – could still count as an instance of domination as Katz has defined it. An attempt at restoration, according to Katz's reasoning, would still prohibit nature from ever being able to pursue its own development. The reason is that for Katz, restoration is always a substitute for whatever would have occurred at a particular site without human interference. The idea is that even if humans can produce a valuable landscape of some sort on a denuded acreage, this act of production is still an instance of domination over the alternative of a natural evolution of this same acreage, even if a significant natural change would take ten times as long as the human-induced change and would be arguably less valuable for the species making use of it. Still, one can muster several arguments against KR4 (I will provide four) and still play largely within Katz's biggest and most contentious assumption about the ontological status of restored nature. After going through these arguments, we will see that these claims can lead to a new philosophical context for the evaluation of restoration, which I believe in the end also undermines the other KR arguments.

I We can imagine cases in which nature cannot pursue its own interests (however one wishes to understand this sense of nature having interests) because of something we have done to it. For example, many restorations are limited to bioactivation of soil that has become contaminated by hazardous industrial waste. If restoration necessar-

ily prohibits nature from being free, as KR4 maintains, then how do we reconcile this claim with the relative freedom that bioactivation makes possible? Restoration need not determine exactly what grows in a certain place, but may in fact simply be the act of allowing nature to again pursue its own interests rather than shackling it to perpetual human-induced trauma. In many cases of restoration, this point can be underscored when we see how anthropogenically damaged land (or soil) can be uniquely put at risk of invasion by anthropogenically introduced exotic plants. South African ice plant, an exotic in southern California that destroys the soil it is introduced into, is highly opportunistic and can easily spread onto degraded land, thus ensuring that native plants will not be able to reestablish themselves. I highlight here this contentious native-exotic distinction because I suspect that given Katz's strong nature-culture distinction, he would necessarily have to prefer a landscape of native plants over a landscape of exotics where the existence of the exotics is a result of an act of human (cultural) interference in nature. Allowing nature to pursue its own interests, given prior anthropogenic interference, thus involves at least as strong a claim to protect it from further anthropogenic risk through restoration practices as does the case Katz makes for leaving it alone.

2 Even if we do agree with Katz that restorations produce only artifacts, can't it still be the case that the harm we cause nature still requires us to engage in what Katz would have to term "attempted restorations"? It simply does not follow from the premise that something is more natural when it is relatively free of human interference that we must therefore always avoid interfering with nature (this is actually a point that Katz finally recognizes in a later paper, "Imperialism and Environmentalism"). It is a classic premise of holism in environmental ethics (the theory that obligations to the nonhuman natural world are to whole ecosystems and not to individual entities, a view that Katz endorses) that some interference is warranted when we are the cause of an imbalance in nature. For example, hunting of white-tailed deer is thought to be permissible under holism since humans have caused that species' population explosion. If such interventions are permissible to help "rectify the balance of nature," then why are there not comparable cases with the use of restoration as an aid to the original, real nature? We can

even imagine that such cases would be less controversial than holistic defenses of hunting.

There are cases where restoration, even if it results in the production of an artifact, does not lead to the domination described by Katz. Imagine a case in which the restoration project is one that will restore a corridor between two wilderness preserves. If there is positive natural value in the two preserves that is threatened because wildlife is not allowed to move freely between them, then restoration projects that would restore a corridor (by removing roads, for example) would actually not only be morally permissible but also possibly ethically required depending on one's views of the value of the nature in the preserves. This is not restoration as a second best to preservation or a distraction from preservation; it is restoration as an integral and critical part of the maintenance of natural value. So even if we agree with Katz that humans cannot really restore nature, it does not follow that they ought not to engage in restoration projects that actually repair the damage caused by past domination rather than further that domination.

Given objections like the two discussed so far, it is important to try to get a better handle on exactly what sort of damage is caused by domination in the sense described by Katz. It turns out that the worst damage to nature for Katz is domination that prevents the "self-realization" of nature:

The fundamental error is thus domination, the denial of freedom and autonomy. Anthropocentrism, the major concern of most environmental philosophers, is only one species of the more basic attack on the preeminent value of self-realization. From within the perspective of anthropocentrism, humanity believes it is justified in dominating and molding the non-human world to its own human purposes. (1997, 105)

Thus, the problem with restoration is that it restricts natural self-realization in order to force nature onto a path that we find more appealing.

3 With this clarification, we can then further object to Katz that his sense of restoration confuses restoration with mitigation. The force of the charge of domination is that we mold nature to fit our own human purposes. But most restorationists would counter that it is nonanthropocentric nature that

sets the goals for restoration, not humans. While there is indeed some subjectivity in determining what should be restored at a particular site (which period do we restore to?) and uncertainty about how we should do it (limitations in scientific and technical expertise), we cannot restore a landscape any way we wish and still have a good restoration in scientific terms. If Katz's objection is that when we restore a denuded bit of land, we are at least making something that fits our need to have more attractive natural surroundings – an argument he often makes – we can reply that because of the constraints on restoration (as opposed to mitigation), the fact that we find a restored landscape appealing is only contingently true. It is often the case that what we must restore to is not the preferred landscape of most people. The controversy over the "Chicago Wilderness" project [a decade long attempt to restore tens of thousands of acres of forest preserves around Chicago to their arguably original state as oak savanna and tallgrass prairie] is a good example of this: many local residents see restoration activities as destroying the aesthetically pleasing forests that now exist in order to restore the prairie and oak savanna ecosystems that were present prior to European settlement. But philosophically, because a restored landscape can never necessarily be tied only to our own desires (since our desires are not historically and scientifically determined in the same way that the parameters of a restoration are), then those desires cannot actually be the direct cause of any restriction on the self-realization of nature.

4 Finally, we must wonder about this value of self-realization. Setting aside the inherent philosophical problems with understanding what self-realization means in the case of nature, one has to wonder how we could know what natural self-realization would be in any particular case, and why we would totally reject a human role in helping to make it happen if we could discern it. In an analogous case involving two humans, we do not say that a human right to (or value of) self-realization is abrogated when a criminal who harms someone is forced to pay restitution. Even if the restitution is forced against the will of the victim, and even if the compensation in principle can never make up for the harm done, we would not say that somehow the victim's self-realization has been restricted by the act of restitution by the criminal. Again, there seems to be no clear argument here for why the moral obliga-

tion to try to restore has been diminished by Katz's arguments that we do not have the ability to really restore nature or pass off an artifact as nature.

Restoring Environmental Philosophy

If I am justified in setting aside the rest of Katz's arguments (KR1–3 and KR5) by accepting his claim that humans cannot restore real nature, what sort of conclusions can we draw about the role of philosophy in sorting out the normative issues involved in restoration? As it turns out, Katz gives us an insight that is helpful in figuring out the next step.

After explaining the harm we do to nature in the domination we visit upon it through acts of restoration, Katz briefly assesses the harm that we do to ourselves through such actions:

But a policy of domination transcends the anthropocentric subversion of natural processes. A policy of domination subverts both nature and human existence; it denies both the cultural and natural realization of individual good, human and nonhuman. Liberation from all forms of domination is thus the chief goal of any ethical or political system. (1997, 105)

Although not very clearly explained by Katz, this intuition represents a crucial point for proceeding further. In addition to connecting environmental philosophy to larger projects of social liberation, Katz here opens the door to a consideration of the consequences of restoration on humans and human communities. As such, Katz allows an implicit assertion that there is a value involved in restoration that must be evaluated in addition to the value of the objects that are produced by restoration.

But the problem with drawing this conclusion is that this passage is also perhaps the most cryptic in all of Katz's work on restoration. What does Katz mean by this claim? How exactly does restoration deny the realization of an individual human, or cultural, good? This claim can be made understandable only by assuming that some kind of cultural value connected to nature is risked through the act of dominating or otherwise causing harm to nature. But what is this value?

I think the value Katz is alluding to here, although he never explores it seriously, is related to the part of human culture that is connected to external, nonhuman nature. This is not simply a suggestion that we humans are part of nature; it also points out that we have a relationship with nature that exists on moral as well as physical terrain in such a way that our actions toward nature can reciprocally harm us. If this is the view implicit in this claim, then it is still consistent with much of the rest of Katz's larger views about the value of nature. We have a relationship with nature even if we are separable from it. I will accept this basic tenet of Katz's argument: we do exist in some kind of moral relationship with nature. And without fully explicating the content of that relationship, it seems that Katz is right in assuming that somehow our actions toward nature morally implicate us in a particular way. In the same sense, when we morally mistreat another human, we not only harm them but harm ourselves (by diminishing our character, by implicating ourselves in evil – however you want to put it). Katz is suggesting that our relationship with nature has a determinant effect on our moral character – or, perhaps more accurately, this suggestion is necessary for Katz's comment to make sense, even though he never expresses it himself.

If this assumption is correct, and if there is any truth in the arguments I have put forward so far that there can be some kind of positive value to our interaction with nature, then doing right by nature will have the same reciprocal effect of morally implicating us in a positive value as occurs when we do right by other persons. Perhaps Katz would agree. He would disagree, however, with the suggestion I would want to add: that there is some part of many kinds of restorations (if not most kinds) that contains positive value. Aside from the other suggestions I have already made concerning the possible positive content of restoration, one can also consider that the relationship with nature that is implied in Katz's view has a moral content in itself that is not reducible to the value of fulfilling this relationship's concomitant obligations. The relationship between humans and nature imbues restoration with a positive value even if it cannot replicate natural value in its products. But understanding this point will require some explanation.

Consider that if I have a reciprocal relationship with another human (in which I do right by them

and they do right by me), then, to generalize Katz's view, there is a moral content to both of our actions that implicates each of us as persons. Each of us is a better person morally because of the way we interact with each other in the relationship. But the relationship itself, or rather just the fact of the existence of the relationship, has a moral content of its own (or what we could call a normative content, meaning that the relationship can be assessed as being in a better or worse state) that is independent of the fulfillment of any obligations.

If this point of the possible separation between the value of a relationship and the value of the fulfillment of obligations does not follow intuitively, imagine a case in which two people act according to duty toward each other without building a relationship of substantive normative content between them. For example, I have a brother with whom I am not terribly close. While I always act according to duty to him – I never knowingly do harm to him, and I even extend special family obligations to him – I do not have a substantive relationship with him that in itself has a normative content. Thus, if I do not speak to him for a year, nothing is lost because there is no relationship to maintain or that requires maintenance for normative reasons. But if my brother needed a kidney transplant, I would give him my kidney unhesitatingly out of a sense of obligation – something I would not feel obliged to do for someone outside my family – even though I still do not feel intimately comfortable around him in the same way I do with my closest friends. (It isn't necessarily a disvalue, only a sense of indifference, a lack of closeness.) Our relationship as persons has no positive value for me – as distinct from my relationships with friends, which include a sense of intimate affection and care for each other. Thus I can have interaction with another person, even interaction that involves substantial components of obligation and duty (and, in Katz's terms, I will never put myself in a position to dominate the other person) but still not have a relationship with that person that involves any kind of positive value or that has normative standards of maintenance.

I don't think I have any obligation to have a relationship with normative content with my brother, even though my mother would like it if I did. But if I did have that kind of a relationship with him, it would have a value above and beyond the moral interaction I have with him now (the obligations I have to him, which can be iterated)

I think the value Katz is alluding to here, although he never explores it seriously, is related to the part of human culture that is connected to external, nonhuman nature. This is not simply a suggestion that we humans are part of nature; it also points out that we have a relationship with nature that exists on moral as well as physical terrain in such a way that our actions toward nature can reciprocally harm us. If this is the view implicit in this claim, then it is still consistent with much of the rest of Katz's larger views about the value of nature. We have a relationship with nature even if we are separable from it. I will accept this basic tenet of Katz's argument: we do exist in some kind of moral relationship with nature. And without fully explicating the content of that relationship, it seems that Katz is right in assuming that somehow our actions toward nature morally implicate us in a particular way. In the same sense, when we morally mistreat another human, we not only harm them but harm ourselves (by diminishing our character, by implicating ourselves in evil – however you want to put it). Katz is suggesting that our relationship with nature has a determinant effect on our moral character – or, perhaps more accurately, this suggestion is necessary for Katz's comment to make sense, even though he never expresses it himself.

If this assumption is correct, and if there is any truth in the arguments I have put forward so far that there can be some kind of positive value to our interaction with nature, then doing right by nature will have the same reciprocal effect of morally implicating us in a positive value as occurs when we do right by other persons. Perhaps Katz would agree. He would disagree, however, with the suggestion I would want to add: that there is some part of many kinds of restorations (if not most kinds) that contains positive value. Aside from the other suggestions I have already made concerning the possible positive content of restoration, one can also consider that the relationship with nature that is implied in Katz's view has a moral content in itself that is not reducible to the value of fulfilling this relationship's concomitant obligations. The relationship between humans and nature imbues restoration with a positive value even if it cannot replicate natural value in its products. But understanding this point will require some explanation.

Consider that if I have a reciprocal relationship with another human (in which I do right by them

and they do right by me), then, to generalize Katz's view, there is a moral content to both of our actions that implicates each of us as persons. Each of us is a better person morally because of the way we interact with each other in the relationship. But the relationship itself, or rather just the fact of the existence of the relationship, has a moral content of its own (or what we could call a normative content, meaning that the relationship can be assessed as being in a better or worse state) that is independent of the fulfillment of any obligations.

If this point of the possible separation between the value of a relationship and the value of the fulfillment of obligations does not follow intuitively, imagine a case in which two people act according to duty toward each other without building a relationship of substantive normative content between them. For example, I have a brother with whom I am not terribly close. While I always act according to duty to him – I never knowingly do harm to him, and I even extend special family obligations to him – I do not have a substantive relationship with him that in itself has a normative content. Thus, if I do not speak to him for a year, nothing is lost because there is no relationship to maintain or that requires maintenance for normative reasons. But if my brother needed a kidney transplant, I would give him my kidney unhesitatingly out of a sense of obligation – something I would not feel obliged to do for someone outside my family – even though I still do not feel intimately comfortable around him in the same way I do with my closest friends. (It isn't necessarily a disvalue, only a sense of indifference, a lack of closeness.) Our relationship as persons has no positive value for me – as distinct from my relationships with friends, which include a sense of intimate affection and care for each other. Thus I can have interaction with another person, even interaction that involves substantial components of obligation and duty (and, in Katz's terms, I will never put myself in a position to dominate the other person) but still not have a relationship with that person that involves any kind of positive value or that has normative standards of maintenance.

I don't think I have any obligation to have a relationship with normative content with my brother, even though my mother would like it if I did. But if I did have that kind of a relationship with him, it would have a value above and beyond the moral interaction I have with him now (the obligations I have to him, which can be iterated)

that aids in a determination of our moral characters.¹⁰ If we had a relationship with normative content, there would be a positive or negative value that could be assessed if I lost touch with him or ceased to care about his welfare. (I could very well claim that it would be better for me to have such a relationship with him, but this would require an additional argument.)

Consider further: If I wanted to rectify or create anew a substantive normative relationship with my brother, like the relationship I have with several close friends, how would I do it? One thing I could do would be to engage in activities with him – the same sorts of activities (let's call them material interactions) that I do with my friends now. I might work with him to put up a fence or help him plant his garden. I might begin to talk over my personal and professional problems with him. I might go on a long journey with him that demanded some kind of mutual reliance, such as white-water rafting or visiting a foreign city where neither of us spoke the native language. In short, although there are, of course, no guarantees, I could begin to have some kind of material relationship with him as a prelude to having some kind of substantive normative relationship with him. Many factors might limit the success of such a project: for one thing, the distance between the two of us – he lives in our hometown of Atlanta and I live in New York. So if I were really serious about this project of building a relationship between us that had value independent of the value of the fulfillment of our mutual obligations to each other, I'd have to come up with ways around these interfering factors. Importantly, though, I couldn't form a substantive normative relationship with him merely by respecting his right of self-realization and autonomy as a person; I would have to somehow become actively involved with him.

When we compare the case of the estranged brother to that of nature, many parallels arise. We know that we can fulfill obligations to nature in terms of respecting its autonomy and self-realization as a subject (in Katz's terms) without ever forming a substantive normative relationship with it. Assuming also that a kind of relationship with nature is possible according to Katz's scheme (for this is in part what we harm when we dominate nature), it is fair to say that a relationship consisting of positive normative value with nature is compatible with Katz's overall view of the

human-nature relationship. Because he says so little about what our positive relationship to nature could be, he is in no position to restrict it *a priori*. We also know that, as in the case of the estranged brother, we need some kind of material bridge in order to create a relationship with nature.

How do we build that bridge? Suggesting ways to overcome the gap between humans and nature (without necessarily disvaluing it) seems in part to be the role of environmental philosophy in questions of ecological restoration. Certainly, as in the case of my brother, distance is a problem. Numerous environmental professionals have emphasized the importance of being in nature in order to care for nature. Also, acts of preservation are important for there to be nature to have a relationship with. But what about restoration? Can restoration help engender such a positive normative relationship with nature?

It seems clear to me that it can. When we engage in acts of benevolent restoration, we are bound *by* nature in the sense that we are obligated to respect what it once was attempting to realize before we interfered with it. In Katz's terms, we are attempting to respect it as an autonomous subject. But we are also bound *to* nature in the act of restoring. In addition to the substantial personal and social benefits that accrue to people who engage in benevolent forms of restoration, we can also say that restoration restores the human connection to nature by restoring the part of culture that has historically contained a connection to nature. This kind of relationship goes well beyond mere reciprocity; it involves the creation of a value in relationship with nature beyond obligation. While it would take further argument to prove, I believe that this kind of relationship is a necessary condition for encouraging people to protect natural systems and landscapes around them rather than trade them for short-term monetary gains from development. If I am in a normative relationship with the land around me (whether it is "real" nature or not), I am less likely to allow it to be harmed further.

Specifying the parameters of restoration that help to achieve this moral relationship with nature will be the task of a more pragmatic environmental philosophy. As mentioned at the outset of this chapter, environmental pragmatism allows for and encourages the development of human-centered notions of the value of nature. Pragmatists are not restricted to identifying obligations to nature in the

existence of nonanthropocentric conceptions of value but may embrace an expression of environmental values in human terms. More adequately developing the idea of restoration in terms of the human-nature relationship is thus appropriately under the pragmatist's purview. More importantly, however, the value articulated here exists between anthropocentrism and nonanthropocentrism, fully relying on the capacities of both sides of the human-nature relationship.¹¹

We can even look to Katz for help in completing this pragmatic task. We don't want restorations that try to pass themselves off as the real thing when they are actually "fakes" (KR1) or are pursued through arrogance (KR2); nor are we interested in those that are offered as justifications for replacing or destroying nature (KR5). We would not want our comparable human relationships to exhibit those properties either. But even given the legacy of inhuman treatment of each other, we know that it is possible to restore human relationships in ways that do not resemble KR1, KR2, or KR5. There is, however, one possible concern to attend to in KR3, the artifact argument. Although earlier I said that the importance of KR3 is diminished by granting Katz's nature-culture distinction, there is a way that it can still cause us problems in grounding attempts at restoration in the positive value of strengthening the human-nature relationship.

If we allow Katz's claim that what has been restored is not really nature, then he may argue that we are not restoring a cultural relationship with nature but, in a sense, only extending the artifactual material culture of humans. At best, all we can have with restoration is a relationship with artifacts, not nature. Maybe he will allow that we improve our relationships with each other through cooperative acts of restoration, but this is not the same as a restoration of a relationship with nature itself.

But it should be clear by now that Katz would be mistaken to make such an objection for several reasons, stemming in part from my earlier remarks:

1 Even if we admit that restored nature is an artifact and not real nature, restored nature can also serve as a way for real nature to free itself from the shackles we have previously placed upon it. Restoration can allow nature to engage in its own autonomous restitution. Of the different sorts of restoration projects that I have mentioned earlier,

many amount to aids to nature rather than creations of new nature.

2 Even if restoration is the production of an artifact, these artifacts do bear a striking resemblance to the real thing. This is not to say that restorations can be good enough to fool us (KR1). Rather, it is simply to point out that an opportunity to interact with the flora and fauna of the sort most common in benevolent restorations will increase the bonds of care that people will have with nonrestored nature. If a denuded and abandoned lot in the middle of an inner-city ghetto is restored by local residents who have never been outside of their city, it will help them better appreciate the fragility and complexity of the natural processes of nature itself should they encounter them. The fact that restorationists are engaged in a technological process does not necessarily mean that their practices do not serve the broader purpose of restoring a relationship with nature. Similarly, while beginning some form of mediated communication with my brother (such as e-mail or regular phone calls) does not restore a fully healthy communicative relationship with him in the way that face-to-face conversation might, it still helps me get used to the idea of some form of immediate and substantive communication.

3 Finally, if Katz persists in his concern that the act of restoration reifies domination by reaffirming our power over nature through the creation of artifacts, we can say that exactly the opposite is likely the case (at least in the case of benevolent restorations) when the goal is restoring the culture of nature, if not nature itself. Restorationists get firsthand (rather than anecdotal and textbook) exposure to the actual consequences of human domination of nature. A better understanding of the problems of bioactivating soil, for example, gives us a better idea of the complexity of the harm we have caused to natural processes. In a much healthier way than Katz seems willing to admit, knowing about that harm can empower us to learn more precisely why we should object to the kinds of activities that can cause the harm in the first place. As a parallel human case, imagine a carrier of a disease that is deadly and contagious (but not, for some reason, fatal to her) who ignores warnings about taking precautions to avoid spreading the disease to other people. If that person passes on her deadly disease to others, would it not in the end benefit her to volunteer in a hospital ward full of people dying from this particular disease? If the

disease were incurable, she could never restore health to its victims even if she sought to (either out of reciprocity or a desire to form helpful normative relationships with others), but the experience might teach her the importance of taking precautions against giving the disease to others. Restoration similarly teaches us the actual consequences of our actions rather than allowing us to ignore them by restricting our interaction with nature to those parts we have not yet damaged.¹²

Conclusion

In a follow-up essay to "The Big Lie" called "The Call of the Wild," which used the image of the "wildness" in the white-tailed deer population at his summer home on Fire Island to help distinguish nature from culture, Katz embraced a kind of reciprocal relationship with nature. The wild white-tailed deer, which he admitted in the essay were now quite tame, were described as "members of my moral and natural community. The deer and I are partners in the continuous struggle for the preservation of autonomy, freedom, and integrity. This shared partnership creates obligations on the part of humanity for the preservation and protection of the natural world" (1997, 117). Surely we would respond that this relationship also creates obligations of benevolent restoration as well. If the deer were threatened with harm without a needed restoration of a breeding ground, for example, would Katz not be obliged to do it? And, in doing this restoration, would he not help to generate positive value in his relationship with those deer?

It seems clear that benevolent restorations of this sort are valuable because they help us restore our relationship with nature, by restoring what could be termed our "culture of nature." This is true even if Katz is correct that restored nature has the ontological property of an artifact. Restoration is an obligation exercised in the interests of forming a positive community with nature and thus is well within the boundaries of a positive, pragmatic environmental philosophy. Just as artifacts can serve valuable relationship goals by creating material bridges to other subjects, artifactual landscapes can help restore the culture of nature. Further defining the normative ground of benevolent restorations should be the contribution that

philosophy can make to the public consideration and practice of ecological restoration. It is a contribution directed at a larger audience, beyond the professional philosophy community, and aimed toward the practical end of helping to resolve environmental problems.

Notes

This chapter is based on a presentation originally given at a plenary session (with Eric Katz and William Jordan) of the International Symposium on Society and Resource Management, University of Missouri, Columbia, in May 1998. Subsequent versions were presented as the keynote address of the Eastern Pennsylvania Philosophy Association annual meeting, Bloomsburg University, November 1998; and at Georgia State University, the State University of New York at Binghamton, and Lancaster University in the United Kingdom. I have benefited much from the discussions at all of these occasions and especially from the helpful comments provided by Cari Dzuris, Cheryl Foster, Warwick Fox, Paul Gobster, Leslie Heywood, Bruce Hull, Bryan Norton, George Rainbolt, and Christopher Wellman.

- 1 If we accept Katz's position, a philosophical inquiry into restoration would actually be an investigation of some kinds of questions other than those legitimately posed by environmental philosophers. Since Katz argues that restored nature is only an artifact, philosophers of technology would presumably still be doing philosophy when they were involved in an investigation of ecological restoration. The suggestion that Katz is trying to define certain practices as outside the field of environmental ethics is no red herring. In a public forum discussing his work at the Central Division meeting of the American Philosophical Association in Chicago in 1998, Katz stated publicly that agriculture was not the proper purview of environmental ethics. Philosophers working on questions of ethics and agriculture could be doing agricultural ethics but not environmental ethics. Katz's original comments are forthcoming as "Understanding Moral Limits in the Duality of Artifacts and Nature," in *Ethics and the Environment*, 2002. The comments on agriculture, however, only occurred in the discussion at the session.
- 2 From the early aesthetic theory of Mark Sagoff (before he ever turned to environmental questions), one can also extract the following distinction to deepen the discussion of different kinds of benevolent restorations: (1) integral restorations, or restorations that "put new pieces in the place of original fragments that have been lost," and (2) purist

- restorations, or restorations that "limit [themselves] to cleaning works of art and to reattaching original pieces that may have fallen" (Sagoff 1978, 457). As it turns out, one can argue that integral restorations are aesthetically (and possibly ethically) worrisome, since they seem to create hybrid works of art (created by both the artist and the restorationist). But this does not really undermine the analogy with ecological restorations, since many of these restorations are more akin to purist restorations – for example, cleaning land by bioactivating soil – than to integral ones. Perhaps more common would be a subclass of purist restoration that we might call rehabilitative restoration – for example, cleaning out exotic plants that had been introduced into a site and allowing the native plants to reestablish themselves. Such activity is akin to the work of a purist art restorationist who corrects the work of a restorationist who had come before her. If a restorationist, for example, were to remove an eighteenth-century integral addition to a sixteenth-century painting, we would assume that this rehabilitative act was consistent with a purist restoration. I provide a much more thorough discussion of the import of this distinction for ecological restoration in Light (2002).
- 3 Katz has four main papers on restoration: "The Big Lie: Human Restoration of Nature" (1992), "The Call of the Wild: The Struggle Against Domination and the Technological Fix of Nature" (1992), "Artifacts and Functions: A Note on the Value of Nature" (1993), and "Imperialism and Environmentalism" (1993). All of these papers are collected in Katz (1997), and it is these later versions that I have drawn on for this chapter.
 - 4 Originally in "The Big Lie" (as are KR2–KR4). KR1 is restated later in "The Call of the Wild": "what makes value in the artifactually restored natural environment questionable is its ostensible claim to be the original" (Katz 1997, 114).
 - 5 KR3 is most thoroughly elaborated later in "Artifacts and Functions."
 - 6 The domination argument is repeated in "The Call of the Wild" (Katz 1997, 115) with the addition of an imported quote from Eugene Hargrove: domination "reduces [nature's] ability to be creative." The argument is also repeated in "Artifacts and Functions" and further explicated in "Imperialism and Environmentalism." As far as I can determine, though, Katz does not really expand the argument for domination in this last paper, except to deem imperialism wrong because it makes nature into an artifact (KR3).
 - 7 Originally in "The Call of the Wild" and repeated in "Imperialism and Environmentalism" (Katz 1997, 139).
 - 8 The forum here is the same as the one referenced in note 1.
 - 9 The absence of any perceptible progress in Katz's views following his debate with Donald Scherer is a case in point. Scherer spends too much time, I think, trying to advance a critique of Katz's ontology and metaphysics. The resulting debate appears intractable. See Scherer (1995) and Katz (1996).
 - 10 On a broader scale, just as there can be a town full of decent, law-abiding citizens, those citizens may not constitute a moral community in any significant sense.
 - 11 It is also the case that restoration will be only one of a large collection of practices available for adaptive management. Indeed, there could even be cases where something akin to mitigation (albeit a benevolent kind) rather than restoration would be justified if a claim to sustaining some form of natural value warranted it. In a project to clean up an abandoned mine site, for example, restoring the site to a landscape that was there before might not be the best choice; instead, a sustainable landscape that would help preserve an endangered species now in the area might be more appropriate. But overall, environmentalists must consider human interaction with nature to be an acceptable practice in order to begin the ethical assessment of any case of environmental management. I am indebted to Anne Chapman for pressing me to clarify this point.
 - 12 Katz can legitimately respond that there seems to be no unique reason why people couldn't have experiences that generate a closer relationship with nature as a result of activities other than restoration. Why couldn't we just use this sort of argument to encourage more acts of preservation, or to simply promote taking more walks though nature? Such an objection would, however, miss a crucial point. Even if it can be proved that we can have these kinds of positive experiences with nature through ways other than acts of restoration (and I see no reason why we couldn't), this does not diminish the case being built here: that restoration does not necessarily result in the domination of nature. The goal of my argument is not to show that restoration provides a unique value compared with other environmental practices, but only to reject the claim that there is no kind of positive value that restoration can contribute to nature in some sense. So an objection by Katz of this sort would miss the target of our substantive disagreement. Additionally, one could argue that (1) restoration does, in fact, produce some unique values in our relationship with nature and that (2) even if not unique in itself, restoration helps to improve other sorts of unique values in nature. A case for (2) could be made, for example, in Allen Carlson's work on the importance of scientific understanding for appreciating the aesthetic value of nature (Carlson 1995). Arguably, our experiences as restorationists give us some of the kinds of understandings of natural processes required for

aesthetic appreciation, in Carlson's view. Importantly, this understanding is a transitive property: it gives us an ability to aesthetically appreciate not only the nature we are trying to restore but also the nature we are not trying to restore. Restoration thus can provide a unique avenue to the aesthetic appreciation of all nature, restored or not. The main point, however, should not be lost: restoration is an important component in a mosaic of efforts to revive the culture of nature. Given that there is no reason to believe that it has other disastrous effects, restoration seems warranted within a prescribed context even if it is not a cure-all.

References

- Carlson, A. 1995. "Nature, Aesthetic Appreciation, and Knowledge." *The Journal of Aesthetics and Art Criticism* 53: 393-400.
- Elliot, R. 1982. "Faking Nature." *Inquiry* 25: 81-3.
- Elliot, R. 1997. *Faking Nature*. London: Routledge.
- Katz, E. 1996. "The Problem of Ecological Restoration." *Environmental Ethics* 18: 222-4.
- Katz, E. 1997. *Nature as Subject: Human Obligation and Natural Community*. Lanham, MD: Rowman & Littlefield Publishers.
- Light, A. 1996a. "Environmental Pragmatism as Philosophy or Metaphilosophy." In *Environmental Pragmatism*, edited by A. Light and E. Katz, 325-38. London: Routledge.
- Light, A. 1996b. "Compatibilism in Political Ecology." In *Environmental Pragmatism*, edited by A. Light and E. Katz, 161-84. London: Routledge.
- Light, A. 1996c. "Callicott and Naess on Pluralism." *Inquiry* 39: 273-94. [Expanded and reprinted as chapter 18 in this volume.]
- Light, A. 2002. "Faking Nature Revisited." In *The Beauty Around Us*, edited by D. Michelfelder and B. Wilcox, forthcoming. Albany, NY: SUNY Press.
- Light, A., and E. Higgs. 1996. "The Politics of Ecological Restoration." *Environmental Ethics* 18: 227-47.
- Sagoff, M. 1978. "On Restoring and Reproducing Art." *The Journal of Philosophy* 75: 453-70.
- Scherer, D. 1995. "Evolution, Human Living, and the Practice of Ecological Restoration." *Environmental Ethics* 17: 359-79.