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Nature Restoration as a Paradigm for the Human Relationship with Nature

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Throughout most of the twentieth century, preservation was the reigning nature-protection paradigm. On this view, protecting nature involves setting aside nature preserves and keeping them "untrammeled by man" (U.S. Congress 1964). For preservationists, nature's key value is its "naturalness" or "wildness," that is, the degree to which it is independent of human influence. According to this paradigm, humans are, by and large, separate from nature and human involvement with nature degrades it. Among the virtues preservationism promotes are moderation, humility, and fairness.

In the last quarter century, however, nature restoration has become the major competing paradigm for the protection of nature. Given increasing human alteration and degradation of nature and greater awareness and understanding of these effects—a problem made increasingly poignant by anthropogenic climate change—attempts to restore degraded nature have become a key environmental goal. Examples include a controversial but successful restoration of gray wolves to the Greater Yellowstone ecosystem and an ongoing multibillion-dollar attempt to restore parts of the Everglades. Fire is being returned to—rather than banished from—many fire dependent ecosystems. Dams are being removed for the first time in history, and there are numerous campaigns to remove human-introduced, invasive, exotic species.

The restoration paradigm has been articulated by way of challenges to preservationism. Restorationists claim that preserving nature won't save it; instead, we must restore nature if it is to continue. Among other factors, they point to damage to nature caused by global climate change as indicating the necessity of restoration for nature protection. Rather than locating nature's value in its lack of humanization (as do preservationists), restorationists see nature's value in its thriving biodiversity. Restorationists reject the conception of humanity as separate from nature

and argue that restoration is a virtuous way for humans to be part of nature. On their view, restoration is necessary both for nature and for human flourishing. Instead of moderation, humility, and fairness, restorationists stress the virtues of engagement, competency, and taking responsibility.

Important environmental figures sing the praises of restoration. For instance, MacArthur fellow Gary Nabhan has written: "The emergence of ecological restoration is . . . the most important environmental development since the first Earth Day. It allows people to participate in healing the wounds left on the earth, acknowledging the human power to create as well as to destroy" (1991, 4).

And writer Michael Pollan (2003) claims that "Ecological restoration is one of today's most constructive, hopeful, and provocative environmental movements." He identifies William Jordan III as "its leading visionary."[1]

Yet there have been many critics of restoration and the restoration paradigm, and environmental philosophers have been among the most vocal. Robert Elliot (1982, 1997), in his well-known paper and book *Faking Nature*, worries that restoration can be used to undermine preservation. He argues that if a restored nature were considered as good as original nature, it would be irrational to preserve nature rather than utilize/degrade nature and then restore it. Elliot rejects the "restoration thesis" and argues that a restored nature is not equally good as the original; instead, it is fake nature.[2] Like a replicated artwork, it is not as valuable as the original for it lacks the type of genesis that provides an important reason for valuing it. Rather than being a product of natural history, a restored nature is a product of human culture and technology.

Stanley Kane has argued that the restoration paradigm amounts to a paternalistic domination of nature: "By holding that humans are the lords of creation, restorationist metaphysics tolerates no enclaves anywhere kept free of human domination and control" (1994, 83). The restorationist manipulates and controls nature for its own good, deciding, for example, when nature will burn and what plants and animals are to be allowed.

Eric Katz, the dean of the anti-restorationists, joins Kane's view with Elliot's concern with inauthentic nature. Katz sees restoration as "The Big Lie":[3] "A 'restored' nature is an artifact created to meet human satisfactions and interests," he states. "It is an unrecognized manifestation of the insidious dream of the human domination of nature. . . . Humanity will demonstrate its mastery of nature by 'restor-

ing' and repairing the degraded ecosystems of the biosphere" ([1992] 1997, 95).

Katz claims that restored "nature" is an anthropocentric human artifact and "nothing more" (Katz 2007, 103). When we restore, he says, "we are creating artifactual systems–or at best, hybrid systems of natural entities and artifacts" (2000, 39) that resemble nature but are not authentic nature. Rather than healing nature and making it whole and healthy again, restoration is "putting a piece of furniture over the stain in the carpet" ([1992] 1997, 106).[4]

Should we accept nature restoration as the new environmental paradigm for a virtuous human relationship with nature and give up on the old environmental paradigm of preservation? Or instead, should we embrace the critics' contention that the restoration paradigm is deeply flawed and pernicious? I believe that ambivalence toward restoration and the restoration paradigm is most appropriate. The restoration paradigm presents serious challenges to preservationism and identifies important components of a healthy human relation to nature. But the restoration paradigm also involves deep confusions. Advocates of restoration are good at diagnosing problems in preservationism and criticizing its excesses, but their solutions fail to provide for what they show us we need. This much is clear: The debate between the restoration's proponents and its critics teaches us much about how we should conceive of the human/nature relation.

Strengths of the Restoration Paradigm

There is much of value in the practice of restoration and the restoration paradigm. I shall consider four points.

1 Restoration Can Help Nature

Restoration is an important and valuable human activity, and it need not be anthropocentric in motive or result. Not only can restoring degraded nature help humans, but also restoration has the power to help heal nature and let a degraded piece of nature once again flourish on its own. For example, the restoration of wolves to the Greater Yellowstone ecosystem is not just good for us (e.g., providing more exciting tourist visits and increased income for park-related businesses), but it also has made the gray wolf species more robust and it arguably has improved the health and integrity of the Yellowstone ecosystem. In many cases, restoration is needed for the sake of nature.

One might think that any thoughtful commentator on restoration would acknowledge this point. After all, even Eric Katz favors restoration: "Nothing I have said . . . should be taken as an endorsement of actions that . . . injure areas of the natural environment and leave them in a damaged state" ([1992] 1997, 105–106). "I believe that remediation of damaged ecosystems is a better policy than letting the blighted landscape remain as it is" (2002, 142).

But Katz can only endorse *anthropocentric* restoration, that is, restoration projects whose motive and result are for the benefit of humans. He cannot support restoration for nature's sake. On Katz's view, restoration creates artifacts or further artifactualizes ecosystems already affected—and thus artifactualized—by humans. Therefore for the sake of nature's value, the best we can do is to leave degraded nature alone. But it seems clear that restoration is needed not just for the benefit of humans but for nature as well.[5] Restorationists helpfully insist on this point.

2 Hands-off Preservation Is Not Enough

The restoration paradigm acknowledges the massive damage humans have caused (and continue to cause) the natural world. Preservationism ignores the extent to which human influences on nature are back-loaded and pretends that nature will be okay if we just leave it alone. But sometimes, as Jared Diamond (1992) insists, "We must shoot deer to save nature." Sometimes, human inaction can mean the further degradation of natural areas due to ongoing affects of past human action. Left alone, exotics introduced by humans can wreak havoc on native ecosystems, species, and individuals. It is arguable that, after decades of fire suppression, unless humans actively reduce fuel loads, fires on a scale that seldom would have occurred naturally will denude huge swaths of the landscape. Restoring predators to ecosystems from which they were extirpated can stop the ongoing degradation due to the overabundance of prey. Restoration recognizes the ongoing harm we have caused and seeks to make amends.

But this idea can be taken too far. Advocates of the restoration paradigm often overstate the necessity of restoration. For example, William Jordan, the founder of the journal *Ecological Restoration* and perhaps the most forceful proponent of the restoration paradigm, claims we will need to restore and manage the entire earth. "Preservation," he says, "is impossible. . . . All systems are constantly changing, and . . . this change reflects at least some degree of human influence" (1994, 19). The

Midwest's tall grass prairies and oak openings are examples where, Jordan says, "The entire native ecosystem has been virtually eliminated as a direct or indirect result of new kinds of human activities. . . . This situation is actually paradigmatic, however, and is true in the final analysis of all ecosystems everywhere" (19–20).

But it is not true that all human influence requires or justifies restoration. That humans have affected virtually the entire surface of the planet doesn't make preservation without restoration impossible. For example, a slightly higher level of acidity in Yellowstone's rain does not make restoration necessary. Nor does it mean that we are preserving an unnatural Yellowstone. Only a perverse fixation on absolute purity would lead to these conclusions.

One might argue that human-induced global climate change justifies the contention that we will need to restore the entire earth, especially if we want it to become natural again. For changing the climate in a region will have impacts on all the biota that live there and on much of the abiota as well. Such influence leads Allen Thompson (chapter 10, this volume) to conclude that humans are now accountable for the basic conditions of life on earth. Bill McKibben has famously argued that such massive human influence means that we are at the "end of nature": "*We* ended the natural atmosphere, and hence the natural climate, and hence the natural boundaries of the forests, and so on. . . . (1989, 78) There is no such thing as nature any more (89). As we heated the planet . . . we would change the flora and fauna *everywhere;* even at the poles or in the Adirondack wilderness, we now influence every physical system (1995, 10). Nature as something separate from man has vanished" (11).

For a variety of reasons I don't think global climate change has the conceptual power that McKibben in his early writing gives it. Nor do I think that it provides a justification for the claim that we need universal restoration or that it is desirable.[6] Here again a dominant motivation is a problematic desire for an absolutely pristine nature and the even more problematic insistence that real nature must be a virginal nature—untouched by man. But nature can be nature and remain natural even while impacted by humans to a significant extent. There are degrees of naturalness and being somewhat less natural does not entail being unnatural or losing the status of nature.[7]

Further, although caused by humans, the dramatic changes in nature that have resulted and will continue to result from climate change do not constitute human domination or control of nature. We neither intend nor control the consequences for nature and humans that climate change

brings. Moreover, climate change makes us more vulnerable to nature and less able to predict or control it. With climate change, nature is very much in charge, even though humans are responsible for pushing natural systems onto different trajectories. For these reasons, I do not think climate change has brought about (or will bring about) the end of nature or has placed us into, as McKibben has suggested, "a world of our own making" (1989, 85).

I do not belittle the harm that climate change can and is causing to humans, animals, plants, species, or ecosystems (and even to the naturalness of nature).[8] And I believe that restoration activities are an important response to this harm, including restoration with a strong emphasis on historical fidelity.[9] When warming ocean temperatures bleach coral reefs and subsequently kill them, humans are harmed (by loss of tourism and fisheries), habitat for fish species is destroyed, and spectacularly beautiful and amazing animals and ecosystems are wiped out. This is the end of very special individual pieces of nature. In so far as climate change threatens massive die offs of species and ecosystems, humans have responsibilities to try to mitigate and prevent these harms, and restoration must play a role. But I don't think it plausible to claim that virtually all species and ecosystems will need to rely on human intervention and restoration for their survival. Species and ecosystems can and do migrate as climate shifts, although the rapidity of human-caused climate change is a serious worry here. Some ecosystems and species are tolerant of a wide range of climate conditions. Moreover, it is likely that many of these species and ecosystems will adapt or evolve in response to a changing climate and the goal of preventing this adaptation or evolution, or recreating the previous climate regime—perhaps via geoengineering (see Gardiner, chapter 12, this volume)—will often result in much more heavy-handed human manipulation and management of nature that is involved in human-caused climate change. Nevertheless, restorationists are right that ongoing degrading effects of human impacts on nature require efforts at restoration and that a hands-off preservation policy is not sufficient.

3 Full Human Participation

A third insight of the restoration paradigm is that it insists on full human participation in nature. William Jordan has argued that preservation offers a severely limited human relation to nature. It limits people's role in nature to a nonparticipatory "take only pictures and leave only footprints." It makes humans visitors on the planet, instead of active,

contributing members. The restoration paradigm sees active human participation in nature as a necessary part of a healthy human/nature relation and views the self-abnegation in preservationism as incompatible with human flourishing.

Eric Katz defends such a nonparticipatory approach to nature when he writes:

> Here is my solution: as much as possible, we humans *leave nature alone*. To "let it be" seems to be to be the highest form of respect we can muster. . . . And while I leave it alone, I try to learn as much as possible about it, so that knowledge, respect, and love can all grow together. We can use the art object/nature analogy again. . . . If I respect a work of art, I show this respect by my mere appreciation, by learning about the artwork . . . I do not attempt to change the work of art . . . I do not attempt to improve it . . . Any intervention in the artwork itself will change its quality and value. My proper respectful role is to leave the physical object alone. (2002, 143)

For a "pure" preservationist like Katz, appropriate respect for nature is like appropriate respect for art: One should appreciate it and leave it alone.

But surely a healthy relationship with nature must involve more than this. I think Jordan is right that such a relation "must engage all our abilities . . . our physical, mental, emotional and spiritual capacities" (1994, 18–19). It should be a "working relationship" including "ecological interaction." Preserving wildland that we study, love, and leave alone is not the only dimension of a healthy human relationship with nature, though it certainly is one of them.

Elliot rejects the restoration paradigm's favorable attitude toward restored ecosystems that require continued human manipulation and management. The "ultimate aim implicit in the preservationist ideal is to achieve a situation from which humans are absent, except as respectful, careful and unobtrusive visitors" (Elliot 1997, 145). Defending the restoration paradigm in response, Steve Vogel argues: "Such an aim seems to me to express a deep alienation from nature and a failure to understand the human role in it. We are not visitors on Earth, and indeed we are never absent from it—not, nowadays, from any of it. Restoration's value, I think, would rather come precisely from our experience in it of our involvement in the world, our responsibilities regarding it" (2003, 165).

Visitor status for humans in designated wilderness areas is a good model. But Vogel is right that such a status is not the right way to think of humans' relation to the entire planet.[10] We need a more active,

participatory, involved conception of the human role in earthen nature than we get from modeling humans' relation to nature on how we should relate to wilderness areas or art objects.

We might reinforce this restorationist critique of preservation by calling attention to what might be called a tendency in preservationism toward human/nature apartheid. The belief that respect for nature requires such separation is based on the dubious idea that, as one commentator expresses it, "nature can be fully itself and thus have full value only when left undisturbed by humans" (Kane 1994, 71).[11] Philosopher John Visvader puts his finger on the problem when he argues "We need to understand both the 'natural' and the 'wild' in such a way that we can imagine giving more to the world around us than the gift of our mere absence" (1996, 18).

4 Positive Role for Humans

Finally, the restoration paradigm sees the need for a positive role for humans in nature. Restorationists criticize preservationism for lacking such a vision.[12] Insofar as it has a model for human's place in nature, preservationism would seem to embrace primitivism. On this view, benign human participation in nature requires that we "go back to the Pleistocene" and adopt a hunter-gatherer lifestyle.[13] Restorationists have pointed out that this conception of appropriate human community with nature would have us give up much of what makes for human flourishing (namely, the ongoing development of civilization and technology).

Restoration offers itself as the missing positive role for humans in nature. Restoring nature involves the active use of science and technology and thus, unlike preservationism's primitivist model, the restoration paradigm does not require repudiating these key achievements of civilization.[14] Jordan argues that restoration involves the "re-inhabitation of nature" "without abandoning the lessons learned on 'the pathway to the moon'" (1994, 23).[15]

Jordan and the restorationists are right to seek a positive, active role for humans in nature, one that uses the full range of human abilities. But this insight is tarnished when Jordan argues that this reinhabitation of nature can occur without giving up what he calls "the accouterments of civilization" (1994, 21). Jordan apparently thinks that the accessories, equipment, and furnishings of modern-day living do not get in the way of a positive role for humans in nature. But there will be no healthy human-nature community without reducing consumption and abandoning our environmentally unfriendly technologies and ways of life.

Weaknesses of the Restoration Paradigm

While there is much to learn from the restoration paradigm and particularly from its critique of pure preservationism, there are also serious problems with taking restoration as a positive model for human/nature relations. I will discuss four.

1 Restoration as Grandiose and Hubristic

First, the restoration paradigm tends to be grandiose and hubristic. William Jordan's description of the importance of restoration is particularly grandiose. "Restoration has the elements of a kind of ritual, even a sacrament, of reentry into nature' (1986, 25), he writes. "It's a way of participating in the Creation with a capital 'C'" (2002, 27). Furthermore: "While the preservationist in us continues to believe, with Columbus, that Eden actually exists . . . the restorationist has turned to a different task—the task not of finding an existing Eden, but of actually making it out of the raw materials in a landscape compromised by history" (1992, 3).

The hubris in restorationism can be seen in its contention that "nature needs us" in some fundamental way. Chicago environmentalist and noted restorationist Stephen Packard once suggested that those who restore should be seen as "parents" of nature. He writes: "It's an honor to be among the first to have a nurturing relationship with wild nature. . . . If we are dependent on nature, what's so terrible about nature being dependent on us too. . . . In some ways nature was our parents and now we're its parents. Now it depends on us" (1990, 72). Packard also notes, "A restorationist, like a parent, need[s] to protect an unsteady being from certain insults to its health or existence . . . [and] help some life go forward on its own" (1993, 14).

I find it presumptive to think that those involved in the contemporary restoration movement are trailblazers in having a nurturing relation with (wild) nature. One would think, for example, that native peoples—who saw their relation and use of nature in spiritual terms—had (and have) a nurturing relationship.[16] Traditional methods of farming and gardening might also justifiably be seen as nurturing. Or consider the practice of feeding birds or the activity of those individuals, like Johnny Appleseed, who have helped particular species flourish in new habitats. Additionally, the violence toward existing flora and fauna involved in many restoration projects (including those that Packard has supervised) gives lie to the notion that restoration is nurturing in its relationship with nature.[17]

Jordan argues that "shame" is necessary in our relationship with nature: "Restoration is shameful because it involves killing and a measure of hegemony over the land" (2003, 50). Those who have a nurturing relationship with another are not easily seen as engaged in shameful behavior toward them.

The suggestion that restorationists should be seen as parents of a child-like nature is equally presumptuous. Nature on earth really did produce human beings and continues to provide absolutely essential conditions and resources for human life. While it is true that restoration can return ecosystem processes that were absent in an area and bring back extirpated species, a healing metaphor is much more apt and far less tendentious than the model of parenting.[18] Even in cases where restoration results in new ecosystems in an area, such systems are not produced from scratch, but rather use preexisting ingredients. Flora and fauna are moved in, not constructed. The soil is rearranged, not produced. In restorations involving removal of exotics or human structures, or restorations that involve cleaning up harmful chemicals or trash, a janitorial model seems best.

Holmes Rolston's response to Packard's idea of humans as parents of nature is helpful: "The parent-child analogy is misleading," he writes. "Parents cease to operate as parents when they are dependent on us. Though, owing to the inevitable decline of individuals, parents will become dependent on their children, we do not want to cultivate those dependencies. Our parents are failing when these are required. Nature is not some failing parent that now needs to become dependent on us" (1994, 201).

It is misleading and arrogant to think of nature as old and worn out, as no longer able to provide for us, and as now needing us to take care of it. Further, to the extent it is true that some elements of nature have become dependent on us for their continued existence, this is not something to be celebrated. In many cases, what these pieces of nature need from us is to stop attacking them and to leave them alone. There remains a good deal of truth in the preservation perspective. Far from needing us, much of nature would be far better off without humans on the planet.[19] Even in cases where active human restoration is required (e.g., with endangered species such as the California condor or the red wolf), humans act much more like physicians who transplant organs than parents who give birth.

Part of what is objectionable is the suggestion that nature *as a whole* has become dependent on our restoration activities, rather than particu-

lar elements and forms of nature being so dependent. Jordan claims that: "It seems obvious that . . . the fate and well-being of the biosphere depends ultimately on us" (1994, 27). Stephen Jay Gould's response to the often-heard suggestion that humans must save the planet points out the scientific ignorance and moral failings involved in this suggestion. He writes:

> Such views . . . are rooted in the old sin of pride and exaggerated self-importance. We are one among millions of species, *stewards of nothing*. By what argument could we, arising just a geological microsecond ago, become responsible for the affairs of a world 4.5 billion years old, teeming with life that has been evolving and diversifying for at least three-quarters of that immense span? . . . We are virtually powerless over the earth at our planet's own geological time scale. All the megatonnage in our nuclear arsenals yields but one ten-thousandth the power of the asteroid that might have triggered the Cretaceous mass extinction. Yet the earth survived that larger shock . . . [which] paved the road for the evolution of large mammals, including humans. We fear global warming, yet even the most radical models yields an earth far cooler than many happy and prosperous times of a prehuman past. We can surely destroy ourselves, and take many other species with us, but we can barely dent bacterial diversity and will surely not remove many million species of insects and mites. On geological scales, our planet will take good care of itself. . . . Our planet simply waits. (Gould 1990, 217)

The picture of the restorationist as a nurturing parent creating Eden out of a needy nature is grandiose and arrogant.[20]

2 Ignores the Value of Wildness

A second major problem with restorationism is that it is insufficiently appreciative of the value of wildness in nature. For the most part, restorationists seem blind (or openly hostile) to the value of nature as other, to having a world that is not of our own making, and to the importance of minimizing human impacts on nature. I believe that any appropriate appreciation of nature and any proper conceptualization of the human role in nature must place significant evaluative weight on naturalness and particularly on nature's autonomy, that is, the degree to which a natural entity is not dominated or controlled by humans.[21]

Jordan hopefully predicts that "restoration will become the principal outdoor activity of [the] next century and the result will be the conversion of nature from . . . 'environment' into habitat for human beings" (1994, 23). One wonders if this includes what is commonly thought of as wild nature, namely, national parks, wilderness areas, mountains, and deserts. Restorationists see no problem at all with, as Jordan puts it,

"leaving a distinctively human mark on the landscape" (17). Ongoing human management of restored landscapes is not seen as a problem but as a positive opportunity for human involvement in nature. On the restoration paradigm, it seems, nothing is off limits, as long as humans are helping to restore degraded nature. This perspective ignores the value of having some earthen biotic nature free from human control and manipulation.

Jordan's use of a garden metaphor clearly illustrates this insensitivity to the value of wildness in nature. Jordan has characterized ideal nature as a type of human garden. He argues: "Whether we wish to admit it or not, the world really is a garden, and invites and even requires our constant participation and habituation" (1986, 25). "Restoration," he writes, "is that form of gardening concerned specifically with gardening, maintenance, and reconstitution of wild nature and is the key to a healthy relationship with it" (1994, 18). Appreciation of the value of nature as other and respect for nature's autonomy are not compatible with conceiving or treating nature as if it were significantly like a human garden. (In his later writing Jordan explicitly takes back this unfortunate metaphor.)[22]

3 Restoration Not a Net Benefit

A third major problem with the restoration paradigm is that it misconceives restoration as providing a net-benefit to nature, instead of an attempt to heal or engage in restitution for harms caused. Jordan claims, "ecological restoration provides a basis—actually a paradigm—for a healthy, mutually beneficial relationship between ourselves and the natural landscape" (1994, 18). Jordan sees restoration as a human gift to nature. It is, he says, "Our gift back to nature. The restored ecosystem is something that we offer nature in return for what nature has given us. . . . It represents what is in a sense our best gift" (Jordan 2000, 25).[23] But to degrade some natural entity or system and then attempt to restore it (even successfully) is clearly not to benefit nature or give it a gift. Instead, restoration is restitution for past harm and cleaning up of our mess. When a wife-beater gives his victim first aid, it is not a "gift" or net benefit. When an oil "spill" soaks beaches, cleaning it up is not a gift or net benefit to nature. When we restore wolves to an ecosystem from which we eradicated them, this is an attempt to make amends for past wrongs, to put back what we have taken away. Concepts like "gift," "benefit," and "exchange" do not help us understand what we are doing when we restore a nature that we have degraded.

It is often true that individual humans who help restore a piece of nature may not have been directly involved in its destruction. Thus one might be tempted to claim they are providing a benefit or giving a gift to nature. But given that virtually all of us who live in modern industrial societies have in some ways benefitted from the wholesale destruction of natural entities, restoration by such individuals is still best seen as an attempt to make amends rather than bestowing gratuitous benefits.

4 Restoration Presupposes a Destructive Relation

Finally, restoration's positive vision for the human/nature relation fails as it rests on a prior destructive relationship with nature. As we have seen, Jordan argues that restoration is an avenue for human "re-entry" into nature, that restoration is a paradigm for a "healthy" human relationship to nature, that it is a model for human "community" with nature, and that it is the basis for a "new communion with nature."

Although not advocating restoration as a paradigm for the human relation to nature, Andrew Light (2000) also has characterized restoration as a positive relation to nature. He has promoted restoration for its ability to recapture what he calls "the culture of nature," by which he means (in part) humans being in nature, working with it, and thereby coming to understand more about it. Light distinguishes between malicious and benevolent restorations: Restorations are malicious when they are used to justify past harm to nature, whereas benevolent restorations are "undertaken to remedy a past harm done to nature although not offered as a justification for harming nature" (54). According to Light, "benevolent restorations . . . are valuable because they help us restore our relationship with nature" (67). "Restoration," he says, "is an obligation exercised in the interests of forming a positive community with nature" (ibid.).

Focusing solely on the positive dimensions of restoration ignores its essentially regrettable character. Although restitution and reparation are important parts of healthy communities, they only exist to rectify mistakes made by community members. An ideal community would not need such institutions. We certainly would not build healthy relationships and community with others based on policies that promoted members harming each other so that restitution becomes possible. The same point applies to our relationship with nature. Restoration involves an attempt to undo harm. Thus the restoration paradigm suggests that the proper role for humans in nature is first to degrade nature, then to attempt to fix it. This is not a positive vision of humanity's role in nature.[24] Humans

must find a type of participatory relationship with nature that doesn't presuppose degrading nature to begin with.

Conclusion

What is needed is a conception of human flourishing that does not feed on the wholesale destruction and domination of nature. We must reject the supposition that culture, civilization, and technology—essential aspects of what make us human—necessarily destroy or dominate nature. If this were true, then perhaps restoration—or pure preservationism's human/nature apartheid—would be the best we could do in our relationship with nature. It is noteworthy that both Jordan and Katz—respectively, the strongest advocate of the restoration paradigm and a major defender of pure preservationism—share this faulty assumption that humanity necessarily degrades and dominates nature.

To understand the possibility of such a positive relationship between humans and nature we need to distinguish between respectful human *use* of nature and human *abuse* of nature. We must distinguish between human influence on, modification of, and involvement with nature on the one hand, and human domination and control of nature on the other. Humans can use nature and be involved with it while respecting its autonomy, as long as they do not massively impact nature or try to dominate or control it. It is only the abusive, domineering human impacts on nature that require restoration.

A key dimension of such a healthy, nondestructive, and nondomineering human relation with nature is ensuring an appropriate human scale on the planet. This would involve many fewer people, modest consumption levels, and use of the most environmentally friendly technologies. In this context, human impacts on nature would not be unfair or otherwise wrong. Far greater levels of wild nature would flourish than do so in today's overpopulated, overconsumptive societies, with their inefficient and lethal technologies. Humans would not be extirpating other forms of life or wiping out ecosystem types. We would not be altering (or managing) global climate or arrogantly spewing our pollutants all over the planet. Humans would certainly be using nature and altering its course, but only on a local scale with harmful impacts limited to individuals.

On such a scale, human use of nature could be respectful and just, and thus it would not require restitution or reparations. Restoration of nature would not be morally required and would seldom be useful.

Nature could typically heal itself from the minimal harms we cause it when we live modestly and responsibly on the planet.

Humans have caused and continue to cause massive damage to nature. Preservationists are right to insist that this arrogant and unjust despoliation must stop. We can and ought to help nature heal from this assault and the restoration movement is a praiseworthy acknowledgment of this power and responsibility. But restoration is a short-term and fundamentally regrettable way of relating to nature. Put forward as an ideal for the positive human relationship to nature, it is grandiose, hubristic, and insensitive to the value of wild nature and to the limited role restoration can play in that relationship. In addition to the fundamental problem that restoration rests on past abusive treatment of nature, global climate change may well limit the possibility of restoration as an appropriate response to this abuse. Ron Sandler, in chapter 3 of this volume, persuasively argues that global warming will make reconciliation an increasingly important environmental virtue. While I think there is clearly an ongoing role (and obligation) for restoration in the short term, putting up with and working with the ecological changes we have caused (Sandler's "reconciliation") will often make more sense than attempting to strong-arm species and ecosystems into climates into which they no longer fit (or geoengineering climates appropriate to them).

I conclude that restoration plays only a minor role in a healthy human/nature relation. Restoration as an ideal of the paradigmatic relationship with nature only makes sense given the current and past abusive human treatment of nature. Virtuous human flourishing on the planet would not include restoration of nature as a central feature. While much can be learned from the movement to restore nature—particularly how to avoid the pitfalls of pure preservationism—restoration does not provide a paradigm for the ideal human relationship with nature.

Notes

1. I focus on Jordan's account of restoration in 1986, 1994, 2000, 2002, and 2003.

2. Elliot has moderated his anti-restoration views significantly in his more recent book (Elliot 1997), arguing that a restored nature lacks a particular (though very important) component of natural value (namely, a nonhuman genesis) and not that it lacks all natural value.

3. I focus on Katz's views of restoration in [1992] 1997, 2000, 2002, and 2007.

4. There have been many critiques of Katz's views on restoration. For one of the most useful, see Vogel 2003.

5. I do not intend to embrace the idea that nature has a good of its own in anything like the sense in which sentient animals do. Acting for the sake of nature or to benefit nature should be interpreted as acting in a way that increases nature's value in a way other than its instrumental value to humans.

6. I am also skeptical of Thompson's idea that it is desirable for humans to take responsibility and manage the global climate. Even if it were true that "collectively our actions determine the basic conditions for the existence of all life on Earth" (Thompson, chapter 10, this volume), a claim that seemingly ignores the massive contribution of nature to these conditions, it would be far more desirable (and virtuous) if humans were to limit their use of this Promethean power and do what they can to return control of these conditions to natural processes. I view humans taking responsibility for the global climate as a vice: it is an excess of responsibility, a hyperresponsibility, that contributes to undermining the centrally important, given, gifted character of our world. Compare Gardiner, chapter 12, this volume.

7. See Ross 2006 for some useful analysis and examples of this idea.

8. For a discussion of some of these affects, see both Sandler, chapter 3, and Bendik-Keymer, chapter 13, both this volume.

9. For discussion and defense of the importance of historical fidelity in restoration, see Throop, chapter 2, this volume.

10. I do not think Elliot intended his remark about how we should relate to restored ecosystems to be generalized to our relation to all of nature on earth.

11. Kane is criticizing the view expressed in the quote, not embracing it.

12. Eric Katz argues that it is dangerous to articulate a positive vision of humans' role in nature (2002, 143). Given the extent of human manipulation of the earth and the extensive damage we have caused, there is risk in promoting a positive vision of humans' place in nature. It is imperative that humans reduce their impact on the natural world and that we clean up our mess. But humans live on earth and must use nature to survive. We need a theory that characterizes an appropriate human *use* of nature. Katz's art appreciation model and, more generally, the preservationists' visitor-in-a-wilderness model offer no help in this regard. (But Kawall, chapter 11, this volume, might.—eds.)

13. Alternatively, preservationism might embrace a "high-tech" model and advocate the use of the most sophisticated modern technology for the purpose of limiting human impact and involvement with nature.

14. This criticism is only fairly aimed at the primitivist (i.e., low technology) version of preservationism. As noted above, preservationists could embrace and use science and technology to limit our interaction with nature, as well as to study, understand, and appreciate it.

15. Jordan is here quoting Eiseley 1970, chap. 7.

16. However, many native societies did not avoid the tragedy of the commons, a point that leads one to question human foresight. Compare Hirsch and Norton, chapter 2, this volume.

17. For a powerful critique of the methods and goals of one restoration project with which Packard was involved, see Mendelson, Aultz, and Mendelson 1992.

18. For a defense of understanding restoration in terms of a healing metaphor, see Throop, chapter 2, this volume.

19. Paul Taylor (1986, 114–115) makes this case powerfully:

It seems quite clear that in the contemporary world the extinction of the species *Homo sapiens* would be beneficial to the Earth's Community of Life. The destruction of natural habitats by housing developments, industrial complexes, airports, and other large-scale projects would cease. The poisoning of soil and pollution of rivers would come to an end. The Earth would no longer have to suffer ecological destruction and widespread environmental degradation due to modern technology, uncontrolled population growth, and wasteful consumption. After the disappearance of the human species, life communities in natural ecosystems would gradually be restored to their former healthy state. Tropical forests, for example, would again be able to make their full contribution to a life-sustaining atmosphere for the whole planet. The lakes, oceans, and wetlands of the world would slowly become clean again. Spilled oil, plastic trash, and even radioactive waste, after many centuries might finally cease doing their terrible work. . . . Our presence, in short, is not needed.

20. It is worth considering to what extent the preceding criticisms of the restoration paradigm's suggestion that nature as a whole is dependent on us to take care of it applies to Allen Thompson's idea (chapter 10, this volume) that human goodness in today's world requires that we responsibly manage the earth's global climate and basic ecological conditions.

21. For a defense of the value of wildness/naturalness, see Hettinger and Throop, 1999. For a discussion of the importance of the distinction between human influence on nature (its degree of naturalness) and human control of nature (its lack of autonomy), see Hettinger 2005. Steven Vogel (chapter 15, this volume) raises a host of provocative objections to the distinction between humans and nature that the value of wildness presupposes.

22. Jordan abandons the naive garden metaphor and directly addresses the problem that gardening suggests an unacceptable type of control and manipulation of nature: "Restoration is not . . . domestication. It does . . . involve manipulation and is a form of agriculture . . . but . . . it is agriculture in reverse. If the gardener . . . takes charge of the landscape, the restorationist does just the opposite. . . . Restoration amounts to a deliberate attempt to liberate the landscape from management" (Jordan 2000, 27–28). He therefore helpfully characterizes restoration as "re-wilding" rather than gardening. In his later book (Jordan 2003), Jordan distinguishes restoration from traditional gardening (which he argues is a creative activity) by arguing that restoration "is valuable as a special form of gardening that is . . . explicitly *noncreative* with respect to objectives, neither improving on nature nor improvising on it but attempting, blankly, to copy it" (24). He also reiterates his idea that restoration attempts to free nature from human control: "While agriculture ordinarily involves bringing nature under control to a certain extent, simplifying an ecosystem in order to exploit

it more effectively for some human end, restoration does just the opposite, recomplicating the system in order to set it free, to turn it back into or over to itself, with a studied indifference to human interests" (87). For an evaluative survey of guiding metaphors in restoration ecology, see Throop, chapter 2, this volume.

23. The notion that restoration is a gift back to nature continues throughout Jordan 2003.

24. While benevolent restorations (in Light's sense) should often be undertaken and are the right thing to do, they are attempts to make the best of a bad situation. Light uses the analogy of a human carrier of disease who ignores warnings and infects other people. He then asks: "Would it not in the end benefit her to volunteer in a hospital ward full of people dying from this particular disease?" (2000, 66–67). While the answer is clearly yes and (as Light points out) she would learn a lot about the wrong she had done, this is not a model for positive community relationships. Restoration is a necessary step as we begin to repair our relationship with nature. But a future positive human/nature relationship would avoid the need for restoration in the first place.

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