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Does 'Restoration' Necessarily Imply the Domination of Nature?

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ABSTRACT

'Restoration' is a contested term holding important implications for public policy decisions in the areas of land development and use. A number of environmental philosophers including Eric Katz and Robert Elliott have argued against 'restoration', on the principle that human efforts can never restore natural landscapes to their pre-disrupted value, and that the assumption of our ability to do so implies 'domination'. This paper argues that restoration attempts should not be dismissed 'out of hand', and can be conducted outside of a 'dominator logic' provided four criteria are enacted: 1) humans see their role as co-creators working alongside nature, 2) the aim of restoration is seen to be increase of land health and biodiversity 3) there is a commitment to learning from the land and 4) the land's own 'projects' (Plumwood) are taken into account.

KEYWORDS

Restoration, environmental ethics, land development, re-inhabitation, land health

'Restoration is about accepting the brokenness of things, and investigating the emergent property of healing.'

Stephanie Mills, *In Service of the Wild*

In his article 'The Big Lie: Human Restoration of Nature' Eric Katz argues that restoration projects 'involve the manipulation and domination of natural areas ... nature is not permitted to be free, to pursue its own independent course of development. The fundamental error is domination, the denial of freedom and autonomy' (Katz 1992: 105).

This article challenges Katz's assertion that restoration necessarily implies and involves the domination of nature. It sets out to reveal and critique the assumptions Katz holds in taking such a stance. It considers restoration outcomes in terms of their ability to reinstate value into damaged landscapes, drawing on the writings of Elliot (1982, 1994a, 1994b) Gunn (1991) and Sylvan (1992). Two additional terms, 're-habilitating' and 're-inhabiting' are explored in terms of the particular insights and possibilities they contribute to the debate.

The paper proceeds by suggesting the kinds of assumptions that might inform a restoration ethic that did not dominate nature. Four hallmarks of such an approach are considered: humans seeing themselves as facilitators or co-creators in restoration efforts, a commitment to learning from the landscape itself, an assumption that the landscape has its own agency and projects, and seeing the aim of restoration as to engender land health and increased bio-diversity. The argument concludes by suggesting that if restoration could be enacted through an ethic of 'co-creation', the resulting value might in some way replace that lost through ecosystem degradation.

In the first instance, Katz's argument is summarised and critiqued.

KATZ'S ARGUMENT

The position from which Katz begins is the empirical fact that 'the idea that humanity can restore or repair the natural environment has begun to play a part in decisions regarding environmental policy' (Katz 1992: 94). He suggests this development could be viewed optimistically; that it could indicate the extent to which humans recognise the damage they cause nature and feel duty-bound to 'correct these harms'. Policy makers and environmentalists are not the only ones to be turning their attention this way, he also cites Paul Taylor's (1986) notion of 'restitutive justice' in suggesting that philosophers, too, are concerned with ensuring their environmental ethics include an obligation to repair damaged natural systems.

Katz dismisses the idea that humans can restore natural systems, and argues that this notion is indicative of a more general hubris, whereby humans believe that we and our technology are capable of restoring damaged land. He suggests this misapprehension is 'an expression of an anthropocentric world view, in which human interests shape and redesign a comfortable natural reality' (Katz 1992: 95). In undertaking restoration efforts, humans, according to Katz, are exercising their incorrect assumption that they have the ability to do so and can reign supreme over nature.

The argument he consequently constructs focuses on the idea that a reconstructed nature is an 'artefact' rather than a natural entity. He defines artefacts as '(things) which are technologically created, are not equivalent to natural

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objects, but that the precise difference, or set of differences, is not readily apparent' (Katz 1992: 97).

What is an artefact?

According to Katz, (quoting Brennan 1984) artefacts have a nature which is comprised of three features: 'an internal structure, a purpose, and a manner of use'. In contrast to artefacts, natural objects lack purpose, that is they do not evolve with *human* purposes or functions in mind.¹ According to Katz, 'once we begin to redesign natural systems and processes, once we begin to create restored natural environments, we impose our anthropocentric purposes on areas that exist outside human society' (Katz 1992: 98).

Katz illustrates this point by way of reference to the views of a 'sustainable forester' Chris Maser. Katz quotes Maser making assertions such as, 'We need to learn to see the forest as the factory which produces raw materials ... to meet our common goal: a sustainable forest for a sustainable industry for sustainable environment for a sustainable human population' (Katz 1992: 99). The implication inherent in this formulation is that the primary purpose of a forest is to be a resource available to human ends. The 'our' which is cited in the phrase 'our common goal' is clearly a human-centred 'our', it does not incorporate all of those lives and entities for whom the forest has value and meaning, including the creatures that live within it or indeed the forest itself. Such a statement, which places human needs so centrally and singularly within the decision-making process of how to sustain a wood, could be seen to support Katz's view that restoration is necessarily anthropocentric.

He is equally dismissive of Steve Packard's work with The Nature Conservancy in the US. Packard is Science Director of the Illinois Chapter of Nature Conservancy and was a key instigator of prairie and savannah restoration programmes in western Illinois. Packard gives the impression of taking a different stance from that of Maser on the purpose and means of restoring damaged ecosystems. For instance, in talking about how he feels as he walks through Somme Woods, land which has been restored by Packard and his team of volunteers (which Mills in her retelling of her time with Packard calls a 'postage stamp of healthy land') he says:

... (I) like to forget that I and others have had anything to do with this place, this recovering eco-system. It is as it should be, and that is the point. (p 140)

Packard implies that the objective of such a restoration project is not to make the land available for human uses, but to enable it to regain its own unique ecological identity. Katz does acknowledge the distinction between Maser's and Packard's intentions, but still disapproves of Packard's work, suggesting: 'even this more benign and less interventionist project of ecological restoration is based on problematic assumptions about the management of nature' (Katz 1992:

100). So, for Katz, the fact that Packard uses fire (a natural force, certainly, but accelerated ‘un-naturally’) and artificial seeding processes (involving human decisions about the placement and release of seeds) in his restoration projects reveals anthropocentric motives. He is further outraged by the proof Packard uses to support his actions, the 1913 law establishing the Forest Preserve District, which ends with the exhortation that restoration efforts should be undertaken, ‘for the purpose of the education, pleasure, and recreation of the public’. It seems that for Katz, any indication that human beings might gain any enjoyment or well-being from a restored landscape means it is done for human purposes, and is therefore wrong.

As the essay ends, Katz asserts, ‘the attempt to redesign, recreate, and restore natural areas and objects is a radical intervention in natural processes.’ Although he concedes there are different levels of intervention (Maser’s sustainable forest he views as better than a tree plantation), he nevertheless concludes:

all of these projects involve the manipulation and domination of natural areas... (they all) involve the creation of artefactual natural realities, the imposition of anthropocentric interests on the processes and objects of nature. Nature is not permitted to be free, to pursue its own independent course of development. The fundamental error is thus domination, the denial of freedom and autonomy. (Katz 1992: 105)

Assumptions underpinning Katz’s account

Although he does not articulate the assumptions informing his stand, it can be inferred that Katz takes the following ideas as given:

- Humans are essentially un-natural beings, and therefore any actions they take in the landscape are ‘un-natural’ interventions. Furthermore ‘natural’ processes are more legitimate, have greater ‘good’ than ‘un-natural’ ones.
- A restored landscape remains an artefact indefinitely – natural processes don’t play a (significant) part in the restoration effort.
- Restoration is only ever undertaken for human benefits.
- Restoration and domination are invariably linked.

Each of these points will be considered in turn.

Firstly, Katz does briefly address the human/nature distinction. He defines natural as that which is independent of the actions of humanity and concurs that in reality, such pristine natural environments do not exist in today’s world. Secondly, he concedes that as naturally evolved creatures, humans are also natural to some extent. Accordingly, human actions which are the result of evolutionary adaptations, which are free of the control and alteration of technological processes, can be considered natural. However, he seems to see any

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effort to restore landscapes on the part of human beings as being 'un-natural'. This categorisation seems to be based on the un-natural technologies which humans bring to such enterprises. Although he concludes that the terms are not absolutes and perhaps should be thought of existing along a continuum, when it comes to land restoration, he seems to see human involvement as outside of any naturally evolved human behaviour.²

I wonder at this stance, however. Is it possible that there might exist within humans an in-built natural desire to help heal those entities which are perceived as ailing or hurt (particularly if one feels in any way responsible for the damage caused)? This would certainly seem to be a possibility from the stories Stephanie Mills tells of restoration efforts in the US and India in her book, *In Service of the Wild*. In the experience of Laurel Ross, co-ordinator of the Volunteer Stewardship Network working in savannah and prairie restoration in Illinois, getting involved with restoration work is as 'natural' to human beings as raising children or making art:

The reason that people are so willing to work so hard (in the Network) is that they are looking for something meaningful to do ... People think of raising their children as important. People think of making art as important. This is right up there. It's more important to a lot of people than their jobs (Mills 1995: 144-5).

The viability of the notion that it is in some way natural for humans to want to help damaged land, and that it is possible for them to do so in ways that are likewise natural, might depend on the extent to which humans are seen as naturally placed within landscape. Are we (as some would argue) transients on planet Earth, without it being our true home, in which case our capacity to act naturally within it might be acutely limited? Or, alternatively, are we creatures who may have lost our sense of place, but who ultimately can experience a profound sense of belonging within the natural world, and through that connectedness discover natural ways to engage and interact with it? If the latter stance is assumed, restoration might indeed be a wholly natural response to healing the place we consider home. This line of inquiry will be further explored during the discussion of 're-inhabitation', taken up later in the paper.

The second of Katz's assumptions that I should like to call into question is his assertion that restored landscapes are necessarily artefactual, rather than natural.

Sylvan questions whether or not it is accurate to label a restored landscape an artefact in the first place. He purports that 'an artifact involves substantial mixing of human labour, far more than with restored natural areas'. Furthermore, he suggests that 'restoration results primarily by nature doing its own thing, it is nothing like furniture or pottery making' (Sylvan 1992: 21). Sylvan argues that the ecological restorer does not produce the item, there is no 'making'. Perhaps the discrepancy in stance Katz and Sylvan take can be attributed to two factors: their conception of the process of restoration, and the kind of

land which is being restored. Sylvan seems to see the process of restoration as one that is primarily undertaken by natural forces themselves. Humans may assist the process by removing invading species or reseed native ones, but it is nature which responds and creates the restored landscape. Humans are not solely responsible for the making of a restored landscape in the way that they can mould and sculpt an artwork, for instance.

Of course the extent to which this is strictly true depends on the type of site being restored. The example of the restoration of the savannah in western Illinois seems to illustrate Sylvan's point in a way that restoring country house gardens to a former historic period, might not. However, even if one were to accept that a landscape which has been technologically modified becomes a human product, I wonder how long it would necessarily retain this status as artefact? What of the 'natural processes which inevitably take over once humans have completed their intervention? Do these natural processes not count just because humans had had some role in establishing a certain kind of ecosystem? Perhaps this element of Katz's argument is itself overly anthropocentric, in that it denies nature any part in the restoration process itself. Rather than acknowledging that restoration of landscape cannot happen unless nature itself plays a role, he seems to view nature as a completely passive recipient of humans' goals for it. But the truth of restoration efforts, as so well documented by Aldo Leopold in his recounting of the Sand County farmstead which he and his family restored, is that nature determines which species survive and thrive, along with the overall balance of a restored landscape (Leopold: 1974).

The third point at issue is the assumption Katz makes that restoration is only ever undertaken for human benefit. Granted, he only cites two cases of restoration, and makes the case that these two are seemingly done with outcomes consistent with human pleasure intended. However, is this always the case? Mills (1995) presents three case studies of restoration efforts and reaches a far different conclusion about the intention of those motivated to work on such projects.

The cases she offers – which include restoration of Illinois's savannah and prairie lands, the re-introduction and support of wild salmon in the Pacific Northwest, and 'greenwork' being undertaken in Auroville, a twenty-five year old, intentional community in southern India – speak of the tireless effort and work undertaken by largely volunteer human forces in regenerating damaged landscapes and ecosystems. Sylvan agrees that restoration can be undertaken for 'altruistic reasons... far removed from aims or dreams of domination and mastery of nature...'. Indeed, he concludes that it could also be aimed at 'liberation and independence' (Sylvan 1992: 21). He continues:

the point of restoring natural environments is not invariably a controlled nature that offers a pleasant experience to humans, another point is the welfare and persistence of other creatures and natural features. (Sylvan 1992: 22)

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Certainly, some restoration efforts can be undertaken with purely economic or human-centred interests in mind. However another kind of engagement is possible, and is being enacted by countless volunteers throughout the world today. For instance, once again drawing on the case of prairie restoration, Mills writes:

Prairie and savanna restoration work is terrifically labour-intensive, requiring thousands of hours of work to remove exotic species of plants from the areas to be restored, to lop the light-hogging buckthorn and ash saplings, to scythe weeds, to burn the leaf litter and grasses, and to gather, thresh, level, store and then sow and rake seed from hundreds of different varieties of rare plants. Volunteers are *sine qua non* (p 131).

Do these volunteers undertake this work in order to ‘dominate nature’? It seems churlish to dismiss the possibility of any other motive driving this kind of work. However, the linkage between restoration efforts and domination is the key assumption underpinning Katz’s argument. I propose to challenge this connection by considering how the metaphor of ‘healing’ might inform possibilities of non-dominating forms of restoration. Healing might also imply manipulation, in that a healer might introduce herbs or medicines which the recipient might not otherwise encounter. In the case of osteopathy or chiropractice, the healer might even manipulate (using that very word) the patient’s body, with the aim of aiding it to return to a particular alignment or balance. But does that manipulation necessarily imply dominance? I may seek out a healer because he or she has special abilities that I do not have, and I wish my body/mind/spirit to be in some way aided in its recovery. Just because that person has knowledge and wherewithal that I do not possess, would I see them as dominating me? Certainly, there are methods of healing which might be likened to dominating – the language with which people often speak of their battles against cancer, for instance, infer a warrior or domineering approach to healing illness. But there are healers who talk of working with the naturally inclined healing processes of the body, who see their role as removing barriers to health (such as realigning joints or tendons in such a way that blood may easily flow through them, thus enabling healing to occur). Perhaps similarly, damaged landscapes might be healed by sensitive restorers, not intent on dominating, but on bringing their knowledge and skill to enable a damaged landscape to heal into an optimal form of itself.

It could be argued that the difference between a human seeking out a healer and a landscape being healed, no matter how sensitively, is that the human has an active choice in seeking out help, whereas a damaged site does not. However, not every human is in fact capable of seeking out treatment, yet we would not see it as correct to leave them unattended because of this. Young children rely on their parents to find appropriate care for them and even adults may not be capable of finding help if their very affliction prevents them from doing so. Likewise, a degraded landscape may not be able, literally, to cry out

its needs. That should not necessarily mean that the only way humans have of responding to it is either by doing nothing or by beating it into some other form of anthropocentric submission. I am suggesting that there is available to us an alternative between these two extremes, one akin to the healing one might want to make available to another who is, for whatever reason, incapable of seeking out that help for themselves.

Before exploring the assumptions which might inform such a non-dominating approach, the essay turns briefly to the issue of 'value', and the extent to which restoration efforts might affect the value of a landscape or ecosystem.

THE QUESTION OF VALUE

One of the central philosophical debates within this arena concerns the extent to which the value of an untouched landscape can be replaced through restoration. This argument hinges on the belief in the intrinsic value of 'natural' landscapes.³ One of the political realities which provides an undercurrent to this controversy is the possibility of restoration being used by those hoping to develop relatively untouched natural landscapes for economic gains. In response to such encroachments, it seems that many environmentalists are forced to take a stand against restoration, in order to inhibit developers from running riot because of the suggestion that they can restore whatever they damage.

I've not found one writer in the area of restoration who suggests that the ability to restore land should in any way justify its degradation in the first instance. Perhaps because of the use developers could make of the claim that total value can subsequently be restored, a number of environmental philosophers pursue various lines of argument in support of the thesis that total value cannot be restored to damaged land.

For example, Robert Elliot's oft-quoted essay, 'Faking Nature'⁴ suggests one way of considering the issue is to suggest that landscape should be seen as analogous to artwork. Just as the value of an artwork is largely determined by its origins, similarly, land which has not been touched by human beings has more intrinsic value because of its 'naturalness'. Restoration interventions necessarily involve human interference, and thus break the continuity of a landscape's history. Therefore, even though a piece of land might be restored to its condition prior to human intervention, the resulting landscape is a fake, and those viewing it or experiencing it as otherwise are unwittingly duped and experience a loss of value, whether they know it or not.

Gunn counters Elliot's view by elaborating on the way 'restoration' is used in the art world. He suggests:

a restoration is an original which has been damaged or partially destroyed in some way and has now been brought back to its original appearance. Typically, there is no intent to deceive; on the contrary, the restoration of decaying artifacts

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is a source of pride. It is evidence of respect for our cultural heritage. (Gunn 1991: 303)

He also makes the point, in critique of Elliot's notion of 'faking nature', that fakes or replicas of the original can exist concurrently with the faked object. In the restoration of art, at any rate, this is impossible. If a work of art is restored, it is still the original that is the basis for the restoration. He writes: 'Restorations, in the art world, cannot co-exist with the original, in the way fakes or replicas can' (Gunn 1991: 304). He suggests that when one clear-cuts a forest, it is unlikely that a 'replica' of the forest is expected. Elliot would say the replanting of such a forest does not constitute restoration, as it would not be the *identical* forest. Gunn agrees with this point, saying that once a forest is clear-cut, it is no longer a forest, in the same way that if a painting were destroyed, it could not be restored.

He illustrates what he believes to be possible in terms of landscape restoration by reference to the case of islands offshore of New Zealand. These islands had suffered from the implantation of non-native species, and in this instance, the restoration effort involved the removal of these species and the replanting of native fauna and flora. This, Gunn suggests, is a 'restoration' – the island's ecosystem was still basically intact in some way, and through the careful re-introduction of native plants and animals, could be restored to its pre-human intervention ecology. But is the value of the restored habitat equal that of its original, pre-interfered with state? To some extent, that depends on how value is constituted.

Value: How is it Constituted?

An additional complication inherent within the value argument is the question of what actually constitutes value. This specificity is central to the restoration thesis itself, which Elliot defines as a claim that the destruction of what has value is compensated for by the later creation (recreation) of something of equal value (Elliot 1982: 81). He more clearly articulates 'kinds' of value in a later text, in which he distinguishes between 'equal value' and value which is 'similarly structured'. He writes:

Equal value is restored if and only if the total value of the restored area is the same as the total intrinsic value of the original area. And value is similarly structured if it supervenes in the same way, is based on the same value-adding properties, as the equal value of the original area. (Elliot 1994a: 39)

That is, equal value is the total amount of value, accrued from a number of different sources, (including human intervention, which might add restitutive value). 'Similarly structured' value is that which comes from the same type of sources; for instance, from the value the natural landscape has through its his-

torical continuity. In the latter example restoration does not result in similarly structured value (although it could possibly yield equal value).

However, if value is not exactly compensated for, either in 'equal' value or 'similarly structured' value terms, does this necessarily militate against restoration efforts? ⁵ Perhaps through considering other ways of framing the intended purpose or outcomes of restoration, a broader view of value associated with this activity can emerge.

RESTORING, RE-HABILITATING OR RE-INHABITING?

In light of the difficulties associated with the extent to which restoration attempts create value, Sylvan suggests the word 'rehabilitation' rather than 'restoration' should be used in describing projects undertaken by human beings with the intent to heal damaged land. He suggests:

Rehabilitation can be viewed as a co-operative venture, between rehabilitators and Nature, with Nature entirely essential and doing much of the 'real' work. Humans carefully mix in some quantity of their technologically-aided labour. That does not make the result theirs, or account for a major part of the thereby enhanced value. (Sylvan 1992: 26)

Using the word 'rehabilitate' rather than 'restore' might also militate against the kind of historical restoration carried out, not in the interests of restoring biodiversity or land health, but with the aim of re-creating an historical, cosmetic alteration of a landscape in order that it becomes more like it was during a particular cultural period. For instance, plans have recently been launched to remove several hundred-year-old oak trees from the approach drive of a country house in England which I know, in order to return the grounds to their historic accuracy. This seems a completely anthropocentric and disrespectful type of 'restoration', which owes its undertaking to changing tastes in fashion, rather than consideration of the needs of the ecosystem itself. In other words, I am suggesting that restoration *can* be undertaken in an anthropocentric way, depending on the context and purposes of a particular restoration project. 'Rehabilitation' seems to capture some of the spirit of a non-dominating form of collaborative human/land relationships with its purpose being primarily that of assisting ecosystem health, rather than catering to changes in gardening or landscaping tastes.

Mills offers another alternative concept as a possibility for framing healing relationships with the land: re-inhabiting. Her use of the word implies an intimate human/nature relationship, one in which humans regain a sense of place and belonging in the land, fostering the acknowledgement of mutual inter-dependence. She writes:

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Re-inhabitation means learning the whole history of one's bio-region or watershed, and developing a vision of sustainable ecological community from that knowledge, and from what we have been learning, in the last half-century, about elegant techniques of construction, gardening, recycling, energy conservation, and waste treatment; ways of sophisticating old-style household and neighbourhood frugality. (Mills 1995: 18–19)

Central to her vision of re-inhabiting is that it incorporates un-technologically sophisticated interventions, such as weeding and clearing non-native invasive species, i.e. perhaps more 'natural' human activities in the landscape. She offers further distinctions between 'restoration' and 're-inhabiting':

Restoration implies an exacting fidelity to the original; rehabilitation may resort to the use of similar species in order to create a rough, but functional, semblance of the original ecosystem. Restoration presently, and in many cases necessarily, requires that access to the recovering ecosystem be restricted, rather like the burn ward of a hospital. Re-inhabitation implies living in, and having an economic stake in, the place restored, not in the touristic sense of being able to charge admission at the park gate, but in being able to derive what House calls 'natural provision' from one's own ground: free (but not easy) protein, fuel, and building material. Restoration does not pose alternative to the socio-economic system that is necessitating restoration; re-inhabitation does. (Mills 1995: 160)

Restoring landscapes, of course, can provide a key means by which humans can re-inhabit them. Through a careful restoration effort, undertaken with love for the land and a willingness to listen to its own particular needs, humans can perhaps come to regain a sense of respectful interaction with an ecosystem, and begin to assume our 'natural', rightful place within it. As Mills writes in her case study of the Mattole Watershed Salmon Support Group:

Members of the MRC and other such groups in the valley see restoration as an indigenous occupation, like tree cutting, farming, fishing or ranching, a livelihood peculiar to the locale, one that might continue for generations. This is a different sensibility than hiring restoration done, or imposing a restoration design from without. It is what can be done when it's too late to conserve. The object is not to reinstate some static idyll, but to restore the dynamic of evolution in an ecosystem and to include the human in that dynamic. (Mills 1995: 159)

The notion of 're-inhabiting' therefore, seems to offer key characteristics of a 'non-dominating' restoration effort: it would be an 'indigenous' occupation, born from a history of human/ecosystem interaction, it would be dynamic and co-created, present and future-oriented rather than trying to 'hold' nature in some idyllic past moment. The paper now turns to consider in greater depth the assumptions which might inform such an approach.

APPROACHING RESTORATION IN A NON-DOMINATING WAY

In order for restoration to be undertaken in a non-dominating way I would suggest four key underlying assumptions which would inform such interventions as outlined below.

The Role of Humans: Facilitators and Co-creators

Throughout the literature reference is made to the paradox that in today's world 'natural environments' require human intervention in order to remain in any way natural. Leaving nature 'to her own devices', as Katz seems to imply is the right action to take, even in the face of degraded landscapes, seems rather analogous to standing by and watching creatures, human or otherwise, bleed to death because applying a tourniquet would be disrupting natural processes. As suggested earlier, Katz's view could itself be seen as overly anthropocentric, in its lack of recognition of the role nature plays in restoration efforts.

In support of this stance Sylvan writes; '... restorations of nature are largely achieved by nature doing its own thing (*natura naturans*) and are not the products of human making or human creation. Humans weed them or remove rubbish, but their contribution amounts to helping along a natural process of healing' (Sylvan 1992: 21). Sylvan seems to suggest that we have a role to play, but it is one of 'facilitating' nature's own healing process. Katz and others who agree with his view might counter that if Sylvan is correct, why should humans be involved at all in restoration processes, why not just let nature heal itself?

I would agree that certainly, nature will, in its own time, recover from the upheavals and disruptions human beings have perpetrated on landscapes. However, I would argue at least two reasons why following a policy of non-action in relation to damaged landscapes is an unhelpful way forward. Firstly, some of the disruption which has been caused by human beings is so obviously out-of-keeping with nature's own processes, that not attending to it amounts to gross negligence on our part. This would include basic restorative acts ranging from small-scale interventions, such as clearing away man-made rubbish, to large-scale projects such as attending to the scars caused by strip mining and other excavation activities. It would also include attending to the damage we have perpetrated on the land through military operations and wars, such as the presence of landmines buried in the earth. If the aim of restoration activities is to enable ecosystems to regenerate themselves, removing such gross impediments to ecosystem health from the landscape must be a key responsibility and requirement.

Secondly, there are instances, such as on the offshore islands of New Zealand mentioned earlier, where the human introduction of invasive plants would mean that unless humans undid their action by removing these plants from the ecosystem, that ecosystem would never return to what it would more naturally

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have developed into. In such cases unique flora and fauna might be lost unless such a restoration effort is undertaken. Another example of this can be seen with the recent re-introduction of wolves to Yosemite National Park in the States. Scientists monitoring this 'restorative' act, that is, returning wolves to an ecosystem which they once would have inhabited, have been surprised that deer numbers in the park have not been drastically reduced. Instead, they have seen the flourishing of plants which were on their way to extinction. Closer inspection of what is happening has revealed that deer are no longer feeding in places where they now feel themselves to be vulnerable to attack, and this has enabled the spontaneous re-establishment of plants in those areas. One could argue that eventually, if left alone, wolves might spontaneously find their way back to Yosemite without human assistance. But in the meantime, how many plants would become extinct with no hope of ever being re-established? In such cases, restoration seems vital in order to enable biodiversity to flourish in areas which may be disrupted by previous human interventions

A key assumption in this argument is that a 'middle road' of interaction between humans and land is possible. Such interventions would take into account previous human acts and the impacts those will have had on ecosystems. They also require humans to engage their faculties of attentiveness, inquisitiveness and care to help bring about healing. In order to do this effectively, other assumptions must underpin our actions; that we do not 'know it all', our technology is not 'all powerful', and we have much to learn from the land we are seeking to restore.

Commitment to Learning from the Land

Mills provides a stunning example of the kind of commitment required in restoration efforts in her recounting of Steve Packard's⁶ approach to prairie and savannah regeneration. Apparently, Packard began the project with the view that what hadn't been oak forest had been tallgrass prairie. Therefore, he believed prairie was what it would take to restore these open woodland places. But the prairie restoration didn't take. Instead, what Packard referred to as 'a few oddball species of plants' characteristic of neither prairie nor forest kept popping up.

By, as Mills puts it, 'some masterful sleuthing', Packard began to speculate about what community of vegetation might have flourished originally under scattered tree canopy. Using taxonomic and historical research, he assembled the identities of the few 'oddball species' and many other plants in the oak savannah complex. Eventually he came up with a list of plants that turned out to be comprised of woodland, not prairie, grasses and many herbs. Scouts began to locate other small remnants of savannah communities within the vicinity of the preserves and to gather seed and propagate plants for savannah restorative work (Mills 1995: 133).

This account is instructive in that it could be seen as indicative of the role nature has in restoring ecosystems. Nature knows how to create a savannah. By paying attention to the patterns of evolving flora and fauna, and through a willingness to re-think pre-formed 'scientific' ideas on the basis of what is really happening, rather than on what should be happening, the inquiring restorer can, perhaps, learn something of these natural creative processes. Another way of thinking of nature's role in such endeavours, is to assume that the land itself has its own agency, or as Plumwood (2002, public lecture) suggests, its own 'projects'.

Taking into Account the Land's Own Projects

Plumwood argues that the notion that land is a passive resource without its own agency can be traced back to (John Stuart) Mill's idea of land ownership. She poses the question: 'Doesn't the idea of respecting nature require that it be recognised as an active presence an agent which contributes in a myriad of ways to our daily lives – its recognition as 'an independent centre of value', as an 'originator of projects' that demand my respect?' (Plumwood 2002: 214).

The above story of prairie regeneration could be interpreted as the land itself 'knowing' what it needed in terms of species in order to create a certain ecosystem. Perhaps, once again, the possibility of entertaining such a notion can be approached through reference to human health. Living processes, such as breathing, digestion or circulation, are all regulated by unconscious processes with their own agency. Luckily, our body knows what it needs to do in order to function (certainly if we had to direct all of its unconscious functions, we would not be able to do much else!) We can align ourselves with our body's needs in performing those functions, by eating well, giving ourselves proper rest, and if we act in ways that go against these body 'projects' sooner or later we will suffer from our actions. Likewise, it could be assumed that the land has projects which are at the heart of it 'getting on with its living'. The justification for intervening at all in these projects in the form of restoration is based in our accepting responsibility for the role we have played in disrupting those projects in the first place. In this way, restoration could be seen not so much as dominating nature, but as undoing those acts which we have subjected nature to our own whims and needs – in fact, as a way of undoing our domination. This leads to the final assumption this essay considers, that of the aim of restoration efforts which would not dominate nature.

Aims: Land Health and Biodiversity

Following from the above assumption regarding the land's agency, and adding that part of that agency would be maintaining healthy living processes, I would suggest that the primary goal of restoration should be the achievement of good

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land health, defined, (borrowing from Leopold) as its ability to regenerate itself. Contrary to the view held by a number of august conservation agencies,⁷ I am suggesting that 'restoration' could be seen to be accomplished to the extent that land is able to engage in regenerative processes, rather than resemble a prior (often romanticised) moment in history. In this way, the aim of 'non-dominating' restoration would be to enable the capacity of an ecosystem to develop its own projects in line with an evolutionary course in which all of the organisms within it, including human beings, have a particular role and place.

Certainly, the land's past must be an important factor in considering what that optimal form might be, and how humans might appropriately intervene to enable that form. However, historical accuracy should not necessarily be the over-riding determinant in the land's future. (Apart from any other consideration, as Sylvan (1992) argues, such a goal is a technical and practical impossibility.)

RESTORATION: FROM DOMINATION TO CO-CREATION?

In conclusion, I do not support Katz's view that restoration necessarily implies the domination of nature. In fact, I would argue that through undertaking restoration of natural landscapes and ecosystems, a mutually beneficial interaction can occur between humans and our environment. Such a connection could have considerable intrinsic value of its own for its ability to engender a healthy sense of mutual dependence between humans and the places we inhabit. As Mills concludes from her investigation into the Mattole salmon project:

It's bold thinking that humans could participate in the ecosystem in a benevolent, post modern way. The 'conscious gamble' of those working in the Mattoles is that the interaction with a watershed could engender a moral check on the human impulse to control and determine, expand and exploit...I began to question that convenient fictive absolute of a hands-off policy toward wild Nature. To breach that concept means relinquishing Homo sapiens' guilt and self-loathing over what human involvement in the landscape has resulted in thus far. And that passage will be sustained by maturing beyond remorse into reinhabitation. (Mills 1995: 166)

Implicit in this quote is the idea that through doing, through involvement with the land and its creatures, we can begin to experience its agency, its pull on our consciousness and knowing. By suggesting that there is only one way of engaging in restoration projects – a dominating, self-centred and anthropocentric one – Katz is denying the very possibility of an engagement based on co-creation. Such engagement, in which humans are able to realise their appropriate place within the ecosystem and experience the possibility of a participative response to the planet, may in fact contribute great 'value' to the total environment. In

fact, it may be a crucial element in the continued flourishing of us (wild and not so wild!) all.

NOTES

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¹ Certainly it could be argued that ecosystems themselves have purposes and functions, i.e. of supporting their own plant and animal life, but this idea of purpose is akin to the notion of nature's own 'projects' which will be discussed in a later part of this paper. Here, Katz seems to be referring to purposes which are determined by humans.

² Elliot (1994a) makes this distinction clearly when he writes that although it can be argued that humans are part of nature, our technology and culture is not. Furthermore, the extent to which we exercise 'higher intentional states' also means we cannot claim to be completely embedded in nature, and the extent to which our culture intrudes on the more natural world, and our exaggerated technological capacities further pull us out of the 'natural' realm.

³ This term itself is not without difficulty, in that the definition of what constitutes a 'natural landscape' is frequently, and legitimately, contested.

⁴ See Elliot 1982.

⁵ Sylvan argues that in comparing value pre and post restoration, one should look at the value enhancement produced using the 'degraded' landscape as the 'base point', rather than comparing the value of the restored landscape to its pre-disturbance state. In this way, restoration would almost always enhance value.

⁶ Yes, the same Steve Packard of whom Katz was so dismissive.

⁷ Such as The National Trust and English Heritage in the United Kingdom.

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