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FERAL ANIMALS AND THE RESTORATION OF NATURE

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Abstract

Projects to restore nature inevitably disrupt the plants and animals that inhabit the land to be restored. This essay addresses the significance of feral animals. Can feral animals remain in a restored nature? I argue that an answer depends on what we mean by nature and restoration. I present several different conceptions of nature and discuss what their differences mean for the goals of restoration. While the presence of feral animals is not compatible with the dualist conception of nature as that which is untouched by humans, other conceptions are more accommodating. Restoration to a benchmark of nature prior to human impact is both practically and conceptually implausible, thus more analysis is needed of alternative conceptions and their impacts on domesticated and feral plants and animals.

"Feral Animals and the Restoration of Nature"

In a recent article, Jo-Ann Shelton mounts a vigorous attack on proponents of restoration who disregard the interests and intrinsic value of feral animals.(2004) She suggests that there is no moral difference between the near-extinction of the buffalo by white hunters and the killing of feral animals in areas slated for restoration to natural conditions.(Shelton, p. 9) According to Shelton, the buffalo were killed off because they did not fit with the kind of civilization brought to the American West by European settlers, and likewise, feral animals do not fit with a particular view of nature that has emerged since the 19th Century in North America to guide environmental restoration. While the focus of Shelton's article is on restoration efforts carried out by the Nature Conservancy and the National Park Service on Santa Cruz Island off the coast of California, her concerns raise questions about the moral costs of restoration generally.

As a practical matter, projects to restore degraded landscapes must confront the question of what to do with the non-native plants and animals that have colonized the area to be restored. "Restoration requires the disruption of an existing ecosystem which is deemed to be 'unnatural.'"(Shelton, p.10) Even in areas where no restoration is contemplated, there is increasing concern about invasive species that disrupt food chains, extirpate species, and perhaps curtail ecological services. Shelton's focus on feral animals is a special case of this more general practical problem.

Morally speaking, the permissibility of eradicating non-native species depends on what we mean by restoration, what the goals of restoration are, and whether these goals are morally justified. In this essay, I shall investigate this conflict between the restoration of nature and the status of non-native animals that are caught up in the process. The apparent conflict between the goals of restoration and the lives of feral animals is not just a practical problem that practitioners of restoration must resolve. This issue also requires, ultimately, that we reflect more carefully about our sense of the place of human beings in nature.

The case for eradication of non-natives

There are several reasons why one might defend the practice of eradicating non-native species from a place one wishes to restore. For conservation biologists, one of the key reasons, presumably, is that the non-native species out-compete native species and prevent them from occupying niches that they formerly inhabited. If these displaced species are also threatened or endangered, then their value for conservation purposes increases. Assuming that the non-native species are not themselves in danger, it seems reasonable to intervene to protect the interests of those species who are most at risk. The first argument is, then, an argument from the value of biological diversity and the importance of sustaining species diversity.(Norton 1986) This is best done in natural settings rather than in seed banks or zoos.

A second argument specifically applies to domesticated or feral animals within the boundaries of the restoration area. Several philosophers take a hard line against the status of such animals. Both domesticated and feral animals are, according to Eric Katz and Baird Callicott, for example, human artifacts, not natural beings.(Callicott 1980; Katz

1997a, pp. 85-86) They have been bred for particular human purposes and no longer have a place in the natural environment. According to Katz, even the pain of such artifacts is an unnatural pain that can be safely disregarded in the interests of preserving nature.(1997a, p. 85) This particular argument emphasizes dualisms such as those between the wild and the domesticated, the natural and the artificial or human. From this perspective, feral or domesticated animals that compete with wild plants and animals threaten to undermine natural value, and this threat outweighs any consideration that might be offered to the domesticated artifacts themselves. Shelton's observation that feral animals have learned to reverse their domestication and survive independently does not redeem them from this perspective. Indeed, the potential for naturalization makes domesticated animals even more dangerous than if they were indeed completely dependent on their "makers." Artifacts run amok would be a danger if they invaded ecosystems in which they have no co-evolved fit. In the process they might disturb existing populations and ecological relations, thus degrading natural value.

A third argument in favor of eradicating feral and domesticated animals in the course of restoration depends on a particular conception of nature. According to philosophers such as Robert Elliot and Eric Katz, nature is an autonomous domain independent of human intervention.(Elliot 1982; Katz 1997b, p. 44) The naturalness of a landscape depends on its generative history, a history in which human beings play either no role at all, or a vanishingly small one. Shelton argues that restoration based on such a conception is contradictory. "[I]t is a paradox that the ideology of nature and wilderness which abhors anthropogenic changes must also depend on anthropogenic changes to reconstruct landscapes." (Shelton, p.10) Katz and Elliot would agree. Efforts to restore

nature, according to Elliot, would produce at best a fake nature. For Katz, restoration efforts can do nothing more than impose human preferences on the landscape, creating new artifacts, but not nature.(1997c, p. 95)

If nature cannot be restored, then we obviously cannot support the eradication of domesticated and feral animals in the name of such restoration. However, while original nature, that is, nature unmodified by humans may not be something that can be restored, it might nonetheless serve as a benchmark or standard for measuring the value of an ecosystem or landscape. Such a benchmark would provide a practical guide to how restoration scientists might undo as much as possible of the damage humans have inflicted on the environment. A fake or artificial nature that successfully imitates original nature may be better than the degraded environment left alone. Since feral animals have no place in original nature, restorationists might still be justified in removing them.

As a final argument, critics who do not accept the particular philosophical conception of nature defended by Elliot and Katz, and tacitly presupposed by many environmentalists, might argue that admitting feral and domesticated animals into a restored nature risks a dangerous slippery slope. What, indeed, would not belong then? Are ecological substitutes for native plants and animals acceptable, as defenders of Pleistocene restoration would claim?(Donlan et. al. 2006) And would genetically engineered organisms that occupy ecological niches similar to those vacated by native species fit into a defensible conception of restoration? Many environmentalists might see the latter especially as particularly unacceptable, yet the abandonment of the purist conception of nature as humanity's "other" in order to admit feral and domesticated animals would open up such questions.

In summary, these arguments pose a strong challenge to those who would prioritize the interests of feral and domesticated animals and claim that their presence is compatible with the restoration of nature.

"Restorashyn:" Letting non-natives in

Colette Palamar shares some of Shelton's impatience with the goals of restoration, especially a restoration that seeks a return to a particular historical benchmark.(Palamar, 2006) While her focus is not on animals per se, she is concerned with the way in which the restoration of nature seems to impose a human agenda on the land. "I contend that it is, in part, in the nature of ecosystems to change over time, and that human efforts to forestall such changes, even when humans are the instigators of the harm, merely set into action another ecosystemic course through which other kinds of alterations and extinctions will occur."(Palamar, p. 288) According to Palamar, restoration is simply another form of human domination of nature. To this extent, Palamar agrees with Katz that the primary issue here is domination: "Dominating actions do not consider the interests or autonomy of the parties involved, but rather imply an enforcement of the decision-makers' ideals onto those affected."(287) Restoration, on her view, presupposes that humans know what is best for the land, when we demonstrably "do not know all there is to know about nature."(290)

Like Shelton, Palamar here draws attention to the extent to which restoration necessarily entails an interruption of an existing plant and animal community in the interests of another ecological assemblage. While we tend to focus on the community to be restored to health, we do not pay equal attention to the living beings and systems that

must be disrupted or destroyed to bring a restoration to completion. Wild plants and animals will be victims here, as well as domesticated and feral animals.

Palamar's solution is a revised notion of restoration she calls "restorashyn." On this view, our goal should not be to restore land to a fixed pre-existing condition, but rather to focus on a "process by which we set up conditions that open the scope of possibilities for the land. These restorative conditions will also encourage parameters allowing the land to participate actively in outcomes."(Palamar, p. 294) Rather than dominating the land through restoration, "a restorashyn sees humans as partners with the land and with all the creatures that populate the land – including ones we might consider nonnative or even invasive. Restorashyn recognizes that the land should have a greater voice in the restorative process; the land is not simply a passive object…"(295-296)

While Palamar is not opposed to eradicating *invasive* nonnative species, she is opposed to removing *non-invasive*, nonnative species. Restorashyn would permit non-invasive plants and animals from the adjacent region to remain, since they can co-exist with the native plants and animals that a restoration process would normally wish to re-establish. Palamar's view here is compatible with Shelton's distinction between restoration and conservation. The latter, for Shelton, includes leaving alone non-native species that are compatible with native species.(Shelton, p. 6)

Palamar's critique of restoration is grounded in an ecofeminist skepticism about human actions that seem to treat nature as a passive, feminized other in need of human help. Restorashyn, on her view, "requires a unique dialogue between the land, the species that inhabit it, and the human actors involved in the restoration process."(Palamar, p. 296) In a similar vein, Shelton argues that more attention to the

particular relationships between feral animals and non-native plants and animals on Santa Cruz Island would have discovered, for example, that the feral animals were keeping non-native plants from spreading. Once the feral sheep and pigs were removed, herbicides were necessary to complete the restoration to native vegetation.(Shelton, p. 9) Setting up pre-European contact as an arbitrary restoration benchmark, Shelton claims, those carrying out the restoration blinded themselves to the specifics on the ground and to the harm their agenda inflicted.

The notion that restoration need not be guided by a fixed, historically determined plant and animal inventory opens up the possibility that feral and domesticated animals could find a place within a restoration project. But perhaps Palamar overstates the case for restorashyn. While it is essential for those engaged in restoration to have a sensitive and informed understanding of the land they propose to work with – and who would not agree with this - it is not clear where Palamar's emphasis on a non-dominating process leads. She supports eradication of invasive non-native species "because they limit the possibilities for a number of other species"(294), but this still requires human judgment and management. And while she denies giving carte blanche to introduce exotic species from just anywhere, she also supports the notion of an inclusiveness tempered by pluralism, that is, introduction of species that add to overall diversity and complexity. Having abandoned the historical benchmark of a nature prior to human disruption, no standards for restorashyn remain other than a sort of attentiveness to compatibility and diversity. This approach might save the feral animals Shelton is concerned with, but at the cost of opening the door to a wide range of non-native plants and animals. At what

point does this cease to be a type of non-dominating restoration and turn into a new form of human domination: artificial ecosystem enhancement?

Varieties of Restoration

Whether or not feral and domesticated animals should be permitted to remain in a restored landscape depends on the goals of restoration. Unfortunately, it is not clear that discussions of restoration always operate with the same concept. At times, the emphasis is on whether untouched nature can be restored. At other times, the focus is on the human benefits to be derived from involving human beings in restoration activities. And some restoration projects aim simply to restore a particular set of species to the landscape, but do not aspire to restore everything that may have been altered by human activities.

For Katz, protecting feral domesticated animals would be absurd not just because one cannot restore an un-manipulated nature through manipulation, but also because the natural value he wishes to protect is a holistic value.(Katz 1994d, p. 24) Biotic communities or ecosystem wholes have value, but the individual members of the community have only derivative value, to the degree that they participate in maintaining the health of that community. The problem with feral animals, it might be claimed, is that they are not members of natural biotic communities at all. At best, they were once members of the mixed, domesticated human-animal community and had moral protection only within that limited context. Of course, from this perspective, as domesticated beings ourselves, humans only have moral value within the context of human culture, not from the broader perspective of the natural world. Hence any engagement with nature is

always an interference with what is outside the space proper to humans, the cultural world. This is as true of feral animals as it is of human beings.

The understanding of nature as what is outside the human domain, separate and independent of it, is certainly in wide circulation. It is not, however, the only conception of nature that is relevant to philosophical reflections on the restoration of nature and the place of humans and domesticated animals in nature. It is also, perhaps, not the most constructive conception if our goal is to modulate human agency and bring it into some sort of responsible relationship with the natural world. The human/nature dualism precludes the possibility of morally permissible interventions in nature, since such interventions always lead to a diminution of natural value. At the same time, it is obvious that human use of nature is inevitable and it is one of the core means whereby both nature and humanity come to be defined and understood. In order to understand whether the restoration of nature is compatible with the protection of at least some of the non-native plants and animals that colonize lands used by humans, we need a conception of nature that encompasses and accommodates the human presence.

Anne Chapman notes that nature can signify not only a world separate from all human influence, but several other things as well.(2007) When we talk of nature, for example, we often mean not something completely separate from ourselves, but rather the totality of the biological and material environment, an environment that includes human beings as biological organisms. Some of our concern with the abuse of nature derives from this understanding of human dependence on and embeddedness in the natural environment, because harms done to nature often cause damage to the human organism as well.

Secondly, nature often refers to the material resources used by a particular human culture. Degradation of nature in this sense is a threat to the resource base out of which humans build their human, domesticated world. Defined in this way, it is not nature *per se* that is degraded by human activity; rather, particular stocks of material resources, parts of nature, can be used unwisely. Protecting nature in this sense of the term may simply mean using nature sustainably to satisfy the long-term needs of human beings.

Finally, nature has meanings that are internal to the cultural life of a particular human community. The point here is that we should acknowledge that how we define nature is a matter of cultural choice. The concept plays a certain role in arguments, theories, and struggles internal to particular communities at particular historical moments. Its meaning is contextual; it changes over time, and different meanings serve different interests. Utilitarian interpretations of nature are as much cultural projections as biocentric or ecocentric theories about the intrinsic value of living beings and ecological systems. Nature, in other words, is always at some level an object of cultural interpretation or construal. This means that we must exercise caution whenever we justify our actions in the name of respecting, restoring, or protecting "nature."

Helena Siipi has recently underscored the multiplicity of nature's meanings.(2008) Common usage reveals at least three different sorts of criteria used to determine whether an entity is natural or unnatural. The first criterion is historical. Does the entity in question have a history independent of human interference? The history of natural entities is separate and independent of human history, while unnatural entities or artifacts have been tampered with, designed, created by humans for particular ends. The notion that humans might create natural entities, like restored environments for example,

is incompatible with this criterion of the natural. However, as I have been suggesting, this conception of the natural is not the only one we may draw upon.

According to the second criterion, an entity may be said to be natural to the degree that its current properties match an ideal standard of what a natural entity of that kind should be like.(Siipi, pp. 86-87) Untouched nature functions here as a benchmark or standard for evaluating an entity. A restored wetland could be natural in this sense to the degree that its properties match the standard set by wetlands that have come into existence without human engineering. Active human involvement in the restoration would not undermine naturalness, from this perspective.

Finally, Siipi notes that our perception of something as natural or unnatural is often the outcome of our own relationship to it and how it fits into our experience.(91) Something unfamiliar or discomforting may seem unnatural to us, while an entity or scene from everyday experience appears natural. In this sense, our experience, or lack of experience with something colors our perception of naturalness. A heavily humanized, agrarian landscape, filled with non-indigenous exotics, may appear natural, then, while the untouched, yet unfamiliar creatures of the deep ocean may appear alien and unnatural to our sensibilities. This criterion of familiarity or unfamiliarity reinforces the need to understand how one's community, tradition, and experience create cultural frames that constrain what we will allow ourselves to count as "natural."

Both Chapman and Siipi expand our sense of the possible ways of conceptualizing nature and the natural. Drawing on their work we can identify several implications for what it means to restore nature.

(1) *Nature*$_1$: Preserving naturalness may mean keeping people and their works out altogether, letting nature follow its own independent course. This dualistic conception of the nature/human relationship excludes any possibility of restoring nature. In particular, the very presence of feral animals is already a sign that human history has intruded upon nature's own history. In such an environment, nature has already been lost, replaced by some form of humanized, artifactual landscape.

(2) *Nature*$_2$: Restoration of nature may, however, simply mean restoring ecological functioning, natural succession, biodiversity, species inventories, ecological niches, the integrity of biotic communities, and the health of biological and ecological systems. Understanding nature as the totality of the biotic and abiotic environment, human participation may undermine ecological health or restore it. And it may do this in whole, or only in part.

(3) *Nature*$_3$: We may restore nature in the sense of natural productivity, resource sustainability and renewal. Meaning by nature simply the material resources that human communities must draw upon to sustain their cultural lives, restoration of nature would be compatible with intelligent and responsible human stewardship.

(4) *Nature*$_4$: We may restore a degraded system to what it would have been, had it not been degraded by human activities. Drawing upon untouched nature as a standard, informed human actors may actively intervene in a system to reintroduce the qualities and entities that are missing from the benchmark. The result would be a managed nature, but to the extent that it faithfully meets the appropriate standard, it would nonetheless be natural.

(5) *Nature*$_5$: Finally, we may restore our own feelings of comfort and belonging in a particular environment, by removing unnatural elements that alienate us, so that we can engage with a world perceived to be natural and familiar. This amounts to taking our cultural perceptions of what is natural as the appropriate standard for restoration activities. Taking the cultural dimension of our relationship to nature seriously requires at least two steps, however, if it is not to be uncritical and self-serving: to look outwards with more responsibility by becoming more ecologically literate in our role as knowers of the natural world, and to look inwards more responsibly by becoming more critically conscious of how cultural forces can make us comfortable with an ecologically degraded world.

These five different senses of restoration make possible a somewhat more nuanced exploration of the compatibility of feral animals and the restoration of nature. To start with, it is worth noting that only the first sense of restoration, *Nature*$_1$, carries with it any sense of paradox or contradiction and only *Nature*$_1$ presupposes the exclusive dualism between human and nature. The other four senses, therefore, leave open the possibility that feral animals and domesticated plants and animals might be compatible with the restoration of nature.

How in fact do feral animals fare here? As I've suggested, the answer depends on what our intention is when we try to restore nature. Shelton implies that leaving feral animals in place can be compatible with *Nature*$_2$, since their presence may not in fact compromise the integrity of the biotic community or compromise biological diversity. In this, she would seem to be in agreement with Palamar, whose main concern is to promote the healthy functioning of the land: *Nature*$_2$. From this point of view, whether or not

feral and domesticated animals can retain a place in a restored nature depends on their actual impact, not on their historical appropriateness.

Restoration of *Nature*$_3$, of the sustainability of nature as a resource base, would also be compatible with the presence of feral animals, as long as their behavior did not interfere with or compromise the protection of the resource base that needs conservation. A similar observation is possible about restoration of *Nature*$_4$. If we wish to restore an ecosystem to meet a particular standard for systems of that sort, feral animals and domesticated plants and animals might be tolerated, if they do not compromise the integrity of the system as a whole. If, however, the goal is to restore an exact replica of a previous historical period, while this might be a natural system, in the sense of *Nature*$_4$, it could not contain plants and animals that were not part of the original. Feral animals would, therefore, be incompatible with that interpretation of what is natural.

Of course, analysis of the status of feral animals in a restoration of *Nature*$_5$ presents a different set of problems. Whether or not feral animals are compatible with restoration of nature in this sense depends on the particular cultural interpretation of nature operative in the restoration. If those engaged in the project see themselves as restoring *Nature*$_1$, they will find the presence of feral animals an uncomfortable anomaly, a presence that does not belong. Shelton and Palamar call for more self-critical analysis of this feeling of what is or is not in place, accusing many environmentalists of dominating *Nature*$_2$ in the name of restoring *Nature*$_1$. *Nature*$_5$ represents the meta-level conception of nature at which we can see different and conflicting conceptions of nature, their implications, and the need to articulate and defend restoration goals more clearly.

Understanding that restoration of nature may legitimately have a number of different meanings, and seeing the conceptual difficulties with restoration of the dualistic *Nature*$_1$, it seems morally appropriate to accord considerability, and perhaps even protection to feral animals – something that Shelton claims is not extended to them in restoration projects – despite their origins in human domestication. At the same time, we cannot ignore the relevance of holistic ecological concerns that must constrain the situational significance of feral animals in particular circumstances.

Reductionism and Human/Nature Dualism

The problematic status of feral animals raises interesting questions about common dichotomies between wild and domesticated landscapes, between the natural and the humanized. These distinctions are significant not just because they matter to our practical decisions about land use, but because they matter to our self-understanding and our place in the world. Banning feral animals from a site of nature restoration seems self-evident only to the extent that we define nature dualistically to exclude the human presence and define restoration as a paradoxical human effort to erase the human presence from the site by returning it to a pre-human condition.

There are, however, several layers of human presence on the land that make this project an impossible one. On the one hand, we can never fully escape *Nature*$_5$. We must acknowledge the ways in which our vision of nature at any given time emerges from a cultural interpretation of a particular community's experience of the world.(King, 1990) Not all human communities have so clearly divided the natural world from the human as Western societies have. Not all human communities have so clearly separated the spiritual from nature as Western societies have. As William Cronon has clearly

argued, our understanding of nature in America, and in particular our equation of nature with an untouched wilderness, *Nature*$_1$, has deep cultural roots.(Cronon 1995) *Nature*$_1$, defined as a sphere apart, is a cultural projection that serves important cultural needs that emerged at a particular stage of America's history. Feral animals problematize this cultural projection by forcing us to re-think why we feel they are not natural beings.

Of course, feral animals are not the only instigators of this sort of reflection. Discovery that paradigmatic instances of wilderness bear signs of human presence and manipulation – through the use of fire, for example – is a second challenge to the assumption that we know for sure what the difference is between nature and human artifact. Much of North America was a human artifact, to the extent that it had been changed by human ways of life, long before European colonists arrived.(Broughton 2002; Neumann 2002; Kay 2002; Russell 1997) Returned to the wild, following the European decimation of indigenous peoples through disease and war, these supposedly natural landscapes are themselves feral.

The distinction between the natural and the human/cultural is so problematic that some philosophers want to erase one or other side of the distinction altogether. It is not uncommon to hear the notion that the human/nature distinction should be ignored because everything is part of nature. Humans are naturally evolved beings and the intelligence with which we manipulate our environments is also a natural product. Our artifacts, though designed with human purposes in mind, are nonetheless made of natural materials. Without an understanding of those natural materials and their causal properties, creation of artifacts would be impossible. Palamar voices a version of this idea when she attacks restoration based on historical benchmarks on the grounds that

nature is always changing, so that working with the land to create new opportunities for regional species is preferable to restoring to a static historical benchmark.(288) Humanly induced changes are a type of natural change, then.

Reducing the human/nature dualism entirely to the side of nature ignores several issues of importance. On the one hand, it ignores the legitimate conceptual distinction that we make in everyday speech between elements of our surrounding that are the products of human culture and those that exist independent of that culture.(Keeling 2008) The music of Mozart, for example, is indeed a matter of ink scratches on paper and vibrating sound waves in the air; but it is not "just" that. We are not just interested in the material mechanics, the physics, of the music, or even the biological or neurological constitution of the composer and his audience. Mozart's renown derives from the beauty and complexity of the music, its impact on the emotions, and the sophistication of its artistry. Culture, as well as nature, is required in order to make sense of Mozart's accomplishments.

Equally important, however, is the fact that if everything is nature, we lose a valuable tool for thinking about how to limit human actions. For example, Palamar objects to a rulebook approach to restoration that aims to return a landscape to the way it naturally was before human interference, claiming that non-invasive, non-native – but regional - plants and animals should be permitted in a "restorashyn." But why not exotics from further afield? Indeed, why not invasive species? If nature is always changing and there is no fixed lodestone to guide restoration, then her intolerance of invasive non-natives seems as arbitrary as the restorationist's return to native species only. Whatever happens and whatever we do, it would be natural; so anything goes.

Palamar's argument for restricting invasive species is that invasives limit other plants and animals in the system.(294) Thus, her objection to invasives is a variation on her objection to thinking of restoration as a return to some previous, historical benchmark. Both invasives and humans would be guilty here of domination, restricting the land's autonomy, failing to work in dialogue with the land. With respect to invasive plants and animals, however, this argument is out of place. All plants and animals place constraints on each other. A biotic community constrains and limits its individual members as much as it provides opportunities for growth and development. The ideal of unlimited autonomy is an illusion for non-humans as much as for humans. Neither restoration nor restorashyn are well served by supposing that a vague principle of autonomy can substitute for more ecologically grounded benchmarks, whether historical or not.

I have suggested that the reduction of the nature/culture dualism to the side of nature is unhelpful. The reduction to the side of culture is equally problematic. The concept of $Nature_5$ indicates the significance of a cultural dimension to all concepts of the natural world. Our interpretation and valuation of nature depends to a large extent on factors such as religious belief, scientific knowledge, technological prowess, first-hand experience, class, and other historical imperatives. William Cronon has drawn attention to these factors in his critique of the environmentalist emphasis on wilderness.(1995) Others, like Steven Vogel, see the humanization of nature as an inevitable by-product of our own humanity.(1988) Human beings transform nature through labor, both physical and intellectual, and thus our image of nature is always a social projection that emerges from a particular configuration of historical forces and serves particular social needs and

interests. The problem for Vogel is not that nature has been compromised by human activities, but that humans compromise themselves by not taking control of the ways in which they intervene in the non-human world. The problem for him is *how* we humanize nature, not *that* we do so. Human/nature dualism is resolved here by eliminating nature; everything is cultural, humanized.

But, as we learn more and more frequently to our cost, nature, in some sense of the word, has a way of reasserting itself through the filter or medium of human cultural perception. The narrative that we tell ourselves about how we have controlled nature and turned it entirely to our use falls apart in the face of hurricanes, tsunamis, pest infestations, emerging diseases, climate change, famine, and the disappearance of species that humans value. There is inevitably a dialectical relationship between nature as independent of human perception and nature as cultural projection that forbids complacency about our own cultural perceptions. The politically important insight that our interventions in nature may serve to dominate other human beings need not erase the ecological insight that these interventions also undermine the viability of a non-human world that both subsists within the cultural ambit and yet remains forever other as well.

Both reductionist strategies have ambiguous implications for feral animals caught up in restoration projects. If everything is natural, then feral pigs and sheep are no less natural than wild foxes or bald eagles; their different origins become irrelevant to decisions about restoring nature. On the other hand, if everything is cultural, then the wildness of the foxes is as much a cultural projection as the compromised feral-wildness of the feral animals. In either case, the concept “natural” no longer helps us to understand the question of how to restore nature. Neither side of the reduction gives any

guidance as to what we should do with the feral animals; their eradication seems as (un)justified as their preservation. At this point, it would seem that we are left only with conflicting human preferences.

But perhaps the more appropriate conclusion is just that we need be much more careful about what sense of "natural" we mean when we appeal to the naturalness or unnaturalness of particular beings or ecological assemblages. Feral animals are certainly not natural in the dualist sense of the term, nor are the biotic communities in which they live. But they are certainly natural in the sense that they are living organisms subject to biological constraints and functioning within biological and ecological communities. They may co-exist with nature understood as a resource base, and indeed, may provide a resource or ecological services of their own. Finally, if feral animals cause no ecological or biological disruption to the populations and functions of a restored community, then even restored communities containing feral animals might satisfy the benchmark criteria of naturalness.

Conclusion

As we have seen, sensitivity to the multiple meanings of nature and of restoration has differential implications for feral animals. The plight of feral animals lies in part in the fact that they do not fit comfortably in our current perceptual categories. They have been domesticated animals, and thus are not paradigmatic natural members of undomesticated biotic communities, yet they are not domesticated animals living within the mixed human-animal community either. Since our moral attention tends to be most engaged with those two categories, it is easier to ignore the interests of feral animals altogether. And yet, taken individually, feral animals are living beings with interests and

needs, subject to pain and suffering, and capable of teleological behavior. Clearly, what happens to them matters to them individually and to deny them considerability would be unjustified.

The purpose of this essay has not been to defend the considerability of feral animals in the abstract. Rather, I have been concerned with their significance in the context of restoration projects. The issue here is not whether we should consider the interests of feral animals at all, but what significance we should accord to them when we propose to restore natural areas they inhabit. Katz's claim that domesticated animals do not suffer natural pain, but only artificial pain, is a dead-end. While the shapes and abilities of domesticated animals have been influenced by various kinds of human interference for centuries, the material on which human breeders have worked has always been the material provided by natural evolution. Whether or not it is morally acceptable to inflict pain on an animal is not answered by knowing that the animal in question has been bred to serve particular human purposes. The physiology of pain remains, despite human interference.

The focus of this essay has been to argue that the significance of feral animals must be contextualized by the goals of restoration and the senses of nature involved. Restoring to a pre-human environment, $Nature_1$, is problematic for practical reasons (what we don't know about the nature of those times), historical reasons (what humans have done to nature since those times), and conceptual reasons (what restoration of nature means). Restoration of untouched, pre-human nature is impossible not just because we lack adequate scientific knowledge about the details of how that nature was constituted, nor just because we know that human alterations of the land and sea have been so

intensive and widespread as to make such restoration practically impossible. Restoration of un-touched nature is conceptually impossible, because it requires the very hand that it seeks to exclude. In the face of these problems, it seems appropriate to seek alternative understandings of both nature and the purposes of restoration.

Nature$_2$ (the biotic and abiotic world), *Nature*$_3$ (the domain of resources from which human culture is constituted), and *Nature*$_4$ (the historic benchmark for evaluating species and ecosystems) provide alternative conceptions of nature within which the significance of feral species can be coherently assessed.

I have suggested that the need to remove all signs of human presence, including feral proxies, is predicated on a particular conception of nature and a particular view of what restoration is for. But this conception of nature is insufficient to guide human relationships with nature. We must be willing to respect ecological functioning, the natural resource base, and also our own cultural perceptions of the value of nature, while taking a critical stance towards them all. Responsible restoration is not so much just a matter of listening better to the land, as Palamar suggests, but of listening better to our own cultural imperatives and filters in order to subject them to more careful assessment as well. Such a process can provide no all-or-nothing protections to feral animals, but it can remove the blindfold that keeps them invisible, thereby enabling us to enter into more informed dialogue with the land that holds them.

Notes

Broughton, J. 2002. Pre-Columbian Human Impact on California's Vertebrates: Evidence from old Bones and Implications for Wilderness Policy. In *Wilderness and Political Ecology: Aboriginal Influences and the Original State of Nature*, 44-71, eds. C.E. Kay, R.T. Simmons. Salt Lake City: University of Utah Press.

Callicott, J.B. 1980. Animal Liberation: A Triangular Affair. *Environmental Ethics* 2: 311-338.

Chapman, A. 2007. The Ways that Nature Matters: The World and the Earth in the Thought of Hannah Arendt. *Environmental Values* 16: 433-445.

Cronon, W. 1995. The Trouble with Wilderness; or, Getting Back to the Wrong Nature. In *Uncommon Ground: Toward Reinventing Nature*, 69-90, ed. William Cronon. New York: W.W. Norton & Company.

Donlan, C.J., et. al. 2006. Pleistocene Rewilding: An Optimistic Agenda for Twenty-First Century Conservation. *The American Naturalist* 168: 660-681.

Elliot, R. 1982. Faking Nature. *Inquiry* 25: 81-93.

Kay, C.E. 2002. Are Ecosystems Structured from the Top-Down or Bottom-Up? A new Look at an old Debate. In *Wilderness and Political Ecology: Aboriginal Influences and the Original State of Nature*, 215-237, eds. C.E. Kay, R.T. Simmons. Salt Lake City: University of Utah Press.

Katz, E. 1997a. Defending the Use of Animals by Business: Animal Liberation and Environmental Ethics. In *Nature as Subject: Human Obligation and Natural Community*, 79-90, ed. E. Katz. Rowman & Littlefield.

Katz, E. 1997b. Organism, Community, and the 'Substitution Problem.' In *Nature as Subject: Human Obligation and Natural Community*, 33-51, ed. E. Katz. Rowman & Littlefield.

Katz. E. 1997c. The Big Lie: Human Restoration of Nature. In *Nature as Subject: Human Obligation and Natural Community*, 93-107, ed. E. Katz. Rowman & Littlefield.

Katz. E. 1997d. Is there a Place for Animals in the Moral Consideration of Nature? In *Nature as Subject: Human Obligation and Natural Community*, 13-31, ed. E. Katz. Rowman & Littlefield.

Keeling, P. 2008. Does the Idea of Wilderness Need a Defense? *Environmental Values* 17: 505-519.

King, R.J.H. 1990. How to Construe Nature: Environmental Ethics and the Interpretation of Nature. *Between the Species* 6: 101-108.

Neuman, T.W. 2002. The Role of Prehistoric Peoples in Shaping Ecosystems in the Eastern United States: Implications for Restoration Ecology and Wilderness Management. In *Wilderness and Political Ecology: Aboriginal Influences and the*

Original State of Nature, 141-178, eds. C.E. Kay, R.T. Simmons. Salt Lake City: University of Utah Press.

Norton, B. 1986. On the Inherent Danger of Undervaluing Species. In *The Preservation of Species: The Value of Biological Diversity*, 110-137, ed. B. Norton. Princeton: Princeton University Press.

Palamar, C. 2006. Restorashyn: Ecofeminist Restoration. *Environmental Ethics* 28: 285-302.

Russell, E.W.B. 1997. History Hidden in the Landscape. In *People and the Land through Time: Linking Ecology and History*, 3-18. New Haven: Yale University Press.

Shelton, J. 2004. Killing Animals that don't fit in: Moral Dimensions of Habitat Restoration. *Between the Species* Issue IV: 1-21.

Siipi, H. 2008. Dimensions of Naturalness. *Ethics and the Environment* 13: 71-103.

Vogel, S. 1988. Marx and Alienation from Nature. *Social Theory and Practice* 14: 367-387.