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What is the Value of Historical Fidelity in Restoration?

1. Introduction.

For over a decade, Sahotra Sarkar has been instrumental in shaping and promoting the field of environmental philosophy. Environmental philosophy encompasses traditional environmental ethics, but places it within a more comprehensive framework for thinking philosophically about the environment. Two distinctive aspects of Sarkar's approach to philosophical problems of the environment deserve notice. The first, and most obvious to a casual reader, is the way he carries into his discussions the kind of rich, empirically-informed, conceptual and methodological analyses that one associates with the philosophy of science. The second is the way he consistently incorporates the perspective of the global South into his environmental concerns. In the following, I'll focus primarily on the chapter devoted to ecological restoration, as Sarkar's position here is highly original and challenging, and it evaded close scrutiny by the other symposiasts.

A canonical way of distinguishing conservation (or, perhaps in more traditional parlance, "preservation") and restoration is as follows. Conservation merely seeks to protect relatively undisturbed landscapes from damage or harm (this harm need not be anthropogenic, though in many discussions it is taken for granted that it is). Restoration seeks to modify landscapes in the aftermath of disturbance or harm. It seeks to undo the damage and re-create an opportunity for certain natural values to flourish. The justification for restoration practices is that there are precious few undisturbed places left on earth. If we wish to promote natural values such as biodiversity, wild places, or the continuation of crucial ecosystem services – such as the provision of clean air and water – we have to actively modify damaged landscapes for those ends. Although terminology in this area is fluid, I will use "conservation biology" to signify the discipline devoted to the practice of conserving landscapes, and "restoration ecology" to signify the discipline devoted to the practice of restoring them, where conservation biology and restoration ecology are two species of environmental management (this taxonomy is similar to that given by Higgs 2003, 97). "Ecological restoration" will signify either the practice of restoring landscapes, or the outcome of such practices. I will use "ecological restoration" and "environmental restoration" interchangeably.

How broadly, or narrowly, should we define this crucial concept of ecological restoration? Obviously, the practice of ecological restoration, by definition, requires something like active habitat modification in response to perceived damage (of course, people may differ on what counts as "damage"). Moreover, this habitat modification must be construed as beneficial, in the sense of somehow promoting natural values such as biodiversity, wild nature, or ecosystem services. But aside from these obvious definitional constraints, should we place any additional conditions on what is to count as "ecological restoration"?

One prominent environmental theorist, Eric Higgs, has argued at length (e.g., Higgs 1997; 2003) that we should impose additional conditions on what is to count as

"ecological restoration." Higgs' explication of the concept of restoration has four aspects. The first two, less important, conditions, are the concepts of "focal practice" and "wild design." These entail, respectively, that the practice of restoration should encourage community participation and its design should respect the autonomy of natural processes. Somewhat more important is the idea that restored ecosystems should exhibit "ecological integrity," which alludes to the ecosystem's ability to adjust to environmental change (Higgs 2003, 214; though he acknowledges that the concept is "intuitive and metaphorical;" also see Sarkar 2012, 150-152 for discussion). Finally, and most important to this discussion, is the idea that ecological restorations should exhibit *historical fidelity*.

Historical fidelity is the idea that the practice of restoration should attempt to approximate, within reasonable bounds, some past state of the damaged ecosystem. Crucially, historical fidelity requires not simply the attempt to re-create, in very general terms, some global functional capacity of the past ecosystem. For example, it goes beyond the mere demand that the ecosystem provide wildlife habitat, or that it exhibit a measure of resilience in the face of future perturbation. What is crucial is that this function be performed by the same kinds of components, or entities, that did so in the past. Historical fidelity is a constraint on what Sarkar calls the "reference state" rather than the "reference dynamic" of the ecosystem (Sarkar 2012, 133). Of course, this raises the question of how similar the components of the restored ecosystem must be to those of the reference state; restoration ecologists have wrestled with this question (e.g., Palmer et al. 2006) but I suspect there is no answer that is both general and principled.

Consider a simple example: there are commonly several ways of ensuring the persistence of some desirable ecosystem function. If a wolf population is locally extirpated, and as a consequence, the deer population spirals out of control, there are several conceivable mechanisms that could perform the function of population regulation. One would be to increase hunting permits; another would be to release a deer-specific virus or parasite that would keep the population to a manageable size. Historical fidelity, however, would typically demand that we achieve this objective specifically by *reintroducing wolves* (assuming that wolves were present during the particular historical era to which we want to restore). Obviously, historical fidelity can be a fairly demanding and information-intensive requirement, depending on how seriously we pursue it.

Higgs develops two kinds of claims in his book, a conceptual claim and a normative one. The conceptual claim is that ecological restoration, by definition, requires historical fidelity. The normative claim is that historical fidelity is highly valuable. That is, habitat reconstruction efforts should typically be restorations (in the sense that involves historical fidelity). Sarkar is critical of both of these claims. First, Sarkar resists Higgs' attempt to impose historical fidelity as a definitional criterion for ecological restoration. Secondly, Sarkar questions the normative justification for pursuing restorations in the narrow sense that requires historical fidelity. In the next two sections, I'll discuss each of these points in turn.

2. "Ecological Restoration" in Theory and Practice.

Sarkar begins this chapter by providing an overview of the traditional use of "restoration." (In the following, I will draw freely not only from Sarkar's book, but also from an article published around the same time on the topic – see Sarkar 2011.) Sarkar's overview, however, does not merely serve to provide a historical backdrop. Additionally, it serves to frame his main argument that the current use of "restoration" among many environmental theorists (as well as certain practitioners primarily associated with the Society for Ecological Restoration [SER]) is overly narrow and potentially counterproductive. Specifically, Sarkar claims that neither traditional use of "restoration," nor its current use in the field, is wedded to historical fidelity (Sarkar 2012, 139; Sarkar 2011, 337).

I want to be cautious, however, about ceding too quickly Sarkar's claim that environmental theorists such as Higgs use the term in a way that substantially differs from the historical pattern of usage or its use in the field. Of course, Higgs could accept the divergence and argue that this is a minor point; after all, regardless of whether practitioners do or do not use the term "restoration" in the sense that requires historical fidelity, the important question is how one *ought* to use the term. But I do not think the importance of the definitional question can be dismissed that easily. At least in philosophy of science there is a presumption that if one purports to explicate a certain term that is in wide circulation amongst scientists, then that explication, all things being equal, should be highly similar to the way scientists actually use it. If Higgs' explication is substantially at odds with the way that scientists use the term then he would seem to be under a special burden to justify this revisionary usage. This is why I do not want to cede too quickly Sarkar's claim that there is any deep discrepancy.

The problem is that it is often difficult to assess what, precisely, scientists "mean" by a certain term. Often, scientists do not explicitly define important terms; even when they do, there is no guarantee that these explicit definitions necessarily capture what they have in mind when they use it. Another problem with using practice to extract the meaning of a term is the phenomenon of environmental "buzzwords." Occasionally a certain term, such as "sustainability," or "integrity," becomes a kind of catchword that generates enthusiasm among environmental planners and, more importantly, generates research funding. This creates a natural incentive for planners to utilize certain terms in ways that they may acknowledge, upon reflection, to be inappropriately expansive. Ideally, to identify how scientists use a term, one would compile a sizable number of examples in which scientists use the term, and a number of examples in which scientists do not use the term (but which are in other respects comparable), and one would try to formulate the rule that seems invoked in the majority of cases. It seems to me that there is no guarantee that the results of such an analysis would confirm Sarkar's claim of discrepancy.

For example, one interesting reconstruction project is the phased transformation of Governors Island, a small island directly south of Manhattan. Around the turn of the century, Governors Island became used as a landfill for debris produced in the construction of the subway system. In the 1960s it was given to the Coast Guard as a residential base. Currently, it does not fulfill any meaningful conservation or socio-

cultural purposes. But, if we accept the premonitions of the Governors Island Trust, a city-funded non-profit organization that oversees the island, that is all about to change. The flat, barren landscape will be replaced by a series of rolling grassy hills. The demolished materials from the Coast Guard buildings will provide the infrastructure for those hills. In many other places the elevation will be raised; salt–resistant, non-native trees and shrubs will be planted along portions of the perimeter to compensate for projected, climate change induced sea-level rises. Other plants were selected in a manner to promote marine and avian biodiversity. A network of thin, paved pathways will traverse the island; these, in addition to baseball fields, free bike rentals, and a view of the Statue of Liberty, will provide socio-cultural opportunities for harried and over–stressed city dwellers.

The transformation of Governors Island is a paradigmatic example of what Sarkar calls "habitat reconstruction." In my view, it responsibly integrates concerns for long-term sustainability, biodiversity protection, and cultural opportunities. But, in all of the documentation I have examined, including internal Governors Island Trust memoranda, project overviews drafted by West 8 (the design team that won the contract), or other related documents such as the City Environmental Quality Review, this phased transition is never described as a "restoration."[1] My hunch is that nobody calls it a "restoration," because the proposed outcome cannot be understood as exemplifying historical fidelity.

3. What is the Value of Historical Fidelity?

Sarkar's second, and more important, claim is that when we actually scrutinize historical fidelity philosophically, it is hard to find much to recommend it. Sarkar provides two main arguments here: the first is what I will call the "replacement argument," and the second is what I will call the "arbitrariness argument." I will mainly focus on the first of these because I think it is the more important of the two. The problem is that, if we analyze the kind of value that people associate with historical fidelity, we will find that it typically has an overtly instrumental character. For example, why might one value historical fidelity? One reason is that the past was more self-sustainable than the present. But in that case, it would appear that self-sustainability is what that person truly values, or values in some more "ultimate" way. If self-sustainability could be achieved without historical fidelity, then presumably the latter would drop out as unimportant. Similarly, a person may value historical fidelity because it gives that person a felt connection to nature. But again, it seems that what the person "truly" values, or values in some more "ultimate" way, is a felt connection with nature. If this felt connection could be achieved without fidelity, such as by volunteering in a community garden, then historical fidelity would lose its value (Sarkar 2012, 140-141).

[1] To be specific, "restoration" is occasionally used with respect to the historic district and some of the paths, but not in the sense of ecological restoration. Some of the relevant documents can be found at http://govisland.com/html/future/future.shtml, and http://www.nyc.gov/html/oec/html/ceqr/11DME007M.shtml, both accessed August 4, 2013.

Of course, one might agree with Sarkar that historical fidelity does have a purely "instrumental" character, but that, empirically, no alternate and reliable methods exist for achieving those ends. But this would be an empirical argument, not a philosophical one, and it would seem to be a very difficult one to make. I call Sarkar's argument the "replacement argument" because the principle seems to be that any appeal to the value of historical fidelity in the context of an environmental management project could be replaced by appeal to some other value, without diminishing the expected value of the outcome of that project.

How we evaluate Sarkar's argument in this chapter depends on what proposition we take him to be rejecting. It seems to me that there are two very different propositions that Sarkar may be targeting in this chapter. I will describe the distinction between them in terms of the distinction between hard and soft constraints. In any environmental planning project, there are several potentially competing goals or desiderata, or constraints. They can be classified into two types. A hard constraint is a constraint on the generation of new proposals, or at least a constraint on which kinds of proposals are, as it were, admissible for deliberation. A soft constraint is a goal that has prima facie importance, but is defeasible. It can be outweighed by the preponderance of other goals. Thus, the constraints on environmental planning in any given context typically form a two-tiered hierarchy.

First, in some places Sarkar merely seems to assert that *historical fidelity should not be a hard constraint on every habitat reconstruction project*. For example: "there is rarely any justifiable normative ground for deifying historical fidelity" (Sarkar 2011, 329); "fidelity to the past should not be a *necessary* requirement imposed on all attempts to reconstruct habitats" (ibid., 342). "Worship of fidelity provide[s] no guard against caprice" (Sarkar 2012, 143). Rejecting this strong claim is consistent with the view, which he sometimes seems to accept, that historical fidelity may be reasonably construed as one goal among others: "this does not amount to any rejection of ecological restoration as one possible goal for habitat management" (Sarkar 2011, 354).

I agree that such a strong requirement would be unjustifiable. This is easy to see when one considers that often, we just do not know what historical fidelity would require; moreover, there are cases in which insisting on historical fidelity would be self-defeating. Planting regionally 'indigenous' vegetation on Governors Island would be futile if that vegetation could not withstand the effects of sea-level rise. Yet my worry is that attacking this proposition may be attacking a straw man. Even Higgs, whose view comes closest to the view described above, recognizes that achieving historical fidelity is not always practical or possible. As he puts it (in an admittedly rare concession), "In the end, any steps…toward improving ecological integrity, and presumably recreational opportunities, are better than what is in place now…Presumably, some effort, as long as it is carefully thought out, is usually better than no effort at all" (Higgs 2003, 67-68).

Secondly, in other places, Sarkar seems to assert that *historical fidelity should not even be treated as a soft constraint on habitat reconstruction*. In other words, he sometimes suggests that it's the *wrong kind of thing* for planners to be preoccupied with. This would

seem to follow from the replacement argument, and is suggested directly by the text. For example: "the real target of this analysis is the reliance on historical fidelity, whether it has adequate normative justification as a goal of social (including ecological) policy" (Sarkar 2011, 338). "We now have a tentative catalog of natural values which may be used to replace historical fidelity as the reference state criterion in attempts to reconstruct habitats" (ibid., 352). "Note that the apparently insurmountable problems faced in the last section were due to insistence on *historical* fidelity and not fidelity in general" (Sarkar 2012, 145). "These criteria [other than historical fidelity] are what is normatively relevant as we decide what to do with habitats. Historical fidelity becomes merely a tool towards these other ends" (Sarkar 2011, 342).

Occasionally, Sarkar notes that historical fidelity may have a legitimate role in habitat reconstruction planning, but only by virtue of constituting a *cultural* value (ibid.). Even there, however, Sarkar would only allow historical fidelity to count as a goal of planning when the local community puts a premium it, in the same way that the community might attach significance to a mural or bridge. But this is still to suggest that historical fidelity has a very different, and much more marginal, value relative to biodiversity or ecosystem services.

This would indeed be a radical claim. But it is potentially inconsistent with the normative basis for environmental policy that Sarkar sketches in the book (and in other publications). In general, in order to show the distinctive kind of value that various environmental goods have, such as biodiversity, or wild nature, he appeals to their transformative power (e.g., Sarkar 2012, 55-59). Encounters with rare species, say, have the power to transform our felt preferences as reflected in our decisions in the marketplace. This transformative power gives biodiversity a value that is different from, and not commensurate with, its market value (as estimated, for example, by assessing what people would be "willing to pay" for its maintenance). Although Sarkar has been highly critical of wilderness preservation in the past (see Sarkar [1999], though his view seems to have been somewhat tempered in this book) he acknowledges that wild nature may harbor this transformative power as well. But if wild nature and biodiversity have a special value because of their transformative power, why can we not say the same thing about historical fidelity? If so, historical fidelity would deserve to be an important but defeasible goal of habitat modification projects – just like biodiversity or wild nature.

Moreover, the idea that historical fidelity has a special kind of transformative power has a plausible psychological or phenomenological basis, as Sarkar seems to indicate (Sarkar 2012, 155). Take, for example, a wilderness experience–or, as Sarkar would prefer to describe it, an experience with wild nature (all I mean by that is an experience in a natural setting that is not obviously overrun with human artifacts). Part of the pleasure we take in those sorts of experiences stems from the beliefs we have about the historical properties of the environment. Many people, at least, take pleasure in a natural setting because they believe that the environment that they are enjoying is continuous with, or at least representative of, the way that it was in the past.

This observation is the basis for the so-called problem of "authenticity": suppose one were enjoying what one took to be a "wilderness" experience, and then came to discover that the trees, rocks, animals, and streams that populate one's immediate surroundings were deliberately introduced into that place only years earlier by a technologically savvy design firm to generate a certain kind of aesthetic experience. Many people (though not everyone) would feel disappointed by this fact. Something that made the experience valuable would have been lost (Elliot 1982; Katz 1992). But to acknowledge the problem of authenticity is to acknowledge that part of what we find valuable about certain kinds of encounters with the natural world is, precisely, their historical properties. These are the kinds of observations that Higgs relies upon to convey the psychological significance he attaches to historical fidelity, or more generally what he calls "historicity." It may have a transformative power akin to biodiversity or wild nature.

I recognize that there is a certain irony in appealing to the problem of authenticity to justify the value of historical fidelity in ecological restoration. After all, philosophers have typically utilized intuitions about authenticity to argue against the practice of restoration. In my view, what the 'problem of authenticity' reveals is not that there is something special about wilderness *per se*, but that there is something special about the historical properties of an ecosystem. In other words, philosophers critical of restoration, such as Eric Katz and Robert Elliot, had the right sort of intuition but the wrong diagnosis. This is not to deify historical fidelity, but to suggest that if biodiversity and wild nature are reasonably construed as soft constraints on habitat reconstruction proposals (without having to be explicitly justified in the context of that proposal by appeal to more ultimate goals) then historical fidelity should be, too. So I would at least want a stronger reason for not treating historical fidelity as on a par with the other goals of environmental planning.

In addition to the replacement argument, Sarkar also raises a second problem for the value of historical fidelity, which is the arbitrariness argument: proponents of historical fidelity cannot evade a certain kind of arbitrariness or caprice in their selection of a reference state. After all, suppose we grant that historical fidelity possesses some prima facie value. We are still faced with a vast number of potential reference states for our restoration endeavors. Should we restore a certain environment back to the way that it was ten years ago? 100? 1000? Back to the way it was during the last ice age? The coagulation of the earth? Proponents of historical fidelity have no non-arbitrary way to answer this question; thus, their choice in any given case seems beset by the kind of caprice that they accuse others of.

If, however, there are good philosophical reasons for valuing historical fidelity, then I don't think the problem of arbitrariness is very serious. If we agree that historical fidelity matters, then the most we need commit to is the use of historical fidelity as a preliminary filter to decide which possible habitat restoration projects are acceptable for consideration and which are not (this would make it into a hard constraint on habitat reconstruction – as noted above, we need not even commit to this much). The fidelity constraint would merely exclude those reconstruction projects that do not exhibit fidelity to *any* past. Once this preliminary filter has been applied, we then use other criteria to narrow the selection

down *to a specific era*. These considerations include biodiversity value, wild nature, ecosystem services, sociopolitical considerations, and so on. Historical fidelity alone is not meant to replace, in one fell swoop, those kinds of complex, multiple criteria decision problems. Thus, it seems to me that the more important question is the foundational question about whether, and why, historical fidelity should be considered valuable in the first place. This is the question that is sharply raised by the replacement argument, and one that I think is very much worth discussing.

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