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Authenticity and Autonomy in De-Extinction

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ABSTRACT

Eric Katz in *Zombie Arguments* defends the thesis authenticity is indispensable to conservation. I agree. However, I argue authenticity appears in degrees and can be reclaimed by populations through their continuing evolutionary responses to the world. This means that interventions that diminish the value of a population through reducing their authenticity can be permitted in limited cases. When our actions retain the remaining authentic features in a threatened population we should allow such a diminishment as authenticity can be reclaimed in time.

Keywords

De-extinction; artifacts; authenticity; function; autonomy

Eric Katz presents in *Zombie Arguments* a fascinating and compelling defence of his (and Robert Elliot's) thesis that authenticity is indispensable to conservation. He has developed this position over the last forty years. Katz maintains that authenticity is derived from the lack of design in nature. Once human beings imbue a natural system with their intention it becomes an artefact, and therefore lacks a distinct value only found within nature. He argues against de-extinction on these grounds, prompted by petulant interlocutors, and I appreciate the opportunity clarify my position (Lean, 2020) in light of his paper. Despite significant disagreement with Katz about the details of the relationship between authenticity and conservation, there is a startling amount of agreement between us. We agree de-extinction is a misnamed enterprise, and a methodology local to the larger field of 'restoration ecology'. We both believe authenticity in nature is a significant factor that *must* be incorporated into conservation aims. We both believe that this authenticity is derived from a certain type of causal history; one which has had limited influence by humanity. Further, we agree that there is a significant risk, a moral hazard, involved in normalising human interventions on natural systems. The primary difference between our positions is that Katz takes the connection between causal history and authenticity, and authenticity and moral hazard, as binary and necessary. Whereas I view these relations as appearing in degrees and defeasible, considerations that must be incorporated in conservation aims, but not defeaters of the possibility of human intervention in the conservation of nature. Authenticity, in my view, is produced by a process, the autonomous evolutionary response of a population to the world excluding humans, which self-reflexively creates authentic products, the 'functional' features of that population. In my

view, inauthentic interventions diminish the value of a population but can be permitted when we maintain the ability of the population to continue to produce authenticity and retain its remaining authentic features.

The authenticity of the biotic world is derived from a causal history that is separate from humanity. The first place where Katz and I differ is the metaphysics of this causal history. Katz is a strong eliminativist about biological function, viewing the legacy of post-Darwinian metaphysics as a world without natural function or design (Katz, 1992a, 1992b, 1993). In contrast, I believe the autonomous and mindless algorithmic regime of natural selection begets natural function (Griffiths, 1993; Millikan, 1984; Neander, 1983). There is a differing conceptual analysis of 'function' where Katz appears to consider intention and forethought as necessary for function while I, following other philosophers of science, have a much more deflationary set of conditions for there to be natural function. Katz is not alone. Robert Cummins (1975) has a similar view. In contrast on my view, Reverend Paley was right that nature is rich with functional structures, he was just wrong about from whence this apparent design came (Paley, 1829). My view is more congruent with Robert Elliot's thought experiment of the artwork and forgery than Katz (Elliot, 1982). An artwork is valuable due to its relationship to its artist, and authenticity in nature is valuable due to its relationship to autonomous self-design. As such, I appear to be in agreement with Brendan Cline about nature producing unique and 'irreplaceable design' (Cline, 2020). Even if technology advances far past the current, and can create perfect replicas of organic beings, such biotic design will not have this unique causal history, connecting that entity to the causal history of life on earth.

This relationship between autonomous design and authenticity is a stance towards nature I associate with 'enchanted naturalism', and its closely allied view of 'explanatory adaptationism', attributable to figures such as Carl Sagan, Richard Dawkins, and Dan Dennett (Dawkins, 1986; Dennett, 1995; Godfrey-Smith, 2001; Sagan, 1980). There is no designer of nature, but nature's apparent design is wondrous and demands intellectual engagement. Our experience of nature is of a world with spectacular and ingenious apparent design created by the ongoing process of populations responding to their selective regimes. These processes are not something that just happened in the past but exist now.

To return to the analogy of the artwork and artist, our interventions in natural systems, if extremely limited and subtle, can be more akin to an art conservator-restorer. We intervene in such a way to allow the system to continue its autonomous trajectory, responding to future conditions based on features that have strong fidelity to the past. This does not mean that such interventions cannot be deleterious, just consider the recent infamous 'restoration' of Elias Garcia Martinez's Fresco in Spain. Minor interventions which retain the features of past design will retain to a greater degree a population's authenticity. The range of evolved features within a population are rich, most of their genome and functional features will be intact, their place in the phylogenetic tree and connection to deep evolutionary history will remain. When we partition up their biotic features, as we do when we assess biodiversity, much of their biodiversity is authentic or intact, and it is preferable to retain these features when the alternative is extinction. There will be strong continuity in their features with the past and an ability to respond to the future as an evolving population. I reject the absolutist ontology that genetic interventions, whether by selective breeding or genetic engineering, make that organic being entirely

inauthentic. Instead, intervention is a matter of degree, the more causally intertwined a population is with humanity the more inauthentic it becomes; so, while chickens are posers, crocodiles are the real deal. This aligns better with the reality that most, if not all, populations have been influenced by humanity and responded to the selective regime created by their interactions with humanity, intentional or otherwise. This bias towards conservative restoration, however, justifies a more limited set of genetic interventions than usually associated with de-extinction. Hence, I have some trepidation towards the utility of de-extinction, as opposed to more limited genetic interventions for species conservation.

Authenticity is produced by a populations' ability to evolve and change in response to other populations. This is what separates them from Martin Krieger's (1973) plastic trees. Whereas experiences of plastic trees, or holograms of trees, are of static entities, locked in their presentation, populations that are inauthentic due to genetic alteration are much richer. In contrast to an artwork, a natural population continually evolves and changes past the point of our intervention. *Natural systems can reclaim their authenticity by continuing to evolve and respond to the world.* Interventions which adulterate the natural features of populations can be acceptable when the alternative is the loss of all the authentic features contained in a unique lineage(s). My concern is preserving the deep history of life, not just the immediate appearances of a lineage.

While I have emphasized that the act of valuing nature is largely psychological (Lean, 2020), our psychological assessment needs to track reality. Plastic trees, and other static replicas of nature, have a diminished potential for producing new experiences due to their rigidity compared to living systems. Holograms or plastic trees are entities without the potential to change, evolve, or show any connection to the history of life on earth. As such, the experience of such frozen imitations may give us immediate pleasure, but the potential experiences and intellectual possibilities are more limited. There are fewer modal possibilities for psychologically enriching experiences due to their limited ability to react to the world and their lack of connection to life on earth. In contrast, de-extinct populations have a much richer potential to show these types of connections (Campbell, 2016). So, while psychological assessments of value can be somewhat contingent, given they are influenced by cultural norms, they should track the reality of the causal structure and the possibilities it creates.

My fear of the psychological contingency of valuing authenticity is born from my uncertainty in how cross-culturally robust this value is and my suspicion it is deeply influenced by the cultural legacy of the romantic movement which emerged in Western society in response to industrialisation. There are differences between how Katz and I consider authenticity, and I cannot compel Katz to consider authenticity in the same way as I do. We build meaning around the natural world and this meaning should be built upon salient features of the world, and we can advocate for our conception of meaning, but we cannot compel. This is why my work on biodiversity is focussed on option value as this is not a claim about the immediate ethical or aesthetic value of nature, instead it is a claim that we must preserve nature for prudential reasons, which all people should have (Lean, 2017). We do not know what features of natural systems we will value in the future, but we have good reason to believe we will value new parts of nature, so it is rational to invest in preserving a range of features. When it comes to the experiential aspect of nature, it is something we want to preserve but it is something that could be reconstrued

in the future. We may attach different psychological significance to different structures or causal histories in these systems. But the richness of the biotic features, and the more possibilities for a population to respond to the world, creates more features for us and future generations to value.

Finally, this all leads to the question of the moral hazard of normalising highly interventionist expensive technologies in conservation. There is a real risk involved in normalising the view that we can technologically overcome any destruction we cause and not investing in the more economical and effective action of preserving extant habitats. Equally, we should consider the opportunity cost of not intervening and losing biodiversity. De-extinction therefore will only be justified when it drastically buttresses conservation through public engagement, i.e. driving public investment in habitats, or a de-extinct population 'repairs' an ecosystem, preserving the populations within these systems (Turner, 2014). So, while interventions of this kind should be avoided, when the gain is high, the cost to benefit ratio may warrant action. Ultimately, authenticity will serve as a conservative principle in conservation, and this is an extremely good thing, but conservatism will always dynamically interplay with more progressive ideologies, and it will take considered weighing of risks and benefits to identify the most prudent way to act in the face of environmental destruction.

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References

- Campbell, D. (2016). A case for resurrecting lost species—review essay of Beth Shapiro's, "How to Clone a Mammoth: The Science of De-extinction". *Biology & Philosophy*, 31(5), 747–759. <https://doi.org/10.1007/s10539-016-9534-2>
- Cline, B. (2020). Irreplaceable design: On the non-instrumental value of biological variation. *Ethics and the Environment*, 25(2), 45–72. <https://doi.org/10.2979/ethicsenviro.25.2.03>
- Cummins, R. (1975). Functional analysis. *The Journal of Philosophy*, 72(20), 741–765. <https://doi.org/10.2307/2024640>

- Dawkins, R. (1986). *The Blind watchmaker*. WW Norton & Company.
- Dennett, D. C. (1995). *Darwin's dangerous idea: Evolution and the meanings of life*. Simon and Schuster.
- Elliot, R. (1982). Faking nature. *Inquiry: An Interdisciplinary Journal of Philosophy*, 25, 81–93. <https://doi.org/10.1080/00201748208601955>
- Godfrey-Smith, P. (2001). Three kinds of adaptationism. In S. Orzack & E. Sober (Eds.), *Adaptationism and optimality* (pp. 335–357). Cambridge UP.
- Griffiths, P. E. (1993). Functional analysis and proper functions. *The British Journal for the Philosophy of Science*, 44(3), 409–422. <https://doi.org/10.1093/bjps/44.3.409>
- Katz, E. (1992a). The big lie: Human restoration of nature. *Research in Philosophy and Technology*, 12, 231–241.
- Katz, E. (1992b). The call of the wild: The struggle against domination and the 'technological fix' of nature. *Environmental Ethics*, 14(3), 265–273. <https://doi.org/10.5840/enviroethics199214321>
- Katz, E. (1993). Artefacts and functions: A note on the value of nature. *Environmental Values*, 2(3), 223–232. <https://doi.org/10.3197/096327193776679909>
- Krieger, M. H. (1973). What's wrong with plastic trees? *Science*, 179(4072), 446–455. <https://doi.org/10.1126/science.179.4072.446>
- Lean, C. H. (2017). Biodiversity realism: Preserving the tree of life. *Biology & Philosophy*, 32(6), 1083–1103. <https://doi.org/10.1007/s10539-017-9592-0>
- Lean, C. H. (2020). Why wake the dead? Identity and de-extinction. *Journal of Agricultural & Environmental Ethics*, 33(3–6), 571–589. <https://doi.org/10.1007/s10806-020-09839-8>
- Millikan, R. G. (1984). *Language, thought, and other biological categories: New foundations for realism*. MIT press.
- Neander, K. (1983). Abnormal psychobiology [Unpublished Ph.D. Thesis]. LaTrobe.
- Paley, W. (1829). *Natural theology: Or, evidences of the existence and attributes of the deity, collected from the appearances of nature*. Lincoln and Edmands.
- Sagan, C. (1980). *Cosmos*. Random House.
- Turner, D. (2014). The restorationist argument for extinction reversal. In M. Oksanen & H. Siipi (Eds.), *The ethics of animal re-creation and modification: Reviving, rewilding, restoring* (pp. 40–59). Palgrave Macmillan.