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Conventional science will not do justice to nonhuman interests: A fresh approach is required

Commentary on [Treves et al.](#) on *Just Preservation*

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Abstract: Treves et al. (2019) make a convincing case that conservation efforts need to go beyond an anthropocentric worldview. Implementing that vision, however, will require *human* advocates to represent *nonhuman* interests. Where will the knowledge of those interests come from? How can humans know what is in the best interest of another animal, a plant, or an ecosystem? We discuss how the values embedded in current scientific practices may be ill-suited to representing nonhuman interests and we offer some ideas for correcting these shortcomings.

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Treves et al. (2019) observe that the current values dominating conservation biology — anthropocentrism, speciesism, and instrumentalism — are destabilizing planetary health. Along with several of the commentators (Attfield, 2019; Baker, 2019; Washington, 2019) and in line with the existing literature (Crist, 2014; Jensen, 2016; Meijer, 2019), we heartily agree with this diagnosis. As part of the treatment plan, Treves et al. envision a court that enacts multispecies justice by appointing advocate-trustees who have been “well-trained in the capabilities and variable sensory, cognitive, and socio-emotional capacities of the non-humans they represent.” However, as conservation biologists, the authors admit to having little to say about how such advocate-trustees will gain the information needed to carry out their mandate. We pick up where Treves et al. leave off by asking: *What science will serve nonhuman interests best?* We focus on animal behavior science, our field of study, but we believe that the issues and principles discussed here apply more broadly to any program of research aimed at understanding the interests of its subjects.

As Treves et al. point out, the values that scientists hold matter. Values drive research questions, methodological choices, statistical interpretation, and the framing of results; despite being ignored (or denied when science is touted as “value-free”), values can influence empirical knowledge as much as the data (Midgley, 2001). In the quest for information about the interests of nonhuman animals, the values driving the science can amplify human presuppositions about nonhuman lives.

Animal welfare science — which, as a field aiming to improve the lives of nonhuman animals, is a natural place to turn for understanding animal interests — tends to use industry standards (e.g., indoor housing for dairy cows, shoe-box cages for rats) as default husbandry practices. Although this value enables the field to generate practical, near-term solutions to alleviate animal suffering in existing systems, it may be less useful for understanding animal interests *per se* (Franks, 2019; Yeates, Röcklinsberg, & Gjerris, 2011). In valuing the systems of use over the interests of the animals themselves, questions about preferences for mate selection, reproductive control, autonomy, exploration, discovery, learning, positive emotion, multispecies interaction, and stable social groups are usually not tested. Restrictive treatment can even constrain animals’ behavioral, cognitive, and emotional potential, diminishing the expression of their interests because of anhedonia and disengagement (Franks, Champagne, & Higgins, 2013; Fureix & Meagher, 2015).

Modern animal scientists are trained to think and write in ways that deny animal sentience (Crist, 1999; Lestel, 2014); hence they rarely engage in debates in animal ethics (Webb, Woodford, & Huchard, 2019). Similar impediments to adequately representing animal interests exist across most animal science subfields. At a minimum, to determine the interests of another individual requires (1) accepting the individual *has* interests (rather than being just a collection of mechanistic processes) and (2) giving the individual the opportunity to discover and convey their interests. Asking anthropocentric, mechanistic questions and treating individuals in a detached, callous way, animal behavior science can undermine rather than unveil nonhuman interests.

Fortunately, there is growing recognition of the need for new values and practices, exemplified by the compassionate conservation movement (Ramp & Bekoff, 2015), positive animal welfare (Lawrence, Vigors, & Sandøe, 2019; Mellor, 2019), and novel ethological

frameworks pioneered by Vinciane Despret, Dominique Lestel, and Roberto Marchesini (Bussolini, 2013). To represent nonhuman animal interests adequately, scientists will need to give priority to those interests, as follows:

1. Use language that recognizes and respects animal sentience (Crist, 1999)
2. Pay attention to the ethical implications of the work — both the immediate concerns of the individuals involved in the research and its longer-term, broader consequences (Washington, 2019; Webb et al., 2019)
3. Allow the interests to be sophisticated and diverse:
 - a. Learning, agency, choosing, creating (Franks, 2018; Franks & Higgins, 2012; Lestel & Herzfeld, 2005; Špinka, 2019)
 - b. Forming intraspecific and interspecific friendships (Lestel & Taylor, 2013; Sridhar & Guttal, 2018)
 - c. Diverging from human interests (e.g., the importance of smell to dogs (Duranton & Horowitz, 2019)
4. Rely on sources of knowledge that are currently perceived as unconventional:
 - a. Personal, empathetic connection and intersubjectivity with study subjects (Bradshaw, 2010; Bussolini, 2013; Lestel, 2014; Smuts, 2001; Wels, 2013)
 - b. Local and indigenous knowledge (Jino et al., 2018)
 - c. Anecdotes and critical anthropomorphism (Bates & Byrne, 2007; Bekoff, 2006; Burghardt, 1991)
5. Transdisciplinary collaboration, especially with philosophers, political scientists, and cultural and legal scholars

As other commentators have noted, the legal and ethical foundations on which conservation biology is built require further debate (Gupta, 2019; Palmer & Fischer, 2019). Regardless of the underlying structure, however, the question of how to determine nonhuman interests will remain. Existing scientific practices were not designed with those interests in mind; they instead favor academic trends (e.g., positivism; Fraser, 2009), existing institutions (e.g., human exceptionalism; Chapman & Huffman, 2018), or profit (e.g., animal agriculture). To meet the modern crises of climate change, environmental pollution and degradation, and mass species extinction, animal interests (including the interests of the particular animals involved in the research) must be given priority over external considerations.

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