



Response to Pukall *et al.* 2024. "Response to: Exploring evolving spiritual values of forests in Europe and Asia: a transition hypothesis toward re-spiritualizing forests"

Beyond linear transitions: re-spiritualizing forests through plural ontologies: Reply to response to exploring evolving spiritual values of forests in Europe and Asia

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ABSTRACT. We reflect on a critical response to our article on a forest spirituality transition hypothesis published in this journal. We consider similarities between this hypothesis and Descola's ontological turn, including the limitations of both. We welcome further debate on the topic.

Key Words: *Descola; forest spiritual values; forest transition; ontologies; relational values of nature*

INTRODUCTION

In an article on the evolving spiritual values of forests (Roux *et al.* 2022), we (1) propose a definition of forest spiritual values and (2) suggest a spiritual transition hypothesis observing a co-evolution of spiritual values and forest landscapes over time in a group of European and Asian countries. In response, Pukall and Mayer-Gampe (2024) criticize our paper from a perspective rooted in the ontological turn (Viveiros De Castro 1998, Descola 2013). Their critique focuses on three aspects: (1) an assumption of an overly simplified linear progression from animism to rational management in the forest spiritual transition hypothesis; (2) a biased and potentially harmful naturalistic perspective disregarding all other ontologies, and (3) a reproduction of a modernization transition idea without considering its power effects.

REPLY TO CRITICISM

An overly simplified linear progression

We acknowledge that a sense of linearity can be observed in some of the country cases underpinning our transition idea (Roux *et al.* 2022). We explicitly note this limitation in the original article and invite future research to challenge the idea in various contexts. We are aware that hypothetical generalizations elicit academic critique (and benefit from it). This is also true for the Forest Transition Theory (FTT) with which we analogize our hypothesis (see Liebman and Gagliano 2021). Yet, we believe that critique can only trigger debate if it goes beyond a general generalization refusal based on ontological dogmatism, as the latter precludes any debate.

We outline the possibilities of fluctuation and leapfrogging between the different transition stages, suggesting that multiple stages can coexist. Yet, Pukall and Mayer-Gampe (2024) rebut our stance, arguing that the FTT is a "historical concept." Supposedly, the FTT was developed against the background of a historical analysis of land use change (Mather 1992). Still, different drivers, local contexts, and cultures produce distinct pathways, resulting in varied ecological characteristics of the forest, and yielding different "suites of ecosystem services" (Wilson *et al.* 2017). Likewise, the forest spirituality transition

idea departs from the initial observation of a historical pattern in several case countries; however, it may follow distinct pathways and variations when studied more in-depth under different settings. A hypothesis related to a general pattern should not preclude context-dependent diversity, but rather serve as the starting point for exploring the latter.

Descola's ontologies also follow a historical pattern. Animism is associated with hunter-gatherer societies, analogism with agrarian societies, and naturalism with industrial societies (Anderson 2015). Again, these categories are not meant to be watertight; there is a flow between and mixing of ontologies, as with the forest spirituality stages. We agree with Descola's commentators that ontologies (or transition stages) are "useful for thinking, but hard to turn into iron boxes" (Anderson 2015:210), and that mixed ontologies are possible (Kapferer 2014, Lenclud 2014). Descola even acknowledges in later work that ontologies are heuristic tools for analysis, thus leaving room for societies to blend or transition between them (Descola 2016).

A biased naturalistic perspective

Given the above similarity in observing historical patterns, we are tempted to compare the forest spirituality transition stages to Descola's ontologies, which reflect different ways of perceiving forests and their role in human life. Specifically, animism relates to stage 1, "Nature is powerful," emphasizing a deep spiritual connection and interwovenness (even inseparability) of humans and nature. Analogism connects to stage 2, "Taming of nature." Humans, animals, and objects are viewed as integral parts of a vast system of hierarchies, which creates order and hierarchy and fosters a sense of otherness and inequality. Naturalism relates to stage 3, "Rational management of nature." Science and technology are rendering humans culturally unique, but still governed by the same biological and physical rules as animals. Forests become a resource for timber, climate regulation, and recreation rather than spiritual beings. Stage 4 (re-spiritualization) arguably connects to totemism. There is no strict divide between nature and culture (anymore), and humans and nature have strong connections (again) through which humans attribute spiritual essence to nature (see Anderson 2015).

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If we accept that the transition stages, and similarly Descola's ontologies, can form hybrids and coexist simultaneously (Anderson 2015, Kapferer 2014, Lenclud 2014), it becomes evident that the different stages/ontologies complement each other, each representing the values and beliefs of different worldviews. Importantly, one worldview is not inherently superior to another, but particular worldviews tend to dominate in specific temporal or spatial contexts. Understanding the interaction between people and nature is facilitated by concentrating on multiple rationalities and the debate between various worldviews/perceptions (Paleček and Risjord 2013).

There is, however, an apparent difference in the methodological approaches of the two typologies. Roux et al. (2022) employed an inductive approach, examining empirical evidence in a selection of cases and generalizing themes to formulate a hypothesis. Although Descola's approach was initially similar, his hypothesis has been deductively tested in different contexts, resulting in a framework of four typologies along two axes: similar/dissimilar interiority/physicality, supported by empirical examples (Descola 2013). Thus, to conduct an accurate comparison, the forest spiritual transition and its proposed stages should similarly be deductively tested in different contexts. Still, we find Descola's approach inspiring, particularly for the spiritual transition hypothesis, and believe that a comparison could contribute to broader academic and societal debate.

Unfolding power without realizing the consequences

Pukall and Mayer-Gampe (2024) suggest that our work reproduces power imbalances shaped by a naturalistic ontology. Referring to Kirchhoff (2019), they claim that we endorse the idea of nature serving humans by defining forest spirituality as a cultural ecosystem service. This is, however, inaccurate. We ground our definition of forest spirituality in relational values: spirituality emerges from reciprocal human-forest relationships that shape both landscapes and perceptions over time (Chan et al. 2012, Fish et al. 2016, Pascual et al. 2017). The debates on ecosystem service valuation or nature's contribution to people have shifted in recent years from narrow utilitarian framings toward greater inclusivity of diverse worldviews, exemplified by the IPBES Values Framework. Embedding such plurality into decision making is seen as vital for fostering just and sustainable futures based on multiple ways of relating to nature (Pascual et al. 2023, Raymond et al. 2023). We are aware that relationships with nature vary depending on context, and that a sense of connection with nature is not universal (Descola 2013). In this regard, we agree with the observation by Pukall and Mayer-Gampe (2024) that one driver (or consequence) of the re-spiritualization of forests is a shift from rationalized forestry perspective toward a perspective that "the myth of being apart from nature and having the power over networks we hardly understand is crumbling".

Kirchhoff (2019) himself advocates for plural values and perceptions of nature, cautioning against rigid terminology. He distinguishes between "values" versus "services," "nonmaterial" versus "cultural," and "nature" versus "ecosystems," while acknowledging that these concepts themselves are culturally constructed. Our terminology aligns with this call for caution, reflecting awareness of how language can reinforce power-laden ontological assumptions. Specifically, relational values produced

through human-nonhuman interactions could be understood as supporting the nature-culture dichotomy. However, they may also conceptualize nature and culture as inseparable, for example, living in, with, or from nature, but also living "as" nature (see Pascual et al. 2023).

We also recognize that many ontologies have historically been marginalized or suppressed. Building on this, we align with the emerging "relational turn" in forestry (Himes and Dues 2024), which calls for broadening the institutional foundations of "traditional forestry" to embrace value pluralism. This does not reject dominant approaches but complements them by recognizing reciprocal relationships with forests at material, emotional, and spiritual levels.

We reject Pukall and Mayer-Gampe's (2024) unsupported claim that "[b]ecause modern science is based on the naturalistic ontology, all other ontologies automatically fall into the spiritual category," and that the naturalistic ontology automatically reproduces the "story of human dominance." Like Descola (2013), who acknowledges the potential Eurocentrism of his approach and the risk of oversimplifying complex societies, we are transparent about the limitations of our approach while proposing it as a heuristic lens to spark debate on forest spirituality.

CONCLUSION

We maintain that our approach is descriptive, not prescriptive. We seek to analyze shifts in worldviews, not dictate a universal trajectory. Through the description of our stages, we acknowledge that there are alternative views and ways of thinking about nature and culture, beyond a naturalistic ontology associated with a nature-culture divide. To conclude, like Descola, we observe plural ontologies and attempt to make sense of them, while acknowledging our own ontological limitations. We thank Pukall and Mayer-Gampe (2024) for joining the debate. We, however, note an element of projection in their critique: are they not dismissing all other ontologies in favor of their own?

We welcome future discussions and contributions on the spiritual values of forests.

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