



Coexistence for Whom?

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This perspective essay considers ethical and conceptual questions around who coexistence is for, who it affects, and who is to make it happen. The introduction considers some approaches to thinking about human-wildlife coexistence, debates on the utility of the concept and reasons for its current emergence into the mainstream. It next outlines the preliminary conception of coexistence informing this essay. The discussion considers challenges for a narrow conservation-oriented framing of human-wildlife coexistence, and offers insights from the literatures on stewardship and relational values for tackling these.

Keywords: coexistence, wildlife, conservation, diversity, human-wildlife interactions

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INTRODUCTION

This perspective essay considers approaches to, and debates about human-wildlife coexistence. It examines reasons for the emergence of coexistence into mainstream conservation research, and outlines the conception of it underlying this essay. The discussion considers challenges for a narrow conservation-oriented framing of human-wildlife coexistence, asking questions about culture, difference, and wildness. It draws on ideas from the literatures on stewardship and relational values as a means for widening the focus of human-wildlife coexistence studies to better address these challenges.

The Concept of Coexistence

The concept “coexistence” is neither novel nor recent, but it has emerged into the mainstream of conservation research over the past decade (Madden, 2004; Carter and Linnell, 2016; Nyhus, 2016; Frank and Glikman, 2019) as a significant orientation in thinking on human-wildlife interactions, itself a reframing which emerged a decade ago to recognize the limitations of a conflict framing (Peterson et al., 2013). The term is very much in play conceptually, with no fixed theory, definitions or principles—or even agreement that these would be useful—though some formulations exist (e.g., Carter and Linnell, 2016; Loring, 2016). Indeed, the strength and popularity of the concept may well lie with its plasticity at this point.

Key aspects of the growing popularity of the concept appear to be linked to a movement away from a focus on negative interactions with wildlife (Frank and Glikman, 2019), an increasing openness to Indigenous and local peoples’ ways of valuing and interacting with wildlife (IPBES, 2019), and a recognition of the limits of economic and instrumental measures to explain and prevent conflicts (Pooley et al., 2017). There is also growing recognition of the agency and sentience of animals and hence the necessity of proper consideration of their rights (Wallach et al., 2020).

The concept offers the potential to stimulate a step-change in thinking on human-wildlife interactions. In this context, coexistence may be a more productive concept if it is not prematurely constrained by a strict definition. It may be more usefully mobilized, for the time being, as a conceptual framework for investigating which ideas, approaches and stakeholders are relevant to holistically studying and facilitating human-wildlife coexistence.

This could follow Ostrom and Cox's (2010) conception of frameworks being used to provide theories with the general classes of variables necessary to explain phenomena. The aim would be to scope the terrain then work toward mid-level theories, avoiding either excessive generalization or limitations arising from studies of individual case studies regarded as unique. A unified survey of case studies could yield a coexistence framework, with primary entities (e.g., actors, governance systems) and associated attributes, these used to analyze different human-wildlife interaction challenges and scenarios in order to discover the most effective social-institutional responses to them. It seems likely that, as Ostrom (e.g., Ostrom and Cox, 2010) found, there are no specific rules that persist across all systems (see Zimmermann et al., 2021 on this for human-wildlife conflict). Instead, a set of design principles may be more productive, providing they work across multiple levels: of governance, policy, management, and research.

A few challenges appear noteworthy. Ostrom's social-ecological systems framework (SESF) perspective on natural systems is anthropocentric and focused on natural resources. Factoring in wild animals requires consideration of their agency and dynamism. Further, attempts to delimit a stable list of key SESF variables have not succeeded. There is neither a cohesive approach for adapting the framework for diverse contexts, nor general guidelines for applying it (Partelow, 2018). These problems are likely to confront any attempt to devise a framework for coexistence.

Alternatively, coexistence could be conceived of as a boundary object (Star, 2010) for facilitating synergy between different disciplines, sectors and worldviews on how best to facilitate sharing of landscapes between humans and wildlife. This will be explored a little further below. But before doing so it seems worthwhile to ask: is coexistence even a new idea, and why is it attaining prominence now?

Old Wine in New Bottles?

Some might argue that "coexistence" refers to ideas that have been around for decades in conservation circles, most notably "tolerance," "acceptance," and "cohabitation." Certainly, there are commonalities between some reasons for the emergence of "human-wildlife conflict" studies in the late 1990s (Mesmer, 2000), and now "human-wildlife coexistence" studies. Both are responses to concerns over increasing encounters between humans and wildlife, and conflicts over these, and both factor in human behavior. What is perhaps forgotten is that increasing encounters were recognized to emerge from successful conservation measures (notably from the 1970s) achieving increasing abundance of protected wildlife. This brought a recognition of the importance of human dimensions and of the responsibilities of conservationists for responding to negative impacts of potentially dangerous and destructive wildlife (Mesmer, 2000; Woodroffe et al., 2005; Manfredo, 2008).

An analogy for denying "coexistence" is novel is saying that: "global environmental change" has been a major topic for environmentalists since the 1980s, therefore the Anthropocene is not a novel concept. But the Anthropocene refers to a qualitative shift (acceleration) in global environmental change, and by

the early 2010s it had become a kind of cultural meme—in a metaphorical, not a biological sense (Voosen, 2012).

Likewise, "coexistence" is emerging in conservation and public discourses (at least, in the USA, Canada, some European countries and global south countries like Brazil and India) to capture a sense of heightened jeopardy in an epoch of accelerating extinctions resulting from intensifying human interventions in the natural environment. The concept is linked to a commitment to transforming how we deal with human-wildlife interactions in an epoch in which we will be increasingly forced to share space and resources, and acknowledges our shared biological inheritance and vulnerabilities to species-hopping diseases (Frank and Glikman, 2019; König et al., 2020).

In parallel with recent developments in human-wildlife conflict studies (Pooley et al., 2017), there is an increasing reaction against anthropocentrism, albeit from different directions, e.g., strong ecocentrism based on ideas about universal principles and the rights of animals (Vucetich et al., 2018), and recognition of different cultural frameworks for valuing and interacting with the natural world (Chua et al., 2020; Nijhawan and Mihu, 2020; Nair et al., 2021; Oommen, 2021). There is some tension at the heart of human-wildlife interactions studies, then, over how to reconcile an increasing commitment to recognizing and protecting the rights of the natural world, with a commitment to equity and recognition of local and Indigenous human ways of being in the natural world. The idea of coexistence with wildlife offers an opportunity to tackle this apparent contradiction.

Elements of Coexistence

Coexistence at the most basic level requires the persistence of humans and wildlife in shared spaces, with tolerable costs to both (Carter and Linnell, 2016)—recognizing that tolerance is subjective, difficult to assess in its indirect impacts, and perceptions of it vary (Slagle and Bruskotter, 2019). Coexistence, then, is about land sharing, not land sparing. It is, in the context of this discussion, what an emerging group of conservation-oriented people want. That is, conservationists should be self-reflexive about framings of coexistence; it is a normative concept.

Conservationists generally conceive of coexistence as more than tolerance; it is regarded as something more like stewardship, implying notions of care. As such, we need to remain alert to who decides on what or whom requires care, in what ways, and by whom will care be exercised—and what this implies for the objects of care, and for others impacted by such measures (Chua et al., 2020; Rubis and Theriault, 2020). Conservation as a sector has a long history (and continuing legacy) of colonial interference with local livelihoods and relations with wildlife, and displacement of locals in the name of caring for wildlife (Brockington et al., 2008; Dowie, 2009; Domínguez and Luoma, 2020). And while the emerging focus on compassionate conservation (Wallach et al., 2020) has much to recommend it, we should not allow it to foreclose on other kinds of relations and interactions that local peoples have with potentially dangerous and destructive wildlife (Smith, 2020). These may be as legitimate, in context, as the conservationists' desired relations of care and compassion.

Coexistence does not imply an absence of conflict, but rather a sustainable though dynamic state of coexistence where inevitable negative interactions are effectively governed in socially legitimate ways (Carter and Linnell, 2016). That is, agreed upon laws will play a part in regulating interactions. However, ideally coexistence ought to be (wherever possible) mutually agreed upon and facilitated, rather than enforced (Pooley and Redpath, 2018). Humans as well as wild animals should have agency and reasonable freedom to choose how to behave in shared landscapes (Marris, 2021).

Coexistence work goes beyond transforming conflicts related to species of wildlife regarded as priority species by conservationists. It considers more holistically challenges (and opportunities) of living with wildlife of all kinds, in all kinds of places. The work is conceptual and descriptive but also action-oriented: how do we collaboratively and adaptively intervene to enable positive interactions at a landscape scale, not just focus on preventing negative reactions in specific locales and scenarios (Marchini et al., 2019).

Costs and benefits of sharing landscapes with wildlife matter (Barua et al., 2013; Linnell et al., 2020). However, the focus in coexistence studies has thus far been on conceptually reframing human-wildlife interactions to include positive or neutral interactions. There are few case studies of positive human-wildlife interactions. Ideally, future studies will include a focus (not exclusively) on particular positive interactions and relations. This will extend beyond direct impacts of wildlife on humans and vice versa, and negative interactions, and look harder at non-rational factors influencing decision-making, including cultures and histories of human-wildlife interactions (see Pooley, 2016; Nijhawan and Mihu, 2020; Pooley et al., 2020; Agnihotri et al., 2021; Nair et al., 2021; Oommen, 2021).

Coexistence can be facilitated through action, or by restraint from action (what Bhatia, 2021 terms negative coexistence), the latter being more usual in coexistence scenarios, making it harder to observe, and study. Doing so requires interdisciplinary methodologies, alertness to colonial legacies in conservation thinking, and a transdisciplinary approach open to other knowledge systems and ways of valuing wildlife and the natural world (Datta, 2016; Bennett et al., 2017; Pooley et al., 2020).

Finally, coexistence is out there in the world already, in all its diversity, to be learned from. It exists independently of recognition and attention in the academic literature. It is perhaps best not constrained by strict definitions, or standards, or regulations dependent on these. Frameworks, principles and guidelines may have to suffice for the concept to evolve.

DISCUSSION

Beyond a Conservation Framing of Coexistence

The English word “coexistence” is of course an arbitrary sign attached to a variety of conceptions of human-wildlife interactions, and actual scenarios of interaction. Other languages may have a different word, or a phrase, for an analogous concept, and these vary in connotation. Zulu colleagues

translate “coexistence” variously as “*ukuphilisana nezilwane*” (Sifundo Sibiyi, pers. comm. 2021) and “*ukuhlalisana kwabantu nezilwane*” (Abednigo Nzuzi, pers. comm. 2021) both meaning something more like cohabitation than coexistence as outlined above (though “phila” means “live” but also “health”; so possibly “healthy living with”). Some languages may have no word for “coexistence”: cultures that don’t separate human and more-than-human worlds (Dwyer, 1994) may be baffled by the idea—believing that cohabiting landscapes and sharing moral universes with wildlife is intrinsic to life on Earth.

That being noted, the focus here is on some relatively neglected but important dimensions to the idea of coexistence. These mainly concern equity and the limits of a conservation framing. Many traditional societies have developed ways of living in their environments and interacting with wild animals in ways which have impacts which align with conservationists’ aims (e.g., Jones et al., 2008). They might be said to “coexist” successfully with wildlife. Does this mean that western conservationists are talking about the same thing as such societies when they talk about “human-wildlife coexistence” in the service of conservation? Do they share ethical conceptions of living with wildlife? Ethnographic research suggests; very often not (Dwyer, 1994; Nadasdy, 2005; Lopes and Atallah, 2020; Nijhawan and Mihu, 2020).

Some societies do not distinguish between cultural and natural worlds, and so lack a conservation ethic—but not environmentally-friendly approaches and attitudes to land use and interactions with wildlife. It is not that nature is socially constructed for them; rather, the entire landscape is one of human agency and interaction, and within the realm of ethical consideration and reciprocity (Dwyer, 1994; Appiah-Opoku, 2007; Ingold, 2012; Datta, 2016; Oommen, 2021). Does this matter? One reason it does is because the “human” in the “human-wildlife” equation conceals a host of differences in power, influence, economic, and cultural status.

How is coexistence to be fostered where it does not exist? Even where land sharing is the favored option, the usual approach in conservation has been for biologists to study the requirements of priority species to survive, make recommendations on how human behavior should be modified to accommodate these needs (with co-benefits where possible), and social scientists, policymakers, and local managers are then tasked with making this happen. Yet, as Chua et al. (2020) show, aside from the methodological disadvantages of this disarticulated approach, at its heart are particular conservation priorities (e.g., elephant or orangutan) which may not be priorities (or be actually problematic) for locals (Rai et al., 2019; Nijhawan and Mihu, 2020; Rubis and Theriault, 2020). Considering the well-being and priorities of locals, and collaborating with them in environmental planning and management in ways that benefit them and wildlife, are not simply the right thing to do; rather, doing so seems in many cases to be essential for ensuring conservation is supported and endures on the ground (Chua et al., 2020; Reed et al., 2020).

Learning from, and being open to, *difference* when it comes to human world views, values, knowledge systems and thus in human-wildlife relations, is very challenging (Datta, 2016; Pooley et al., 2020). Profound differences exist within

the ranks of conservation (Sandbrook et al., 2019), let alone between metropolitan supporters of wildlife NGOs, authorities of various kinds and levels, and locals who live with wildlife, for example. The same applies within Indigenous and local communities living with wildlife (Agrawal and Gibson, 1999). While some Indigenous or other local communities have profound cultural relationships with particular species (Uyeda et al., 2016; Gebresenbet et al., 2018), their neighbors may not, and while some cultural attitudes to particular species are positive, others are destructive (Chua, 2009; Mangunjaya and McKay, 2012; Pooley, 2016; Pooley et al., 2020).

Further, cultures are dynamic, and do not provide static timeless ways of relating to and interpreting the natural world (Dickman et al., 2014; Bobo et al., 2015; Agnihotri et al., 2021; Oommen, 2021). What of people who abandon their traditional beliefs and practices (willingly or through force of circumstance), or hybridize them with other practices, in ways inimical to conservation (Nadasdy, 2005; Dickman et al., 2014)? Or what of animals that become habituated to humans (Birke, 2014)? Will these humans and animals be excluded from conservation considerations as in some sense “inauthentic” or unethical?

Working in different cultures may involve interacting with communities with quite different ideas about authority, age cohorts and gender, decision making and how to organize society. Significant power differentials must be recognized between well-funded, highly trained foreign conservationists, in-country urban elites, international and local NGOs, and impoverished rural communities, for instance (Chua et al., 2020; Rubis and Theriault, 2020). In studying coexistence, taking the time to reflect on these complications—on the values, beliefs and ideas framing human-wildlife interaction research on one level, and also on the resources, actions, and interactions bound up in the *process* of doing conservation—seems vital, and yet challenging to make time for in the face of the current biodiversity crisis (Datta, 2016; Chua et al., 2020; Pooley et al., 2020).

Finally, there are questions about wildness. This is too entangled a debate to enter into fully here (see Marris, 2021), but necessary to mention in one respect: to what degree do the requirements of coexistence impinge on wildness, regarded as autonomy from external controls on behavior (*sensu* Kaye, 2015)? Are there degrees of wildness, or should we rather think of co-adaptation of free agents in shared landscapes (Carter and Linnell, 2016)? If the latter, ethologists need to widen their foci to include human-wildlife interactions in shared environments, something they have traditionally avoided doing (Birke, 2014). Will assessing human-wildlife coexistence then be something to assess quantitatively as degrees of interaction? This seems intuitively to be something for qualitative assessment, which will vary from more-than-human-community to more-than-human-community, but as academics like to say, further, research is necessary.

Stewardship and Coexistence

One way of addressing these several challenges may be to focus on consideration of who coexistence is for, who is implicated in it, and who is responsible for it? Emerging literatures

on stewardship, and relational values, may provide useful perspectives on the agency of conservationists in such scenarios.

Ideas about stewardship have emerged in sustainability science for thinking about how to shape social-ecological change in ways that recognize complexity, plurality, and the need to support social and ecological resilience and well-being (West et al., 2018). Such ideas have recently entered mainstream conservation thinking (Pascual et al., 2021). West et al. (2018) propose that stewardship can be mobilized as a boundary object to enable diverse research disciplines, and non-researchers, to collaborate on mutual challenges without requiring total agreement on definitions. Coexistence might also be usefully mobilized in this way.

We live in a time of growing recognition of the importance of the stewardship shown by Indigenous and local peoples in preserving biodiversity, and recognition of notable overlaps in biocultural diversity (Appiah-Opoku, 2007; Garnett et al., 2018; ICCA Consortium, 2021), though efforts by conservation organizations to incorporate traditional peoples and approaches have some way to go (Reed et al., 2020). This recognition enables a move beyond established definitions of stewardship which emphasize either human recognition of the intrinsic value of nature, or human valuation of nature as useful (instrumental value). These are abstractions, and research suggests that in fact stewardship *actions* emerge in the context of particular reciprocal relationships between human and non-human life in specific places (Barthel et al., 2013; West et al., 2018; Nijhawan and Mihiu, 2020). It is these sorts of actions—or their absence—in particular places, that are of interest to human-wildlife coexistence studies.

Chan et al. (2016) describe relational values as a normative human sense of kinship with other living beings, bound up with notions of belonging, care, identity, and responsibility. These are both shared by various human stakeholders in particular conservation scenarios, and differ in their natures, origins, and commitments. Enqvist et al. (2018) propose a framework for thinking about three dimensions of stewardship which may prove useful for thinking through these shared and differing dimensions of coexistence (wildlife with humans, and humans with humans and wildlife). These dimensions are: care, knowledge and agency.

Care concerns the motivation to look after something, informed by emotions, meanings, preferences, and a sense of responsibility. Knowledge concerns the ways of knowing, skills and information informing stewardship actions. Agency concerns the abilities, capacities of individuals, communities, and organizations to affect change, as well as the possibilities and limitations provided by the biophysical context and material technologies available (West et al., 2018). To the latter should be added the presence and agency of non-humans.

Care in particular seems pertinent as it sits at the root of motivations for (or justifications of) stewardship. The way it is expressed tends to determine the kinds of knowledge applied, and what kinds of agency are considered legitimate. It is normative: deciding what is best for the target of care (and what the target should be, and encompass). It therefore requires reflection on the biopolitics of intervening to conserve, preserve and sustain

life: human and non-human (Chua et al., 2020; Reed et al., 2020; Rubis and Theriault, 2020).

Finally, assuming care is determined only by humans is limiting: relational thinking acknowledges the role of the environment, and other beings, in *eliciting* care (West et al., 2018). One conception of coexistence emerging from the environmental humanities and ethnographic research focuses on humans and wildlife as co-constitutive communities (Lestel et al., 2006; Van Dooren, 2019). For example, considering how human individuals and groups' commitments to particular animals, species, and landscapes are co-produced through interactions with those non-human actors, in particular places (Nijhawan and Mihi, 2020; Oommen, 2021). This includes an acceptance that wild animals learn, have cultures, and adapt to particular scenarios of interaction with humans, which is belatedly being recognized in mainstream ethology (Brakes et al., 2019).

CONCLUSION

This is a call to widen the aperture on what to consider when thinking about coexistence with wildlife. Doing so is challenging in that it requires embracing difference and acknowledging power differentials and dynamics. This means being open to new epistemologies, methodologies, ways of valuing, and interacting with nature and wildlife. While it should not distract attention from the hard-won acceptance of more holistic approaches to human-wildlife conflicts in mainstream

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- conservation efforts (Pooley et al., 2017), it involves broadening our considerations beyond a conservation science framework focused on preserving priority species and populations (Marchini et al., 2019). Considering coexistence involves acknowledging the limitations of a conservation framing on deciding which species matter, introducing reflexivity about who enacts and who is left out of conservation policies and actions, and considers the effects of all wildlife (including abundant, introduced and "pest" species) on humans and vice versa. It requires facing up to the tension at the heart of conservation between a devotion to purity and to diversity, and between an ethical commitment to scientific approaches to saving a fast disappearing natural world, and recognizing other ways of being in that world and the rights of local and indigenous peoples.

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