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## POLICY PERSPECTIVE

## Transformation of Experience: Toward a New Relationship with Nature

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### Abstract

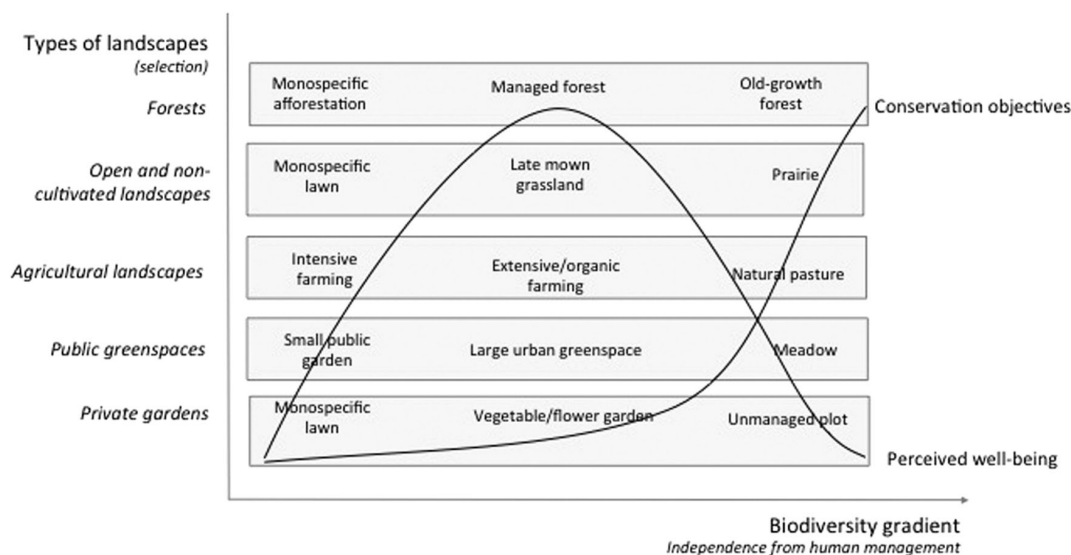
Despite decades of awareness about the biodiversity crisis, it remains a wicked problem. Besides preservation and restoration strategies, one approach has focused on increasing public concern about biodiversity issues by emphasizing opportunities for people to experience natural environments. In this article, we endeavor to complicate the understanding of these experiences of nature (EoN). Because EoN are embedded in social and cultural contexts, transformative or new EoN are emerging in combination with societal changes in work, home, and technology. Policies that acknowledge and accept a diversity of culturally situated EoN, including negative EoN, could help people reconnect with the complexity and dynamics of biodiversity. A new conceptualization of EoN that encompasses diverse experiences and reflects the sociocultural context could help to stimulate a broader transformation in the relationship between society and nature, one that better integrates the two spheres. Such a transformation is necessary to more effectively address the biodiversity crisis.

## Introduction

Over 30 years of awareness about the biodiversity crisis have not yet effectively addressed the problem (Mace *et al.* 2010). The urgency of this crisis requires significant societal innovations, notably in conservation communication, policies, and governance (see the Aichi targets, Mace *et al.* 2010). In this context, a growing amount of research, recently reviewed and summarized by Soga & Gaston (2016), addresses the decreasing human experience of nature. According to this formulation, societies that follow a Western way of life face a reduction in both opportunities and the desire to encounter nature, leading to a progressive disaffection. This so-called “extinction of experience,” a phenomenon described over 20 years ago by Robert Pyle (1993/2011), is presented as having dele-

terious consequences not only for human well-being and health, but also for people's emotional, attitudinal, and behavioral relations to nature and biodiversity (Soga & Gaston 2016). This hypothesis is appealing to the conservationist community, because it suggests that attention to human needs may help to address the biodiversity crisis, thus avoiding politically difficult tradeoffs between human and ecological values. Indeed, experiencing nature is positively related with knowledge (e.g., ecological literacy; Pilgrim *et al.* 2008), attitude (e.g., environmental concern; Clayton & Myers 2015), and behavior (e.g., activism; Chawla 1998) toward biodiversity.

We agree with earlier writers that there has been a troubling reduction of interactions between people and the natural environment. However, previous authors have primarily defined experiences of nature (EoN) in



**Figure 1** Different types of nature may promote different objectives.

terms of individual contact with nature, and generally suggested that the remedy for both humans and ecosystems lies simply in facilitating more opportunities for such contact. In contrast, we argue that EoN are diverse and complex, and are embedded in social and political contexts. Thus, EoN must be seen as a process, including: (1) interactions between individuals and natural entities; (2) social and cultural context; and (3) consequences for new skills, knowledge, or behavioral changes. Rather than being extinguished, EoN are being transformed along with a changing society.

In this article, we advocate a re-examination of the complex human relationship with nature, emphasizing the social context for the experience, which has been relatively neglected (Chan *et al.* 2016). We describe some important dimensions of diverse EoN and explain why that diversity is significant to the ways people think about nature. Recognizing that EoN have both precursors and consequences, we describe changes associated with a changing society. Finally, we argue that new ways of considering diverse EoN could more effectively address the biodiversity crisis, by leading to a relationship between society and nature that is not based on unrealistic and restrictive assumptions and that encourages people to feel connected to the natural world.

## Defining and describing the EoN

“Experience” refers to the “process of getting knowledge or skills from doing, seeing or feeling things,” or to “something that happens to you that affects how you feel”

(<http://dictionary.cambridge.org/dictionary/english/experience>). Thus, it is importantly different from mere “contact” with nature, a term that is often used in the literature. Experience should change people, in ways that can ultimately be integrated into individual identity (Clayton 2012). The term “nature,” meanwhile, generally refers to natural phenomena of the physical world, but it encompasses a diversity of cultural conceptions (Kluckhohn & Strodtbeck 1961). As operationalized in conservation research, it may include everything from an urban park to a pristine rainforest. In recognition of the biodiversity crisis, we argue for a definition of “nature” that is flexible according to the social context but that minimizes the degree of human control over the dynamic and evolutionary potential of nonhuman species and ecosystems (Ridder 2007; Figure 1), factors that are crucial components of biodiversity for conservation practitioners and scholars (Soulé 1985).

EoN can be described according to the nature that is present (the naturalness, diversity, and dynamic of the landscape), as well as by the way nature is perceived by the experiencing individual. EoN are particularly rich in their ability to engage multiple senses, notably smells, and tactile sensations that are greater in natural than in human-built contexts (Kaplan & Kaplan 1989). However, EoN also develop over time as a process in which an experience is interpreted and reinterpreted in coordination with other aspects of the person’s life and goals. Because the impact of an experience is mediated by the perceptions of that experience as well as its compatibility with the perceiver’s goals (Kaplan & Kaplan

**Table 1** Dimensions of nature experiences.

Dimension	Description and examples
Observing vs. interacting	Is the participant an observer, as in someone who watches a bird on the seaside? Or is the participant behaviorally engaged by feeding the bird?
Consumptive vs. appreciative	Is the goal to exploit (and modify) nature as a resource (e.g., by hunting, timbering, fishing), or to simply appreciate it without considering it to be a resource, e.g., by bird-watching?
Self-directed vs. other-directed	Did the participant seek out the experience, for example, by visiting an urban park to see nature, or is it an experience determined by others, such as part of a school program?
Separate vs. integrated	Does the participant have to depart from his or her regular routine to make a special effort to experience nature, or is the encounter integrated within his or her daily life?
Solitary vs. shared	Is the participant alone, or with others who are sharing the experience?
Positive vs. negative	Is the emotional response to the experience primarily positive or negative?

1989), the experience is best described not only by its physical characteristics but also by its immediate social context, shaped by the larger society and culture.

The other people with whom one may share an EoN are often an important component (Chawla 1998); even a solitary experience is shaped by the cultural and social meanings of the event, as well as by its social precursors and consequences. Particular landscapes (e.g., zoos, parks, gardens; Colding *et al.* 2006) do or do not mean “nature” depending on the social groups and societies. Social precursors include economic and demographic indicators that make access to nature easier or more difficult and that suggest that people “belong” or “do not belong” in natural settings (Buijs *et al.* 2009). Social consequences include self-identification or identification by others as, for example, an “environmentalist”; an identification which may be welcomed or rejected (Zavestoski 2003).

With these perceptual and social aspects in mind, we propose an initial list of some dimensions of EoN that deserve attention (Table 1). These represent continuous, not dichotomous dimensions, so that experiences may fall at varying points along the spectrum. This list is incomplete, some of these dimensions may be further subdivided, and some of them are interdependent; however, we present it as a starting point in describing characteristics of EoN that have significant implications for how people will respond to an experience through changes in knowledge, attitude, and behavior. In the following, we briefly discuss each particular dimension in terms of conservation outcomes.

Compared to mere observation, interactive experiences are likely to be more vivid and multisensory, engaging more emotions and creating a more lasting memory. However, such interactions are not always welcomed by conservationists who are concerned about the human impact on nature. Consumptive experiences are more likely than appreciative experiences to have negative impacts

on conservation, though long-term sustainable practices may be developed (Cooper *et al.* 2015). Self-directed EoN may give people a greater sense of autonomy and control, thus increasing motivation to engage in conservation, but they may offer less opportunity for targeted behavioral changes or specific educational outcomes than formal educational settings or other externally driven contexts. Integrated experiences have greater impact on habits and behavioral routines than those that are separate, as noted in education (Sauvé *et al.* 2001); the distinctiveness of the latter, however, may have a profound cognitive impact by leading people to a new perspective, as suggested by research on transcendent experiences (Vining & Merrick 2012). For many people, indeed, “connecting to nature” is significantly motivated by the desire to “disconnect” or escape from the modern urban environment (Kaplan & Kaplan 1989), and is interpreted by the contrast between the two contexts. Shared experiences help the transmission of values, attitudes, and behaviors toward nature between friends and/or relatives, and contribute to build a social identity and concern toward nature (Chawla 1998).

The positive versus negative dimension of experience is particularly significant to our argument. Although many previous authors have emphasized only the positive emotional response to nature, it is essential to also consider negative aspects of EoN. Nature can prompt fear, disgust, and anxiety (Kellert 2014), which sometimes inhibit conservation interest (Knight 2008). Other negative EoN result from a threat of invasion: when mosquitoes collect blood, bugs or rodents enter the household, or wolves kill sheep and other livestock, the experience feels like a personal violation. The resulting hostility to a species must be recognized in the development of conservation policies. In general, both positive and negative emotions are needed to assess environmental issues accurately (Clayton & Myers 2015). Positive emotions help people to be optimistic, invent a desired future and encourage prosocial behaviors

and relationships, but searching for positive emotions alone can encourage people to take short-term and self-centered actions which can be counterproductive for conservation. In contrast, fear can offer opportunities for people to test their own competence and skills (Terrasson 1988). In turn, although guilt can lead people to avoid the situation if it is too intense, it can also motivate efforts to redress a situation. Aldo Leopold's conservation writings (e.g., 1949/1986) suggest that guilt over excessive killing of predators had such an effect on him.

Biodiversity is made up not of "good" and "bad" species, but of interrelated components. A "bad" interaction with nature, particularly when integrated in a broader context of social relationships, can be a reminder that biodiversity is not designed to satisfy human interests and does not conform to an idealized view of nature (Leopold 1949/1986). A combination of positive and negative EoN can alert people to the complexity and unpredictability of biodiversity and lead to humility, an emotion that is often mentioned by people having wilderness experiences (Williams & Harvey 2001).

A wide range of nature experiences is important for individuals to develop a sense of themselves as being a part of the natural world (Chawla 1998), or environmental identity, which in turn increases environmental concern and proenvironmental behavior (Clayton 2012). Moreover, at the social level, nature experiences (even negative ones) promote social bonds and shared values. Indeed, being part of a social group engaged with a common issue, such as biodiversity conservation, can promote self-efficacy and social empowerment – important predictors of sustainable behavior – as well as social bonds, which in turn can foster environmental activism, support of or involvement in conservation policies.

EoN must be therefore considered as a process in which individual, social, and natural factors precede the experience, and the experience has outcomes for the person, social group, and biodiversity (Figure 2). Societal innovations in work, family life, and technology, have changed the context and thus have transformed EoN—transformations which in turn will affect the larger society. We examine these changes next.

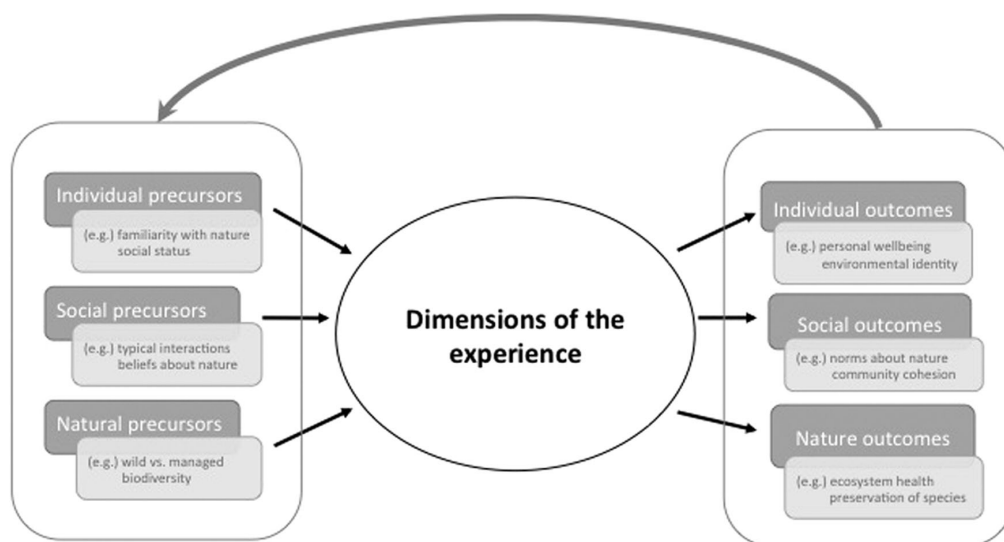
## Changing EoN

Many people, including parents, have become concerned by the extinction of EoN (as popularized by Louv 2008), and try to replicate their own EoN for their children (see <http://www.childrenandnature.org>). Similarly, calls by conservation scientists and practitioners to reconnect people with nature suggest a belief that engaging in the same activities (such as playing outside) would lead to

the same outcomes for attitudes, emotions, and behaviors toward nature that were achieved in the past. However, global urbanization and the development of technology, in combination with new ways of working, seeing the world, and consuming, are too different today to allow the experience of earlier generations to be replicated. Viewed within a social context that has experienced profound changes, the extinction of traditional EoN must be seen as an effect of modernity. Most humans no longer need to interact with nature for biological reasons; in parallel, they have lost the associated skills and knowledge (e.g., traditional ecological knowledge) and developed new perceptions of nature and its place in human lives (Pilgrim *et al.* 2008).

These societal changes have transformed the ways in which we collectively experience nature. Novel technology-based interactions allow us to "mediate, augment or simulate the natural world" in order to have symbolic or vicarious EoN (Kellert 2014). Nature-based reality shows, documentaries, and streaming animal cameras create an experience of nature for many modern citizens while they are sitting in their homes; video games even allow people to virtually interact with nature. People can live in isolated, remote places near wild nature while still actively participating in modern life through an internet connection. In western countries, some conventional farmers are able to collect a large amount of data about their farm, use sensors to control their engines remotely and automate almost all their activity without the need to go outside. The impacts of these experiences integrating nature and technology are still unknown, but they will continue to characterize the new EoN. Rather than dismissing these forms as inauthentic, conservation scholars and practitioners should examine the ways in which they help to construct people's attitudes and behaviors toward nature.

In parallel with these changing interactions, the social construction of nature has also changed. Whereas in the past people encountered nature as a fundamental part of daily life, intimate and individual, it is now sought out as a managed "experience" that is planned (e.g., touristic or educational experiences) and shared with a wide range of others (e.g., Facebook posts or Instagram uploads). Such EoN are defined and used for specific predictable effects such as individual well-being, satisfaction, escape, and as a method for educating citizens to have the "correct" (i.e., according to the conservation objectives) concerns about nature. With these specific services in mind, EoN can also be easily rejected for having not met the preconceived criteria. As Chan *et al.* (2016) stated, "as a means (instrument) to something else, [nature] is potentially replaceable" (p. 1463). A socially constructed emphasis on positive outcomes of EoN may encourage



**Figure 2** EoN in context, showing precursors and outcomes as well as the feedback loop from outcomes to precursors.

preference for an idealized and controlled nature rather than one that is both ecologically and culturally diverse.

However, although some types of EoN may be better than others at achieving particular outcomes, the evidence base for describing a “best” experience (including, for instance, conservation and well-being objectives) is still thin (Fuller *et al.* 2007). More important, not all outcomes are equivalent and perhaps not all have even been described (Chan *et al.* 2016). Nature that is managed only for human well-being is not necessarily nature that is best at promoting healthy, dynamic, and evolutionary ecosystems. On the converse, policies that protect nature by isolating it from humans may fail to encourage the public support that is necessary for the long-term conservation of biodiversity (Brockington *et al.* 2006). We join an increasing number of scholars to advocate for renewed conceptualizations of human-nature interactions, based on local specificities and objectives, as long as they reflect respect and value for biodiversity (Ostrom *et al.* 2007). These new EoN could help transform the societal relationship with nature, as detailed in the following.

### New EoN and biodiversity conservation

A restricted experience of nature may lead to unrealistic expectations that leave people disappointed when an experience does not meet the ideal; and a belief that “true” nature is separate from daily human life may leave people feeling that care for nature is neither their responsibility nor within their power. This can explain the widespread disinterest in biodiversity issues, as well as the growing disconnect between conservation policies and other

social policies (economy, health, security...). Based on our previous argument, we recommend programs that promote nature experiences that are integrated with human lives—for everyone, including persons in charge of political or economic issues. This can be accomplished through increased opportunities for people to experience nature and through education to give people the skills they need to understand how to respectfully interact with nature; but also and more innovatively, by acknowledging the diversity of new EoN. Rather than bemoaning the increase in video games, for example, conservation practitioners could (as many are doing) examine ways to link them to conservation efforts, and use social media as a tool to promote conservation caring.

A variety of social initiatives have already been developed that simultaneously encourage the conservation of biodiversity, individual empowerment, and social-ecological resilience, such as green architecture, urban community gardens, and adaptive comanagement. For instance, social EoN in community gardens offer learning opportunities that encourage and reinforce certain forms of engagement toward nature and conservation (Krasny & Tidball 2012). It is time to build on these local initiatives to inform efforts that address the crisis at a global level. Just as community-based conservation should recognize the complexity of the ways in which local communities experience nature, and value local knowledge, rather than imposing a restrictive separation between people and the environment, our global efforts to protect nature need to consider cultural diversity (Ostrom *et al.* 2007; Kothari *et al.* 2013). Different social groups, defined by factors such as religion, ethnicity, and

culture, understand and experience nature in different ways and may feel excluded and alienated from policies that assume homogeneous EoN. Besides conservation, new EoN at the collective level will generate social change: new experiences, arising from changing social structures, create new representations, knowledge and skills that are in turn associated with new social arrangements and practices (Weick 1995).

Creating the conditions to encourage socially shared EoN requires choices. First, designers and policymakers must provide opportunities for people and social groups to experience nature in its diversity and its unpredictability. Rather than developing techniques that aim to standardize a particular idea or experience of nature, conservation practitioners and other political decision-makers must accept a lack of control over the outcome of these experiences. Second, the goals of environmental education must be expanded: not only to educate people about nature, but also and mostly to educate them about ways to experience nature, in its dynamical complexity. Experiencing nature, including negatively, will help represent nature in a way that is not idealized and disconnected from human lives, but as something of which humans are a part.

In these conditions, new EoN could facilitate multiple outcomes: (1) improved individual well-being, (2) transformed personal identities that recognize the inclusion of nature in self, (3) greater social cohesion, (4) increased individual and collective behaviors that support conservation, and (5) fundamental societal changes. Society, nature, and individual could be experienced as interconnected and not as independent entities.

Encouraging new EoN will require conservation scholars and practitioners to accept greater unpredictability in both social and natural trajectories. But the current approach to conservation largely maintains a disjunction between humans and nature that ultimately inhibits successful conservation efforts. The biodiversity crisis requires radical change to ensure that people develop the necessary respect and value for biodiversity.

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