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Defining Nature

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2.1 Introduction

In any attempt to "rethink" biodiversity governance, we need to consider that defining nature (and related concepts such as biodiversity, ecosystems, landscapes or green infrastructure) is not merely an objective scientific exercise. In reality, context-specific, subjective, normative and dynamic worldviews and values are at play in any definition of nature, whether explicitly or implicitly. Being aware of this pluralism is essential for avoiding "objective" definitional attitudes that risk disregarding and marginalizing the plurality of values and worldviews connected to different definitions of nature. In fact, paternalistic positions can create breeding grounds for fruitless dialogues between stakeholders, and thus pluralistic approaches help open up spaces for discussion.

In the modern era, Western worldviews have emphasized the separation between culture, humans and nature, dating back to at least the era of the Old Testament. This distinction has come to be known as the nature/culture divide, a dichotomy that posits nature as a separate and discrete object that can be known, conquered and used at will for humankind's benefit, with consequences beyond theoretical and philosophical discussions (Castree, 2013). Different interpretations exist on when and how this divide came to be (Pattberg, 2007; Uggla, 2010). In her classic book *The Death of Nature: Women, Ecology and the Scientific Revolution*, Carolyn Merchant (1980) pointed out how the image of nature as a nurturing mother was gradually transformed during the sixteenth and seventeenth centuries into an image of nature as being wild, chaotic and uncontrollable, a position directly related to the dominant view on women at the time and a view that justified the domination of nature and the exploitation of its resources.

The environmental historian Donald Worster has proposed that since the Industrial Revolution, two key threads can be discerned in the way Western societies relate to nature. First, the "imperial" or Linnean tradition emerging from the development of biological classification of species and scientific exploration had the ambition to "establish, through the exercise of reason and by hard work, man's dominion over nature" (Worster, 1977: 2). At the same time, the Industrial Revolution led to a second strand that emerged as a countermovement to the idea of human domination, which Worster terms "Arcadian," and that "advocated a simple, humble life for man with the aim of restoring him to a peaceful coexistence with other organisms," given the depredations of industrial life (Worster,

1977: 2). This second strand has taken many different forms over time; for example, in the later nineteenth century, Romanticism, despite being a heterogeneous movement, challenged the idea of human domination over nature and modernity by idealizing wild nature for its beauty and purity (Uggla, 2010).

The nature/culture divide has come under criticism as a cultural construction not universally applicable to the whole of human societies (Descola, 2013), and as an invalid dichotomy for the West as well (Latour, 1991). These criticisms are not solely theoretical, as they raise the fundamental question "what is nature?" and reject a single objective answer. Thus, nature is a plural concept, and in this chapter we argue that this plurality reflecting the different values of nature will play a fundamental role in transformative biodiversity governance. Yet this does not come easily, as a plurality of values means a plurality of ontologies, epistemologies, interests and needs.

The authors do not pretend to present an exhaustive nature-definition overview in this chapter, nor to be without bias: The content of this chapter largely builds on the expertise and experience of the collaboration between them. And of course, explicitly or implicitly, certain accents or interpretations may come across more strongly than others. Nevertheless, we mainly hope to share with the reader a rich display of definition examples and elements, illustrating the core intention of this chapter: to show that nature is defined, and cannot be taken for granted as one objectifiable concept. After a brief introduction of the concept of biodiversity (Section 2.2) as a root scientific concept for conservation, we provide an overview of some of the ways nature has been defined over time and what this means for biodiversity conservation. Section 2.3 deals with wilderness, intrinsic value and how these are interlinked with protected areas. Section 2.4 addresses the concept of landscape via two lenses: ecosystem services and biocultural diversity. Instrumental and relational values of nature are also discussed. Section 2.5 takes the increasingly popular tool of conferring nature with legal rights (Rights of Nature) as demonstrating hybrid forms of biodiversity governance that attempt to merge Western and non-Western ontologies and definitions of nature. Section 2.6 discusses the importance of scenarios for nature in order to develop alternative pathways grounded on value pluralism. Section 2.7 concludes the chapter by drawing general conclusions for transformative biodiversity governance.

2.2 Nature Defined in the History of "Biodiversity"

Attention to the conservation of nature often manifests as a response to the widespread unsustainable and unethical use of nature (however defined) that stems from a view of nature from an instrumental value perspective, resulting in overlogging, overfishing, large-scale land-use change, etc. The concept of biodiversity emerged from the scientific community and, despite criticisms, represents one of the most common and recognized concepts for scientists and the general public. The term dates back to 1968, when Dasmann used it for the first time in his book *A Different Kind of Country* (Dasmann, 1968). While concepts of nature and wilderness had been commonly used previously, with this new term, global diversity that had evolved over more than 3.6 billion years was emphasized, as well as the

fact that human impact extended beyond just endangered species. As the term began to circulate and become widely used, one of the first uses of the term was "biological diversity" in the United States. The United States historically played an important role in the design of conservation, where it was mentioned in the Global 2000 Report to the president, written by biologist Tom Lovejoy for President Jimmy Carter in 1980 (Lovejoy, 1980). The popularity enjoyed by the term partly lies in the increasing concern about an accelerating "extinction crisis" (Ehrlich and Ehrlich, 1981; Myers, 1979), as well as the fact that it was a useful catch-all representing the need for increased conservation for the underpinnings of life (Heywood, 1995), and the National Forum on BioDiversity in 1985 cemented the idea that the concept was fundamental for shaping conservation policy (Wilson, 1988). In other words, as biologist E. O. Wilson put it, "Biological diversity – 'biodiversity' in the new parlance – is the key to the maintenance of the world as we know it" (Wilson, 1992: 15).

Although the last decades saw a surge in the use of the concept of biodiversity in the scientific community and beyond, the term itself is not uncontested. One "formal" definition of biodiversity, adopted by the Convention on Biological Diversity (CBD) in 1992, defines it as "variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems" (Article 2) (CBD, 1992). Many have argued, since the emergence of the term, that it still remains vague and imprecise: "the term biodiversity is beginning to fail as a useful catch-all term for the current planetary environmental crisis . . . ambiguity of meaning has, in my opinion, rendered the concept of biodiversity increasingly useless as a rallying-point by which to focus attention on the current and on-going dramatic changes to the biosphere" (Bowman, 1998: 239).

Further uncertainty emerges from the task of measuring biodiversity (Walpole et al., 2009). Early discussions about how different dimensions of biodiversity might best be measured included basic species/area ratios, which, as species diversity generally increases from the poles to the equator, led to biodiversity protection efforts centered in the tropics (Harper and Hawksworth, 1994); a focus on rarity and endemism, such as in "biodiversity hotspots" where such endemic species are under particular threat (Myers et al., 2000); or on taxonomic character differences within populations, indicating genetic richness to be conserved for the sake of future evolution (Humphries et al., 1995). In practical terms, the idea of sheer species numbers as equivalent to biodiversity has largely predominated (Takacs, 1996), although it has led some to question "whether it is adequate – or correct – to base the priorities for global biodiversity conservation simply on the quantity of biological diversity, as is often done" (Fjeldsa and Lovett, 1997: 319). More recent discussions have focused on questions of "biodiversity intactness," "biodiversity health," "species viability," and, as we note in the next section, ecological functions and services provided by biodiversity (Dinerstein et al., 2020; Mace et al., 2018; Schneiders and Müller, 2017).

As concerns over the ambiguity of the term and how to measure it allude to, there remained no clear consensus on a single standard interpretation of biodiversity for many years. The difficulty of reconciling alternative interpretations has made critical engagement with definitions of biodiversity difficult and contested when the conceptual roots of the term

are questioned (see also Sarkar, 2016). At the same time, biodiversity has entered the public discourse and is commonly used by newspapers and mass media; as a term, it is gaining in popularity (Levé et al., 2019), although not (yet) as much as climate change (Legagneux et al., 2018).

Despite these debates, the concept of biodiversity has, more than any other concept in the last decades in Western ecological thinking, been a key contribution in shaping the governance of nature conservation. For example, defining the boundaries of what biodiversity is and where it can be found is required for the creation of targets to "halt biodiversity loss" and, more recently, to "bend the curve of biodiversity loss" (Mace et al., 2018). Yet, as we have noted, these targets do not "naturally" and "neutrally" emerge from agreements within the scientific community. On the contrary, they are negotiated and contested, and they lend themselves to alternative conservation strategies and practices (Bhola et al., 2021; Immovilli and Kok, 2020; Keune and Dendoncker, 2013). In the next two sections, we discuss possible ways to look at biodiversity governance and further reflect on how these approaches are grounded in different definitions of nature.

2.3 Nature Defined as Wilderness

The concept of wilderness emerged from the US context in the nineteenth century and soon gained momentum in the wider international conservation debate. As European settlers arrived in the Americas, wild nature was considered the enemy, to be replaced with traces of "modern civilization" (Nash, 1967). Later, this attitude shifted, and wild nature started to be praised as sacred havens that would spare humanity from the unstoppable expansion of modernity; for example, the well-known American writer Henry David Thoreau advocated for wild nature as a space where modern humans' excesses could be purified and limited. The cerebral and aesthetic values being praised in this context were advocated by upper-middle class and white American men, whose communing with nature conferred intellectual life, arts and letters (McDonald, 2001; Nash, 1967). In other words, wilderness, particularly in Thoreau's work, resembled an ontological claim to a different life, one not completely devoted to modernity and urbanism (McDonald, 2001; Nash, 1967).

Yellowstone National Park was established in 1872 in the United States, marking a historical moment in the movement for the protection of the wild, although as historians have subsequently pointed out, the protection of this wilderness required the eviction of Indigenous Native Americans (Spence, 1999). Yet these divisions between man and wilderness continued, eventually culminating in the passage of the Wilderness Act in 1964, where wilderness was defined as "an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain."

Yet the establishment of protected areas (PAs) and the concept of wilderness itself have been harshly criticized. Many pointed out that so-called wild areas were in fact recreated and strictly administered and managed (Denevan, 1992). Furthermore, social justice concerns were raised, pointing at the violent displacement of people and the enclosing of land that followed the establishment of many parks (Cronon, 1996). Despite these criticisms, protecting the wild still drives the expansion of PAs and other area-based measures, which

remain among the most common practices for conservation governance as fears over land degradation and the extinction crisis have grown (Grove, 1992). Proposals to expand protected areas continue to play a fundamental role in biodiversity governance (Locke et al., 2013).

Additionally, a strong ecocentric rhetoric has grown in academic and public discourse, underlining the intrinsic value of nature (including humans) and its inherent right to exist, live and flourish despite human pressures. Such powerful discursive material serves as conceptual – if not philosophical – ground for many political and ecological efforts (see, for instance, the recent proposal to protect half of the Earth and how it is backed by ecocentric thinking [Kopnina, 2016]). This is well captured by Wolke (2014: 204), who states that "wilderness is about setting our egos aside and doing what is best for the land."

While this definition retains the ontological claim that wilderness is a limit to human expansion – and that indirectly we can learn from it – it shifts the value of wilderness toward intrinsic (moral, spiritual and ecological) value. This should not come as a surprise when we consider the evolution of environmental concern over the last decades and the rise of biodiversity as a concept. Indeed, the concept of biodiversity itself has often been used to reinforce the narrative of wilderness (Nash, 1967; Uggla, 2010). As such, the expansion of protected areas and other area-based conservation measures is often grounded in an ecocentric rhetoric, which claims these measures to be a vital solution to achieving global biodiversity targets.

Since 1988, there has been a 400 percent increase in the number of PAs and they now cover 15 percent of the Earth's surface land. Critics point at this data and argue that, despite this surge in protection, biodiversity has neither been conserved nor restored (Butchart, 2010). This remains a point of debate, as others have argued that the achievements of PAs, despite being insufficient, are relatively positive in terms of biodiversity conservation (Butler, 2015 in Wuerthner et al., 2015), while the evidence on PAs mitigating human impacts is more mixed. Many nongovernmental organizations (NGOs) and some scientists have advocated that current levels of protection are not enough and more is needed, arguing that protection should be expanded to cover half of the Earth (Dinerstein et al., 2017; 2019; Locke, 2015; Wilson, 2016), while for others lower percentages could be enough (Visconti et al., 2019) (see also Chapters 11 and 12 for different perspectives on this conservation).

2.4 Nature Defined through Cultural and Ecosystem Services Lenses in Landscapes

In the previous section, we saw that nature has been defined as the counterpart of culture: the physical and biological world dominated by "natural" processes, not manufactured or developed by people. This resulted in the creation of wilderness and to the deployment of PAs. However, some claim that most of what we designate as "natural" areas (e.g. what are designated as Natura 2000 habitats in Europe) are in fact historical cultural landscapes with a high biodiversity value (Hermoso et al., 2018; Pechanec et al., 2018). Following this logic, "natural" ecosystems are the outcome of a coevolutionary process in which they shape, and

are shaped by, new forms of social organization, knowledge, technology and value systems (Howarth and Norgaard, 1992). With this, the conceptualization of nature has shifted for some from wilderness to that of landscape, in 2000 defined by the European Landscape Convention (European Landscape Convention of the Council of Europe) as "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors." This definition emphasizes the dialectic and productive relationship between humans and nature and encourages a move beyond dichotomies.

Other value perspectives correspond to a definition of nature that includes culture. In 2012, the publication of what became known as the "New Conservation Manifesto" (Marvier et al., 2012) added a new set of values of nature to the discussion: instrumental value. In their article, Marvier et al. (2012) argue that conservation in the Anthropocene must move past the idea of wilderness because humans and natural systems are profoundly intertwined. Despite the increasing number of PAs, biodiversity is still in decline due to the fact that conservation cannot succeed if it does not address social issues, they claimed, such as poverty and inequality. Thus, conservation (and conservationists) must "embrace human development and the 'exploitation of nature' for human uses, like agriculture, even while they seek to 'protect' nature inside of parks" (Marvier et al., 2012). From such a perspective, nature is no longer valued (and conserved) for its intrinsic value, but because it provides humans with services and benefits (Pearson, 2016). In this, the ethical horizon of conservation has changed toward ideas of the sustainable use of nature, and in this context, the establishment of the Millennium Ecosystem Assessment and the Ecosystem Services (ES) framework are clear milestones.

2.4.1 The Ecosystem Services Lens

One of the core conclusions of the Millennium Ecosystem Assessment (MA, 2001–2005) was the fundamental dependence of human wellbeing on ecosystems through a variety of ecosystem services. Ecosystem services have been defined as the "direct or indirect contribution to sustainable human well-being" (Costanza et al., 2017), highlighting an anthropocentric and instrumental perspective on nature while acknowledging the intrinsic value of species and ecosystems. Outside of the scientific community, ES gained momentum as well, capturing the attention of the general public and private companies, and becoming firmly settled in the international policy arena (Costanza et al., 2017). The main merit of the ES framework is that it widened the policy discussion to aspects of nature that were traditionally neglected in decision-making (Schröter et al., 2014). Ecosystem services approaches have successfully shifted conservationist attention to indirect drivers of environmental change, such as socioeconomic dynamics, and attempted to reconcile ecological knowledge with economic thinking. This marked a clear difference from previous conservation efforts grounded in the idea of "conservation against development" (Gómez-Baggethun and Ruiz-Pérez, 2011). According to critics, this specific economic turn was instrumental in winning the hearts and minds of policymakers and stakeholders (Ring et al., 2010), but it narrowed down ES to a purely economic discourse, paving the way for the commodification of nature (Díaz et al., 2018; Gómez-Baggethun and Ruiz-Pérez,

2011; see also Chapter 6 of this book for a reflection on market-based approaches and their role in transformative biodiversity governance).

This shift is captured by the creation of "The Economics of Ecosystems and Biodiversity" (TEEB, 2007–2011) research program. Another example of the domination of economic approaches to ES is the increasing attention devoted to terms such as "natural capital," which aims to embed ecosystem services within the human economy in the form of stocks and assets to be accounted for (Costanza, 1991; Costanza et al., 2017). While the MA and TEEB did not introduce new definitions of nature or biodiversity, their framing and discourse have had an influence on which components of biodiversity were selected as being more or less relevant and fit for analysis (e.g. Norgaard, 2010; see also Chapter 5). Responding to these criticisms, some argued that acknowledging ES can be the basis of different types of assessment and need not lead to commodification. While monetary valuations are common, the ES framework still directs attention to the multiple benefits of nature that would otherwise be marginalized in decision-making, including ethical and sociocultural valuations, and ES can be used for nonmonetary assessment of human well-being (Costanza et al., 2009, 2017; De Groot et al., 2012; Schröter et al., 2014).

The ES framework, however, is changing. Partly out of concern for a narrow economic framing of the concept, and critiques of the domination of a Western world view embodied in ES, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has developed a more holistic perspective, known as Nature's Contributions to People (NCP), in which noneconomic values and non-Western worldviews receive more attention. This is an evolution of the ES concept as it considers different types of contributions, from material to nonmaterial, as a spectrum indicating the nonmutually exclusive nature of different contributions. Thus, for instance, food can be seen as not just material (provisioning), but also linked to nonmaterial values (culture and identity), in addition to other values such as options for the future (e.g. to facilitate climate adaptation). Thus, NCP concepts purport to bring in more real-life nuances to the values held by different peoples to nature (Díaz et al., 2018), as all of these values coexist, and are not equally prioritized, which could result in potential conflicts between different stakeholders (IPBES, 2017; Pascual, 2017).

2.4.2 Biocultural Diversity Lens

One reason for the development of the NCP concept was the lack of attention to nonmaterial aspects of nature. Despite the inclusion of "cultural ecosystem services" in the original ES framework, cultural services were underrepresented, lacked suitable indicators, and encountered difficulty (and reluctance) to quantify them (Satz et al., 2013). Notwithstanding these problems, studies on nature–culture relations evolved in parallel to the ES framework and gained prominence on the international agendas of organizations like the Food and Agriculture Organization (FAO) and UN Educational, Scientific and Cultural Organization (UNESCO) (Bridgewater and Rotherham, 2019), culminating in the 1988 Declaration of Belém, which found "an inextricable link between cultural and biological diversity" (Schlebusch et al., 2017: 652).

From this, the concept of biocultural diversity was coined. Agnoletti and Emanueli (2016) consider the concept of biocultural diversity to be a useful term to represent the dialectic relation between the biological and cultural diversity of a (cultural) landscape. As such, two complementary and reciprocally dependent dimensions exist within biocultural diversity: the human shaping of biodiversity and the evolution of cultural practices related to biodiversity.

Modern humans (*Homo sapiens*) developed in southern Africa some 260,000 to 350,000 years ago (Schlebusch et al., 2017), emerging from local dryland ecosystems and later found, through dispersal over the globe, in a multitude of different ecosystems. Through foraging, ancient humans shaped and impacted local ecosystems in a similar way to other animal species. Along with the development of human culture, the use of tools and implements for hunting, and later crop cultivation and the raising and maintaining of domesticated livestock, shaped distinct ecosystem patterns (Küster, 2003). The continuous harvesting of food, the hunting of animals, and the collection of medicinal and other plants influenced the composition of biological communities over time, making it impossible to distinguish "untouched" nature from human-altered ecosystems. According to Moran (2006), hardly any ecosystem on Earth has not been shaped by human action. Long before the Neolithic, our ancestors modified their environment to facilitate their quest for food. Olsson (2018) shows how the myth of untouched wilderness as a treasure for biodiversity was contested. Joint work by ecologists and anthropologists showed – through observations of tropical forests presumably untouched by humans, like large parts of the Amazon – that the habitat had in fact been used through different forms of shifting cultivation for long periods of time, thereby influencing biological diversity. This should therefore more accurately be called biocultural diversity (Gómez-Pompa and Kaus, 1992). Similar results and interpretations have been confirmed by other researchers (Padoch and Pinedo-Vasquez, 2010), such as the use of fires for hunting in shaping biodiversity (Sevink et al., 2018).

Cultural practices can also view biodiversity as a resource (Bridgewater and Rotherham, 2019). An important aspect to highlight here concerns the meaning of culture, for which Cocks' (2006) work is central in arguing that biocultural diversity has so far been linked to the cultural activities of local and Indigenous groups. In his view, this is too limited and should be extended to include non-Indigenous groups, based on observations of the variety of cultural practices regarding the use of wild plants by non-Indigenous peoples (Cocks, 2006).

This dialectic relation between nature and culture remains at the core of biocultural diversity and characterizes both rural and urban landscapes (Elands et al., 2019). Examples include seminatural vegetation, like grasslands and West-European heathlands. In seminatural grasslands in Europe, biological communities (plant species and their associated insects and other organisms) depend on continuous interference by humans, such as through fire, mowing or grazing by large herbivores like domesticated livestock. Without such activities, the seminatural grassland will return to forest and lose species richness (Babai and Molnár, 2014). Some of these grasslands existed in prehuman times and were shaped and maintained by wildfires and large wild herbivores, but the extent of seminatural vegetation from the Neolithic onward is due mainly to human interference

(Olsson, 2018; Oteros-Rozas et al., 2013). Another example relevant for agricultural systems is that of *biocultural refugia* (Barthel et al., 2013). This concept directly relates to human food provisioning, as embracing (biocultural) diversity can be seen as an agricultural strategy, and involves ensuring crop and habitat diversity as important tools for resilience in facing different disturbances and uncertainties, as well as the effects of climate change.

In Europe, traditional agricultural landscapes are often abandoned or transformed into urban or more intensively managed agricultural areas (Agnoletti, 2014; EEA, 2010; 2015; 2020). When abandoned, native shrubs, trees and invasive alien species may spread. Local farmers often perceive these changes negatively: from a landscape-in-order where "each corner had a role," reverting into a landscape-in-disorder that is "getting wild" (Babai and Molnár, 2014; Ujházy et al., 2020). This "getting wild" causes loss of cultural practices and associated biocultural diversity (Agnoletti and Rotherham, 2015), offering an interesting comparison with the interpretation of wilderness in the context of PAs given earlier. What is seen as the loss of biocultural diversity from the perspective of cultural landscapes from a traditional ecological point of view is often framed as a positive gain for biodiversity because land abandonment offers possibilities for "rewilding" (Agnoletti and Rotherham, 2015). Agnoletti (2014) acknowledges this tension and complains that many conservation approaches are too guided by the concept of wilderness when dealing with cultural landscapes, thereby neglecting biocultural diversity.

Frameworks are emerging for the conservation of landscapes that are coproduced by humans and nature, such as in the International Union for Conservation of Nature (IUCN) Category V (Protected Landscapes/Seascapes) (Schneiders and Müller, 2017; IUCN, n.d.). Furthermore, cultural aspects are included in discussions of the CBD regarding the establishment of "sustainable use" as one of the three main goals of the convention, which hints in the direction of valuing cultural landscapes (Bridgewater and Rotherham, 2019). Another noteworthy development is that of the "Other effective area-based conservation measures" (OECMs) introduced by Aichi Target 11, which allow other sustainability-related goals along with conservation objectives in management and governance (Laffoley et al., 2017).

An important step toward the protection of cultural landscapes and biocultural diversity is the increasing attention in the conservation debate to so-called relational values. Chan et al. (2016: 1462) argue that "[f]ew people make personal choices based only on how things possess inherent worth or satisfy their preferences (intrinsic and instrumental values, respectively). People also consider the appropriateness of how they relate with nature and with others, including the actions and habits conducive to a good life, both meaningful and satisfying. In philosophical terms, these are relational values." The introduction of relational values aims to capture another dimension that can support the concept of biocultural diversity by enriching understandings of human–nature interactions within the landscape.

In conclusion, the introduction of concepts like ecosystem services and biocultural diversity have broadened the horizons of biodiversity conservation in the past decades, shifting the attention from wilderness protection to also include sustainable use and cultural landscapes, from intrinsic values of nature to a plurality of other values, including

instrumental and relational. These concepts have been important influences on how biodiversity governance is conceptualized and practiced, as seen in the development of numerous international policy agendas and new forms of protection. The two frameworks discussed in this section emphasize different elements and can complement each other (Bridgewater and Rotherham, 2019; Buizer et al., 2016). However, tensions exist, particularly on issues of quantification and monetization at the center of discussion within the ES framework that run the risk of objectifying and separating nature from humans.

2.5 Nature Defined as Rights of Nature

In the previous sections, we described the processes that led to the inclusion and engagement with a plurality of values and knowledge systems within mainstream conservation. This is all the more needed when one considers the importance of Indigenous Peoples and local communities (IPLC) in managing and meeting global biodiversity targets. These groups use, manage, own or occupy a quarter of the globe, including 35 percent of the formally protected land area (Garnett et al., 2018, IPBES, 2019). Despite globally-declining biodiversity trends, nature is declining less rapidly in these IPLC-managed lands (Garnett et al. 2018, IPBES, 2019).

Indigenous and local knowledge systems are mobilized by IPLC, who live within natural and rural settings and make a living through an intimate relationship with nature (UNESCO, n.d.). Examples of different conceptualizations of nature from Indigenous communities include Pachamama (Mother Earth) or Country (Australia) (McElwee et al., 2020). Across many communities, nature is considered to be reciprocal kin, such as a mother or a deity, signifying a harmonious relationship between nature and humans (Cano Pecharroman, 2018). For instance, the concept of Pachamama, despite differences across populations using the term, translates into an actual philosophy of life ("*buen vivir*" in Spanish) that permeates the daily life and practices of these communities. The formulation of *buen vivir* as an alternative to modern Western ideas of development has been embraced by numerous social mobilizations (Gudynas, 2011; Kothari, Demaria and Acosta, 2014). Once again, multiple definitions of nature and the worldviews articulated around it play a role in shaping proposals for conservation governance and, more broadly, sustainability.

Rights of Nature (RoN) is an emerging legal framework that aims at integrating IPLC knowledge with Western legal systems (also see Chapter 9). It has gained vast momentum over the last decade and confers legal rights to individual ecosystems (or the whole of nature) that are then represented in court by one or more legal representatives or guardians (Cano Pecharroman, 2018). These changes in the legal system around nature represent a fracture with previous approaches (Chapron et al., 2019), as proponents argue that the mainstream Western legal system is anthropocentric and legalizes environmental exploitation for the fulfillment of human needs (Burdon, 2011). Nature, in an ecocentric legal system, would thus be recognized a legal entity and be conferred with the status of legal subject (O'Donnell and Talbot-Jones, 2018). Starting from local ordinances in the United States, RoN have been included in the Ecuadorian Constitution in 2008, and in 2011 Bolivia passed its own Law on the Rights of Mother Earth. More recently, in 2016, the Atrato river

in Colombia was given legal personhood, quickly followed by the Whanganui river in New Zealand (2017) and the Ganga and Yamuna rivers in India (2017). In 2019, Lake Erie in Ohio, United States, was granted the rights "to exist, flourish and naturally evolve" (Lake Erie Bill of Rights Charter Amendment 2018), and a proposal to confer legal rights to the Dutch Wadden Sea has recently been discussed (Lambooy et al., 2019).

The RoN framework poses an ontological quandary because it introduces nature as a subject, rather than object, not only in legal but also in moral terms (de Sousa Santos, 2015). Yet, as detailed in the previous sections, such a conceptualization of nature may perhaps be less obvious in the context of the traditional Western ontological divide between nature and culture. The challenge lies in the fact that Western national legislations and worldviews, traditionally anthropocentric, are now confronted with IPLC conceptualizations of nature and of life. Rights of Nature thus is more than a mere legal tool, as it can create encounters between different epistemologies and ontologies, as Western concepts such as "rights" and "ecosystem" meet with Indigenous worldviews and concepts such as "Pachamama" and "buen vivir" in what has been defined an "epistemic pact" (Valladares and Boelens, 2017).

The establishment of RoN presents fundamental questions concerning the way we relate to and see nature. From a conservation point of view, the narrative around nature as a subject and nature's intrinsic rights, as defined within "ecocentrism" (Washington et al., 2017), has been widely deployed for the conceptual backing of PAs expansion (Kopnina, 2016). However, ecocentric approaches are contested by critics for their lack of attention for the human dimension (Büscher et al., 2017; see also Chapter 12 on Convivial Conservation). Similarly, RoN is criticized for the risk of pitting humans against nature and neglecting human needs that are embedded in nature (Kothari and Bajpai, 2017). As such, ongoing discussions on who will represent nature and how legal representatives or guardians will play a role in trying to address these issues might offer useful examples for broader conservation debates on whether and how to integrate ecological and social concerns.

The Example of the Case of the Atrato River in Colombia.

In 2016, the Colombian Constitutional Court recognized the Atrato as subject and assigned "biocultural rights" to recognize the inextricable connection between the river and local practices and culture. These biocultural rights formed a framework wherein conservation objectives relating to the river were reconciled with the sociocultural needs of local communities (Kauffman and Martin, 2018; Roncucci, 2019). While promising, the Atrato case is relatively recent and more time is needed to draw any conclusion regarding the success (or not) of integrating environmental and sociocultural needs.

Ultimately, the integration of the Rights of Nature with the rights of people is contested, as it brings us back to the nature/culture divide and to the risk of seeing humans (or rather, some humans) as separated from and opposite to nature. Nonetheless, the inclusion of Indigenous knowledges and worldviews as exemplified by RoN frameworks is contributing to transformative biodiversity governance by proposing novel hybrid legal arrangements and by challenging dominant Western ontologies and epistemologies.

2.6 Scenarios of Nature

In this section, we deal with scenarios of nature as a way to develop future pathways that are inclusive of the plurality of definitions and values of nature encountered thus far. Scenarios of nature are qualitative and quantitative descriptions of a desirable nature future and are widely employed in environmental policymaking. Díaz et al. (2018) note that most scenarios do not take into account the complexity of human–nature relations, but in fact only consider human impacts on nature, neglecting the importance of nature in supporting human wellbeing. To remedy this and to include a plurality of values of nature into scenario exercises, a new framework is being developed by IPBES, known as the Nature Futures Framework (Pereira et al., 2020), where the three value perspectives discussed in this chapter (intrinsic, instrumental and relational) would be used to develop future visions for society and nature.

Similarly, the Nature Outlook study by PBL Netherlands Environmental Assessment Agency elaborated four perspectives based on different values of nature and explored alternative futures at the EU level (Van Zeijst et al., 2017). The result was the development of four perspectives underpinned by different value assumptions: strengthening cultural identity, allowing nature to find its way, going with the economic flow and working with nature. This exercise did not aim to identify one optimal way forward but rather to facilitate imagining alternative futures. These types of exercises are fundamental for thinking about transformative change because they allow scope for alternatives and create space for confrontation and decision-making with transparent values and inclusive practices.

A key element that is relevant for transformative biodiversity governance is that every perspective of nature comes with different sociocultural, political and economic implications for the future. At a policy level, prioritizing the intrinsic value of nature will result in adopting conservation strategies, envisioning human–nature relations or recalibrating the economic system in a very different way than if relational or instrumental values were prioritized. Moving across perspectives of nature, prioritizing one over another and referring to biodiversity instead of Mother Nature (or vice versa) imply different future worlds. This makes biodiversity governance a contested field, characterized by continual negotiation between different ontologies and epistemologies. The key to transformative biodiversity governance lies in the capacity to embrace and handle this contestation and negotiation without denying the radical value-based differences between perspectives but rather finding ways for them to coexist.

2.7 Discussion and Conclusion

This chapter introduced how different conceptions of nature have developed over time and in different geographies, as well as how different normative value perspectives shape and are reproduced by these definitions of nature. Ultimately, these conceptions and values influence strategies and targets for conserving and using nature. At the core, the nature/culture divide has been a foundational dichotomy in the way nature comes to be defined.

While this divide has been criticized both within and outside the Western context in which it was created, nonetheless, it remains essential to much of the debate around conservation.

We argue that defining nature is far from an objective and conflict-free exercise. On the contrary, defining nature is a value-laden task with theoretical and material repercussions. Choosing one definition and value of nature over another implies imagining and advocating for different worlds and nature futures. It means legitimizing one worldview over another. While this is inevitable, we must be aware of the implications for transformative biodiversity governance. Defining nature as wilderness generates conservation strategies that are not only different but possibly at odds with conservation strategies deriving from other conceptualizations of nature.

In this regard landscapes, ecosystem services and biocultural diversity are concepts that, despite differences, aim at integrating human and natural systems. Conservation strategies stemming from these concepts require a different approach to that of traditional protected areas, and much work remains to be done to understand how to integrate different strategies. It is important for transformative biodiversity governance to avoid reductionist approaches that smooth over important ontological or epistemological differences and to embrace pluralistic approaches, as well as to envision governance tools and mechanisms to navigate the political space offered by these multiple perspectives, such as legal Rights of Nature. Additionally, it will also be important to understand what pluralism materially means in terms of biodiversity governance. Does pluralism mean developing hybrid conservation strategies and targets that include multiple perspectives of nature? If so, it would be necessary to first reflect on the extent to which current strategies and targets (at both local and international levels) are receptive of this or, if not, how they favor – more or less implicitly – some perspectives over others.

Another crucial point for transformative biodiversity governance is that of transparency and clarification of choices. Many concepts and approaches are presented as "black boxes," without a clear view of the premises, rationales, norms and values included. This treats concepts and governance approaches as "truths," which is problematic for multiple reasons. Firstly, it hides (or at best marginalizes) any uncertainties, unknowns, discordant voices and ambiguity that may exist behind a concept. For example, in our discussion of the concept of "biodiversity," we noted that it did not emerge from a general consensus within the scientific community, and from the outset its usefulness was criticized.

The second problem that stems from treating concepts and approaches as truth-claims is that it makes them less open to influence by other perspectives. This is at odds with the new attention to inclusivity, plurality and justice that is emerging in biodiversity governance, and that is seen in recent multiperspective scenario exercises. In these, the objective was not to identify one single optimal vision for the future but, on the contrary, to create a space where multiple visions could come together and be realized. Truth-claims that do not acknowledge disagreement and diversity become markedly less tenable given calls for inclusivity and plurality. This requires a serious rethinking of the concepts and the practices that are employed in the name of biodiversity conservation, in order for those who deploy these concepts to become more self-reflective and aware of their own limits and of the values they hold.

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