

ECOLOGICAL JUSTICE AND THE EXTINCTION CRISIS

GIVING LIVING BEINGS THEIR DUE

ANNA WIENHUES



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In memory of Luigia Ragagnin

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About the Author

Anna Wienhues is a postdoctoral researcher at the Center for Ethics and the University Research Priority Programme on Global Change and Biodiversity of the University of Zurich, Switzerland. In 2018, she received her PhD in political theory from the University of Manchester, United Kingdom, during which she developed the main argument presented in this book. Her research interests focus on the areas of environmental ethics and political philosophy.

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This book includes revised versions of previously published material for which I have kindly received permission from Elsevier to republish it as part of this monograph. This applies to a considerable amount of [Chapter 9](#) (and some sections in [Chapters 5](#) and [7](#)) which has already been published as a journal article in *Biological Conservation*. Likewise, a considerable amount of [Chapter 3](#) (and a few sections in [Chapter 2](#)) has already been published as an open-access article in the *Journal of Agricultural and Environmental Ethics*. Additionally, a shorter and less elaborate version of this monograph (without [Chapters 2](#), [10](#) and several other sections) in form of a PhD thesis can be accessed via the University of Manchester library. This earlier version was published under the title *Life in Common: Distributive Ecological Justice on a Shared Earth* in 2018.

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Introducing Ecological Justice

The conditions for life on Earth have been in constant flux since the appearance of the first single-celled organisms and now the Earth is populated by an estimated one to six billion species, according to a recent study (Larsen et al 2017). *Homo sapiens* – a latecomer on the evolutionary tree – was merely a marginal species until about 12,000 years ago when the beginning of a period of climate stability (the Holocene) was favourable to the development of agricultural societies (Feynman and Ruzmaikin 2007). Currently, life on Earth is experiencing a new mass extinction event (Ceballos et al 2015), which differs to a normal background rate of extinction that accounts for an ongoing adaptation and replacement of species. What distinguishes this period of mass extinction from previous ones is the fact that this instance is of anthropogenic origin; that is, caused by humans (Wilson 2016).¹ Besides that this makes this kind of extinction conceptually different from past extinction events, this causality has also normative implications, and constitutes the fundamental problem against which the argument for an account of ecological justice is developed in this book.

To clarify, regarding species extinctions it is possible to distinguish between four different processes of extinction (final, hybridisation, transformation, allopatric speciation). Here the primary interest is in the kind of extinction that is usually implied in the everyday meaning of the term. That is, a final extinction which entails not only the disappearance of the species but also of the related phyletic branch of the evolutionary tree which stands in contrast to other extinction processes. That means that, for example, the disappearance of a species does not go hand in hand with the creation of a daughter species (see Delord 2007). Moreover, the seriousness of this current mass extinction event which is linked to its conceptual differences to non-anthropogenic mass extinctions, which makes it unprecedented (Aiken 1998), as well as

the magnitude of mass extinction events in general, generate a need to act. That, in turn, is underlined by a crisis terminology and (more or less) aptly being termed the *sixth mass extinction*, or the *biodiversity crisis*.² To put this into perspective, the previous five most significant mass extinction events each led to a reduction of at least 75 per cent of the number of species that existed at that point in time (Greshko 2019). Accordingly, the simple initial intuition is that the current mass extinction is a crisis and a symptom of a corrupted relationship between humans and the other living beings on Earth. As argued in this book, the human takeover of the Earth's ecological space – its resources, ecosystem benefits and actual spaces – that ultimately leads to species extinctions constitutes a genuine and non-metaphorical *injustice*; it should be discussed and responded to as a matter of justice.

The current level of species extinctions and biodiversity loss is not the sole environmental crisis unfolding at the beginning of the 21st century. Most prominently, the interrelated problem of climate change dominates environmental discourse and media attention. However, climate change is only one of several issues that should induce a sense of urgency. Besides threatening the lives of nonhuman living beings, biodiversity loss is also a serious problem for humanity. As Rockström et al (2009, p. 472) have famously illustrated, with their framework grounded on the notion of 'planetary boundaries', what would constitute a 'safe operating space for humanity' has already been considerably surpassed by biodiversity loss. That makes the crisis terminology seem more than rhetoric. So even a reader, who is unconvinced by the normative arguments that are developed in this book, might out of self-interest and concern for fellow humans support the biological conservation agenda that is reinforced by its conclusions. What I aim to add to the conservation discourse are reasons to support ambitious biological conservation agendas for people open to the idea that nonhuman living beings can be morally considerable, while at the same time upholding a strong commitment to global justice between humans. Even more, extensive conservation efforts should be considered a matter of justice. As with any philosophical claim of such sort, this is – of course – a conditional statement, based on a set of premises that need to be fulfilled as we will see in the following chapters.

Situated in non-anthropocentric philosophical developments, the theoretical aim of this book is to develop an account of justice that includes nonhuman living beings as holders of entitlements. In other words, an account of 'ecological justice', as termed by Nicholas Low and Brendan Gleeson (1998). Similarly, 'interspecies justice' has been

called for in ecological feminist theoretical literature (Plumwood 2002, Gaard 2017), and these terms will be used interchangeably in this book. Although the term ecological justice suggests that its focus lies on holistic systems rather than individuals, its scholarly discussions range from justice to individuals to justice to broader systems. The term interspecies justice might imply a bidirectional justice relationship, but it is argued in this book that it also should be seen to only focus on humans doing, or failing to do, justice to nonhuman beings; more accurately, individual nonhumans (and potentially also as groups) instead of attributing justice entitlements to species themselves. Even though the term ecological justice (sometimes referred to as ecojustice) has received slightly more attention than interspecies justice, the latter more accurately describes my relational and global understanding of the justice relationship between humans and nonhumans. In a nutshell, what is sought is an account of global distributive ecological justice to ‘wild’ living nonhuman beings. Thus, four interrelated themes will resurface throughout the chapters of this book.

The first theme is the claim that all living beings can be holders of justice entitlements including the broad spectrum of life such as sharks, pine trees, seahorses or foxgloves. That is the focus of the next chapter in which I illustrate why I think that all living beings are morally considerable, which is a position usually termed biocentrism. Moreover, I will explain why what I call a political non-ranking version of biocentrism is a good starting point for trying to develop an account of ecological justice. How then to move from acknowledging moral considerability to grounding a community of justice is the subject of [Chapter 3](#). Despite that there is more to justice than distribution as will be discussed later, it is precisely distributive justice that will be focused on and, thus, constitutes the second theme. The idea is that the human takeover of the Earth that led to the crisis was by no means just and that it is foremost a particular kind of injustice towards nonhuman living beings; a misdistribution. In [Chapter 4](#), I will introduce the idea of ecological space and explain why it is an appropriate currency of distribution in the context of ecological justice.

Yet, as already indicated, the focus will not be on distributive ecological justice as a whole but rather on a particular justice relationship between humans and wild nonhuman living beings due to aiming to analyse what *just biological conservation* would look like from this perspective. This is the third theme. In light of the extinction crisis this particular justice relationship is of particular interest because it is primarily wild nonhumans which constitute species that are threatened with extinction.³ In [Chapter 9](#) non-philosophical debates

about this question on the so-called ‘Half-Earth proposal’ will be considered (Wilson 2016) to think about in more detail what a just sharing of habitat on a shared planet would look like. Of course, here also considerations of global environmental justice between humans are highly relevant and this brings us to the last theme: the environmental-ecological justice nexus. No account of ecological justice will be able to provide much meaningful normative guidance if it is not possible to easily understand its interactions with other global justice demands within the human realm, such as particularly in the environmental context the demands of environmental justice. Because of this I try to develop my account of ecological justice in such a manner that it can be put into conversation with considerations of environmental justice. This will become particularly important in the context of which currency of distribution is appropriate (Chapter 4) and which theoretical premises for accounts of inter-human global justice are incompatible with a commitment to ecological justice. Regarding the latter one such instance will be focused on by explaining why accounts of environmental justice should not be founded on the premise that all humans hold a common ownership claim to the Earth (Chapter 8).

Before moving on, I would like to stress that all the arguments in this book are heavily indebted to the pioneering work of other environmental political theorists and philosophers whose theories and explanations have nurtured the formation of my account, and it is hoped that each account has been represented fairly. Particularly influential works in book-length renditions have been Paul Taylor’s *Respect for Nature* (1986) in which he develops a biocentric theory of environmental ethics; Brian Baxter’s *A Theory of Ecological Justice* (2005) in which he develops a biocentric theory of distributive ecological justice; and Val Plumwood’s *Environmental Culture* (2002) in which she further develops her critical ecofeminist perspective. Their influence will be notable in my own account of distributive interspecies justice. Moreover, as already mentioned, such an account of justice cannot exist in isolation but has to be put into conversation with an account of environmental justice between humans in order to make sense of theoretical, and very real, material conflicts on a finite planet. The discussion in this book of this ecological-environmental justice nexus builds on a discussion that has already been started by both Low and Gleeson in *Justice, Society and Nature* (1998) and David Schlosberg in *Defining Environmental Justice* (2007).

Now, I would like to introduce the idea of ecological justice further by situating it in some of the relevant philosophical literature in the next section and then explain why I think that a justice framework,

in general, and an account of distributive justice in particular is a useful theoretical lens for looking at the problem of biodiversity loss. The final section provides a short overview of the content of the following chapters.

Linking debates in environmental ethics and political theory

Ecological justice draws on several distinct bodies of literature while the concept itself is more specifically situated in the overlap between environmental ethics and environmental (or green) political theory, which are fairly independent bodies of literature. On the one hand, it draws from work on the notion of moral considerability that has been a central focus of environmental ethics. On the other hand, it simultaneously draws on the justice concept that is usually situated within political thought while also embodying a green critique of the most influential non-green theories of justice. Accordingly, it has contributed to a heightened level of conversation between these bodies of literature, besides being also a concept that social scientists are starting to adopt.

The field of Western environmental ethics started to bloom during the 20th century; more specifically in the 1970s, when philosophers started to engage with environmental problems, and claims emerged that these problems necessitated a new – meaning an environmental – ethic (Sylvan 2003 (1973)). From that point the field started to branch out into debates over theories of value, animal welfare or rights, restoration and wilderness preservation (for an overview see O’Neill, J. et al 2008, Attfield 2014). The debate on theories of value can be considered as the foundational issue of this body of literature, in which different views of the value of nature, or different justifications for environmental protection are grounded and then spill over into the other areas of debate – ecological justice included. In particular, meta-ethical questions were debated on the nature of intrinsic (usually understood as non-instrumental) and instrumental value, such as whether intrinsic value can exist objectively (independently of a human valuer), as well as more substantial questions such as the location of the intrinsic value – that is, what features/attributes would generate such value (see O’Neill, J. 1992, 2001, Norton 2003 (1984), Rolston III 2003 (1994)).

Providing normative groundwork for theories of ecological justice, the literature on environmental ethics has generated a broad range of views on nature; not just in the sense of how the notion of nature

itself should be conceived, but primarily regarding the question of which entities matter morally speaking – which entities are morally considerable or, more broadly, have moral status – when advocating environmental protection. Such views range from anthropocentric or human-centred perspectives (for example O’Neill, J. 1993b, Hayward 1997b, Norton 2003 (1984)) to several non-anthropocentric or ‘physiocentric’ (Krebs 1999) perspectives that differ in respect to the degree to which, and what kinds of nature they take into consideration. What matters for the purposes of this book is that anthropocentric approaches do not provide the necessary normative groundwork to justify a theory of ecological justice which necessitates that (at least some) nonhuman entities are seen as morally considerable in their own right. Accordingly, a non-anthropocentric starting point is required. Broadly speaking and simplified, the different non-anthropocentric positions are as follows:

Sentientism extends moral consideration to (some) animals (for example Singer 1974, 1975, Midgley 1983, Regan 1984, Garner 1996, Palmer 2010). This view has been made popular by Peter Singer’s (1974, 1975, 2016) individualist utilitarianism, but is still defended by philosophers with different traditional commitments in the animal rights literature, and more recently by theorists extending justice to animals (for example Nussbaum 2006, Garner 2013). What unites all these different theorists is a commitment to consider (only) sentient beings such as humans and animals morally considerable, and thereby of primary concern to any environmental ethic. Singer, drawing on Jeremy Bentham, considers the individual ability to suffer pain as a necessary criterion for moral considerability, but later refines his argument by differentiating between conscious and self-conscious beings and prioritising the suffering of the latter. The animal rights theorist Tom Regan (1984) provides an alternative individualist deontological justification for sentientism by arguing that all beings ‘subject-of-a-life’ are morally considerable, which in his account only includes humans and some animals with certain cognitive abilities, such as having beliefs and desires (such as higher mammals). Animal rights theorists have comparatively been very influential in arguing for the expansion of moral considerability beyond the human realm. So much so that concern for animals has reached the domain of political theorising (for example Nussbaum 2006, Donaldson and Kymlicka 2011, Grant and Jungkunz 2016). I will briefly return to the political element of this literature in the next chapter.

Biocentrism extends moral considerability to all living organisms (for example Attfield 1981, Taylor 1986, Sterba 1998, Agar 2001) and, as

already mentioned, such views are useful starting points for developing a non-anthropocentric account of justice. The biocentric position of this book draws particularly on Paul Taylor's work (1986) but the account also differs in some important respects, as will be explored in the two following chapters. For example, the argument in this book is for a *political* biocentrism which means that all living beings should be included in the community of justice; but that does not preclude other environmental entities from having moral status. However, arguably only living beings qualify as recipients of distribution. That means that the pluralist view of this book is more willing to accommodate some holistic perspectives than many biocentrists might be comfortable with. Holism or ecocentrism designates a range of views that hold, in addition to (or instead of) all living beings, ecosystems, species or the Earth itself, as holders of moral status and/or intrinsic value (for example Naess 1973, Callicott 1980, 2015; Rolston III 1988, 2012). Into this category falls, for example, 'deep ecology' (as opposed to shallow) which was first introduced by Arne Naess (1973) (for a critique of deep ecology see Plumwood 2002).⁴ Another position that falls into this category is Aldo Leopold's famous 'land ethic' according to which '[a] thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise' (2003 (1949), p. 46).⁵

The literature on expanding justice to nature is a bit younger than the development of the work on environmental ethics. As mentioned earlier, Low and Gleeson are usually attributed with coining the term ecological justice, which they defined as 'the justice of the relationship between humans and the rest of the natural world' (1998, p. 2). This means justice to nonhuman beings, which stands in contrast to environmental justice which is – if narrowly defined – about justly distributing environmental resources among humans. Whereas Low and Gleeson distinguished these as justice *to* and *in* nature, I deem it more accurate to speak of two spheres of justice *in* nature. It also should be noted that Low and Gleeson did not consider ecological justice to be directly concerned with questions of distribution, but rather concerned with 'the meaning of the environment in a deeper sense, the sense of our moral relationship with the nonhuman world' (1998, p. 133). To be fair, by that time environmental ethicists had already been including the notion of justice in their theories (as for example Taylor 1986), but not with the ambition of providing a political theory of justice (which also Low and Gleeson did not articulate).

To date, the term ecological justice has not spread far in the environmental philosophy literature (with some notable exceptions such as Baxter 2005, Schlosberg 2007, Kortetmäki 2017), but the

analogous notion of interspecies justice has also been discussed in some (animal) ecofeminist writing (for an overview see Gaard 2017). Yet within ecofeminism, interspecies justice – also sometimes discussed as ecojustice – has remained more of a perspective rather than having been developed into a theory of interspecies justice. Its most extensive philosophical discussion can be found in Plumwood's work (1999, 2002). Additionally, there are works that extend justice to nonhumans that do not refer to either of these concepts (such as Sterba 2005, Armstrong 2012), and accounts that fall into 'animal justice', broadly conceived (for example Nussbaum 2006, Donaldson and Kymlicka 2011, Garner 2013; into this category falls also Donald VanDeVeer's (1979) term of 'interspecific justice'). And finally, more recently the broad terms of 'planetary justice' (Dryzek and Pickering 2019) or 'multispecies justice' (Treves et al 2019) also emerged which include nonhumans in addition to present and future human generations.

So, conceptually, the debate about the make-up of the justice community is an extension of the moral considerability debate. Mirroring the debate about moral considerability, positions drawing on justice with a range of extensionist agendas have been put forward, ranging from sentientist (as for example Benton 1993, Nussbaum 2006, Garner 2013), to biocentric (as for example Baxter 2005), to holistic perspectives (as for example, Schlosberg 2007, Armstrong 2012, Kortetmäki 2017).⁶ But this theoretical development has been taking place against the backdrop of a longstanding anthropocentric paradigm of political theorising (see for example Rawls 1971, 1996, Nozick 1974, Walzer 1983, Barry 1995, 1999). One fundamental obstacle to including nonhumans into the community of justice is the claim that they do not embody the right attributes that trigger moral considerability. For example, rationality, moral agency or personhood have been proposed as necessary features of moral considerability which then are usually taken to exclude (nearly all) nonhumans as subjects of justice. Notably, as argued by Immanuel Kant (1997 (1784–5), 1998 (1785)), nonhumans – more specifically animals – are merely 'things', and hence cannot be the subject of moral duties, but such an extreme position has been refuted by several philosophical arguments and scientific discoveries about the abilities of animals.

From a philosophical perspective, one of several problems with such a position is that the rationality criterion does not just exclude nonhumans but also many humans such as infants or the severely disabled. Thus, not extending moral considerability to (at least) animals would imply that moral agents would also not hold moral

duties towards a large proportion of human society. This problematic implication is usually called the problem of marginal human cases (see Baxter 2005, Nussbaum 2006) and is used as an argumentative route to include nonhumans within the realm of morally considerable entities. However, the reason for needing a different argumentative strategy for grounding the moral considerability of nonhuman living beings is explained in [Chapter 2](#).

An argument inspired by scientific discoveries is made by Marc Bekoff and Jessica Pierce, who show that some ‘animals have morality’ of some sorts in that they ‘feel empathy for each other, treat one another fairly, cooperate towards common goals, and help each other out of trouble’ (2009, p. 1). This further undermines the claim that only humans can be part of the moral community even if one would accept the claim that only moral agents would also qualify to be moral patients. Consequently, even supporters of the claim that it requires moral agency in order to be the subject of moral duties will have to accept that this definition might also include at least some animals, such as primates and elephants. However, nonhuman life has remained outside of philosophical descriptions of the circumstances of justice until recently with the emergence of ecological justice, which is an attempt to provide a non-anthropocentric redefinition of the notion of justice and the circumstances in which it applies.

In contrast to ecological justice, environmental justice has received considerable attention by environmental scholars from numerous disciplinary backgrounds, and its origins can be traced back to social movements in the United States during the 1980s. The initial issues of concern for the emerging environmental justice movement were the different levels of exposure to environmental risks, such as toxic wastes, different social groups had to bear – with poor communities and communities of colour suffering proportionally higher levels of risk (regarding this local environmental justice debate see Bullard 1993, Holifield et al 2010, Walker 2012). The environmental justice concept was soon also applied to global justice considerations, especially with regards to the quickly growing field of climate justice (for an overview see Vanderheiden 2015, Meyer, L. and Sanklecha 2017). In the global justice literature, there is also a distinct, but related, body of literature on the distribution of natural resources (see Hayward 2005, Pogge 2007, Wenar 2008). Even though this literature does not usually refer to the environmental justice concept, its primary focus of enquiry – just access to environmental goods – also falls under the global environmental justice umbrella.

When aiming to develop a framework of ecological justice, it is as useful as it is necessary to keep its conceptual neighbour, environmental justice, in sight. As mentioned earlier, by formulating a currency of justice – that is, ecological space – which is applicable to accounts of environmental *and* ecological justice, it becomes possible to put these two domains of justice into conversation. Despite arguing that such a project is an important development of ecological justice considerations (for example Baxter 2005, Schlosberg 2007), this realm of conflicting duties of justice has been left fairly unelaborated besides, for example, arguments that attribute a priori human needs larger moral weight or significance than comparable nonhuman needs.⁷ However, such a ranking of moral significance will be argued against in Chapter 2 by drawing on Plumwood's (2002) notion of non-ranking. The implication is that the broadening of the community of justice creates a situation in which moral agents hold duties of justice towards other humans and nonhumans which makes it necessary to provide an account of how the newly created conflicts between human and nonhuman entitlements can be resolved more contextually.

Here an important contextual feature is scarcity of ecological space, which will be defined in this book as the (potential) benefits of the Earth's life-support systems and physical resources such as land in addition to renewable and non-renewable natural resources. If accounts of ecological justice want to provide guidance for how to do less injustice to nonhuman beings, then they can only do so by engaging with the realities of scarcity that do not resemble the usually assumed conditions of moderate scarcity in (ideal) theories of distributive justice, where all needs could theoretically be fulfilled. Environmental crises such as the current mass extinction are driven by human created *actual scarcity*, and this context therefore needs to be taken into account when theorising about ecological and environmental justice – more on this in the next section. Hence, environmental and ecological justice do not just have to be put into conversation; they have to be put into conversation in the context of scarcity.

That actually-existing scarcity has not been highlighted so far in interspecies justice theorising is not surprising, because theorists that extend justice to nonhumans have gone to great lengths to affirm their liberal credentials (for example Baxter 2005, Nussbaum 2006). But as Derek Bell (2015) points out, there are several problematic features with how liberal theories of justice have conceptualised the environment.⁸ He makes, among others, two points that I would like to highlight. First, Bell points out that liberal theories of justice assume circumstances of moderate scarcity regarding environmental

goods, and that these ‘can be maintained indefinitely in the future’ (2015, p. 10). As will be discussed in [Chapter 5](#), this is a problematic assumption if one takes into consideration the limited ability of the Earth to provide resources, ecosystem benefits and so on. Therefore, from this perspective, some theories of justice might be over-idealised in that they idealise away important features of the world we live in, but here I will put aside the debate on the relationship, relevance and different conceptualisations of ideal and non-ideal theory in political thought. The point is that the actual finitude and scarcity of necessary goods are important considerations that theories of justice should address. In [Chapter 3](#) a related issue will be examined, namely that interspecies justice has a different relationship to scarcity than the one that features within intra-human accounts of justice.

The second important problematic feature of how liberal theories understand the environment, according to Bell, is that the environment is primarily conceptualised as property. As he points out, ‘a theory of justice on one planet [that is, environmental and ecological justice] should start by recognizing our dependence on the environment rather than assuming that we have property rights over it. [...] Instead, it seems likely to endorse limited and carefully specified use rights’ (2015, p. 11). There exist some theories that attribute property rights to animals (for example Hadley 2015), but the issue of property rights also deserves more attention in the context of interspecies justice. In particular, the notion of original ownership that resurfaces in theories of social justice has problematic implications and will be discussed in [Chapter 8](#).

Why distributive justice?

At this point, one might want to rewind and ask why it is necessary at all to extend the realm of justice to nonhuman beings. What is supposed to be gained? My own interest in justice, and particularly distributive justice, is based on four pragmatic reasons that I will discuss in turn:

- Justice is a sphere of ethics that is generally considered especially weighty in contrast to other moral demands.
- Justice is closely linked to institutional protection and thereby lends itself to legal implementation.
- Justice operates on a more collective sphere of action than other normative concepts that focus on the actions of individuals.
- Distributive justice is not the only, but arguably the most important, domain of a complete theory of justice with regard to the environment, due to the materiality of environmental problems.

Practical usefulness

It is important not to confuse the notions of ethics and justice (Baxter 2005, Garner 2013). Justice is a specific concept within the broader realm of morality because it constitutes a solution to the problems of living together in a society, or sharing one planet, that sits within the more general realm of ethics. Hence, a theory of ecological justice is not an all-encompassing theory of environmental ethics, but rather only one area that such a theory would have to cover. This means that many questions of interest that fall within the scope of environmental ethics do not fall within an ecological justice framework. Why then, engage with the notion of justice if it cannot provide answers to all issues in environmental ethics? Its benefit is that the realm of justice is not only narrower than the notion of ethics, but is also often considered to be weightier, more stringent and/or more effective in providing actual protection by being enacted than other normative demands. This seems to be a sentiment shared by many environmental philosophers who engage with the notion of justice despite other considerable theoretical divides (such as Hayward 1997a, Baxter 2005, Garner 2013, Pepper 2018). Consequently, it has already been argued that justice is especially weighty or ‘urgent’ compared to grounding the protection of nonhuman beings in compassion or charity (Nussbaum 2006, Garner 2013), virtue ethics (Garner 2013) or care ethics (Low and Gleeson 1998, Garner 2013). For example, Martha Nussbaum claims that compassion ‘overlaps with the sense of justice’, but that ‘compassion by itself is too indeterminate to capture our sense of what is wrong with the treatment of animals’ (2006, p. 337). The main tenor in favour of justice seems to be because it is considered to be obligatory, able to make demands on behalf of far-removed individuals, and able to provide universal, relatively unambiguous guidance for action.⁹ Accordingly, it makes sense that environmental philosophers would want to cash in on this theoretical prestige in favour of their non-anthropocentric theories.

A second point in its favour is its close link to institutional protection. For example, Robert Garner, in his *A Theory of Justice for Animals* extensively argues that animals *need* justice, as opposed to merely qualifying as members of the justice community. He claims that ‘animals need justice because of the high status attached to it’ (2013, p. 2) which then, in practice, more likely justifies ‘state enforcement’ than alternative non-justice claims. This is because, from a practical perspective, he worries that those non-justice obligations can ‘collapse [...] into the realm of charity and voluntarism’ (2013, p. 2). If that

is true, then not only animals, but all of nature needs the protection of justice, which would entail a more far-reaching extension of the community of justice in order to support the development of complementary legal rights. Duties of justice towards nature could then be inscribed into national laws. Consider, for example, how Ecuador has inscribed the rights of Pachamama (the Andean name for Mother Nature or World Mother) into its constitution in 2008. In theory, this commits Ecuador to extensive state protection of wild nature, while in practice Ecuador's economy still heavily relies on extractive industries. Since its implementation, several lawsuits on behalf of nature have been filed with mixed success (Kauffman and Martin 2017) and despite some setbacks, what has been called Earth Jurisprudence is becoming more salient (for an analysis of different cases see Kauffman and Martin 2018). For example, rivers such as the Ganges in India or the Whanganui River in New Zealand have been attributed legal rights as entities in their own right (Ito 2017, Tanasescu 2017).

Nonetheless, as noted by Kortetmäki (2017), non-justice moral claims can also potentially be – and have been – inscribed into law, such as building or farming regulations for example. But there is something special about claims of justice that other moral obligations do not share. This is a third and more convincing crucial benefit of employing the language of justice as has been concisely summarised by Kortetmäki. As she puts it:

[T]he discourse on justice shifts the focus from the individual to the institutional sphere [...]. Bringing ecological entities into the realm of justice significantly increases prospects for their effective protection. Focus on the institutional realm is crucial [...]: large-scale ecological problems cannot be sufficiently addressed by focusing on individual-level actions. (2017, p. 19)

Her statement nicely illustrates that demands of ecological justice are not primarily meant to provide individual guidance on actions, even if the justice principles make demands on individual moral agents in the end. Because environmental problems such as biodiversity loss are collective action problems, justice to – or better in – nature has to be done collectively (Baxter 2005). The concept of justice implicitly accounts for *the need for collective action* and thus the relevance of structures, institutions and practices in which individual actions are embedded which links back to its close relationship to state enforcement. That makes justice an intrinsically political concept and

is never, in that sense, a private matter. As a consequence, it drags the question of power into the limelight giving it the intrinsic potential to critique dominant discourses that favour the status quo. Also, within environmental thinking more broadly, there has been something of a shift from focusing on depoliticised individualised consumer choice to a recognition that change requires political engagement with the underlying systemic structure of an unsustainable way of economic and social organisation (see [Chapter 10](#)). Conversely, this means that justice is less well equipped than other moral concepts and approaches such as care or virtue ethics to provide answers to what constitutes right, good or virtuous actions on a more individual level. Thus, it is only a part of, rather than a full substitute for, a theory of environmental ethics, but ultimately, environmental ethics can profit from concepts that can make moral sense of large-scale collective action problems.

When considering these strengths of justice, it seems that environmental conservation campaigns could also benefit considerably from its use as a rhetorical tool. However, the notions of ecological and interspecies justice have not yet spread far from theoretical debates into the discourse of conservation practitioners or the general public; even though justice is a concept that is not new to social justice activists that have been demanding justice for women, people of colour or indigenous communities. If the environmental justice movement uses the language of justice, it is also time for conservation and animal rights activists (regarding the latter see also [Garner 2013](#)) to use this powerful rhetorical tool, because it can support a shift in the debate to an institutional, and collective level. This might help to more effectively convert moral claims into international and national laws, because the normative pull of claims about injustices outweighs alternative framings of environmental problems.¹⁰

Theoretical context

Returning to more theoretical considerations, of particular interest is justice in terms of distribution due to the materiality of environmental problems. To clarify, I do not focus on distribution because I equate distributive with social justice, as some other theorists have tended to do (see for example [Dobson 1998](#)). I merely see the articulation of a distributive ecological justice framework as an initial yet important step towards a project of defending a more complete theory of ecological justice. A more complete theory would have to account for other dimensions of justice such as recognition of status (for example by building on [Fraser 2009](#)) and participation/representation in relevant

environmental decision-making (see Schlosberg 2007, Walker 2012 and Kortetmäki 2017 for multidimensional accounts of environmental and/or ecological justice). Moreover, I mainly focus on *intragenerational* distributive justice (with an exception in Chapter 7), and more would therefore also need to be said about justice towards future nonhuman beings and reparation/compensation for historical injustices.

However, not all dimensions of justice will turn out to be as relevant or appropriate as the distributional sphere. The dimension of recognition, for example, appears to be a valuable addition to considerations of distribution, and there are features of my theoretical framework that point towards this close link between these two domains of justice. For example, it could be claimed that it is a matter of justice as recognition that humanity recognises the similarities and differences between humans and other living beings; that the calling for respect for nature by some environmental ethicists (for example Taylor 1986, Rolston III 2012) is a matter of justice; or that the exclusion of nonhuman beings from the realm of distributive justice constitutes a methodological *misrecognition*, and not just the naturalisation of the exclusion of nonhuman beings from the realm of political theory that will be discussed in Chapter 8. Having said that, justice as recognition towards nature will considerably move away from how it has been theorised in the human realm which will make it more difficult to claim that the argument centres around recognition as a matter of justice rather than a different kind of moral demand. In any case, recognition should be seen as an addition to and not a substitute for considerations of distribution. As Nancy Fraser has already pointed out regarding the human sphere, '[s]truggles for recognition occur in a world of exacerbated material inequality' (1995, p. 166).¹¹ When looking at the current condition of life on Earth it is apparent that vast power inequalities exist that translate into vastly unequal access to required material goods in the context of more and more severe scarcity of these important goods.

As said, not all conceptualisations of justice will turn out to be as relevant or appropriate as the distributional sphere. For example, I am sceptical about the capabilities approach as a way of framing ecological justice as I will elaborate in Chapter 6, despite the fact it has been embraced by several theorists who expand the domain of justice beyond the human realm (for example Nussbaum 2006, Schlosberg 2007, Armstrong 2012, Kortetmäki 2017). Contrary to my interest in distribution, the academic justice discourse has actually moved away from focusing on distribution (since John Rawls' *A Theory of Justice* in 1971) towards alternative justice frameworks where distribution is either

less prominent or dismissed entirely (for example Nussbaum and Sen 1993, Fraser and Honneth 2003). Nonetheless, there are also current counter-discourses in the social sciences and humanities that aim to rediscover materiality, such as feminist new materialism (see Coole and Frost 2010). Yet, the discursive shift away from distribution has also occurred in environmental theorising (see especially Schlosberg 2007). For example, Kortetmäki, who draws heavily upon Schlosberg's work, provides an understanding of ecological justice that is fairly dismissive of a distributional approach. She states:

The [ecological justice] approach rejects the view that justice is primarily about distribution and endorses instead the relational view of justice as a matter of relations between recipients of justice, where distribution plays a role but is not the whole of justice. In other words, the approach involves a transition from a distributional to a relational paradigm of justice. (2017, p. 12)

It is important to note here how Kortetmäki contrasts a distributional with a relational understanding of justice. From my perspective, however, these do not embody separate paradigms. On the contrary, my understanding of distributive justice is inherently relational and, as mentioned earlier, I understand distributive justice as only one part – although the most important part – of a more complete framework of justice that also accounts for, among other things, participation and recognition. Distributive justice, as I understand it, only emerges from morally relevant relationships, each of which leads to different demands of justice. Because life on Earth constitutes an interrelated system it matters in justice terms how the human consumption of resources, spaces and environmental goods impacts on the ability of – or, in other words, disadvantages – nonhuman living beings to survive and flourish.¹²

Moreover, I do not only understand (relational) justice as pluralist in the sense of including considerations of distribution, recognition, restoration and participation (and potentially more), but also pluralist in that there are different, often overlapping, spheres of justice that need to be taken into account. Each sphere – or 'ground' (Risse 2012) – of distributive justice, for example, applies to a distinct community of justice and embodies a distinct set of justice principles. In order to determine what would be just, all-things-considered, it is necessary to take into consideration all relevant spheres of justice that apply to an

area of concern. In the environmental realm, it is therefore important to take into account environmental justice and ecological justice considerations that apply to different but overlapping communities of justice that put forward different demands of justice that need to be reconciled.

More specifically, the ecological justice approach that is developed in this book could be understood as justice to wild beings or biological conservation justice. Complementary spheres of ecological justice where different principles of justice apply would be the human relationships with farm animals and crops, garden plants, companion animals, city-dwelling species and so on. Thus, it is necessary to distinguish between the broader realm of ecological justice that spans a set of different justice relationships that ground different communities of justice and the different instances of ecological justice that each of these communities embodies. For simplicity when developing my own position, I use interspecies and ecological justice as shorthand for interspecies justice to (more or less) wild nonhumans if not indicated otherwise. This division is similar to Donaldson and Kymlicka's (2011) distinction concerning three morally relevant relationships between humans and animals when articulating their political theory of animal rights. According to them, these are (1) domesticated animals, (2) wild animals and (3) liminal animals such as rats and foxes which live close among humans without being domesticated. What justice demands in these other – less wild – spheres is a question that I cannot answer at this point, but it is important to keep in mind that not all human-nonhuman relationships can be covered by the same kind of distributive justice.¹³ This is not a new thought; for example justice between co-citizens and global justice are also considered separately because of the different relationships they cover. Put simply, an account of justice trying to address the problem of the current mass extinction will differ from an account that explains why factory farming methods should be condemned as a matter of justice. That means that different kinds of human-nonhuman relations – that is, along different degrees of wildness or domestication – have to be acknowledged with different spheres of justice under the broader ecological justice umbrella. Of course, what constitutes wildness (which should not be confused with wilderness) and domestication is contested and usually used imprecisely. Moreover, wildness, however understood, is an attribute that nonhumans can hold to different degrees (Palmer 2010). Hence, the wild versus domesticated dichotomy which I employ here is for reasons of theoretical parsimony rather than a reflection of actual human-nonhuman relations.¹⁴

Returning to the specific question about *distributive* justice, Schlosberg criticises the distributive focus of theorising about justice regarding the environment (such as Dobson 1998, Baxter 2005) arguing that:

[...] given theoretical and [environmental justice] movement calls to extend an analysis of justice beyond the distributive realm, theories of environmental and ecological justice have been disappointing to date. For much of the past two decades, most authors in the field have avoided an examination of the interface between justice and the environment, focusing instead on environmental values or ethics. More recently, however, authors [...] have begun to use the language of distribution to frame sustainability and environmental justice. Yet even these authors, dedicated to expanding the existing discourse of justice to future generations and nature, rarely stray from a distributive approach. (2007, p. 121)

He also maintains that ‘[...] once we begin to extend the community of justice beyond humans, even when we are exploring loopholes in existing distributional theories, we are stepping beyond distribution into the realms of recognition, procedural justice, and capability theory’ (2007, p. 126).

As I have said, I question whether the capabilities approach can move beyond the human realm, and I agree that the dimension of recognition, for example, is under-theorised regarding their possible extension beyond the human sphere. However, even distributional ecological justice has received very little attention from environmental philosophers and is in dire need of further development and defence. After all, the only attempt to provide a systematic theory of distributive ecological justice that applies beyond the realm of sentient beings is Baxter’s *Theory of Ecological Justice* (2005).

Even more importantly, I consider distributive justice to be the most important building block in a theory of ecological justice because of the *materiality of environmental relations and problems*, which is my fourth reason in favour of distributive justice. In other words, even though misrecognition and non-representation are also problems of justice beyond the human realm, the most fundamental problems that these domains of justice appear to point towards are human overuse and misdistribution of access to the Earth’s benefits, such as shrinking and degrading habitats, climate change and pollution. Accounts of distributive justice usually do not only distribute material goods such

as resources but also distribute non-material goods such as liberties. Nonetheless, because of the materiality of environmental problems, and because I understand environmental and ecological justice to be primarily about providing solutions to the question of how to share the Earth as a material and finite entity, I focus on the material side of distributive justice. To limit distributive justice in this manner is especially defensible if distributive justice is merely seen as one part of a complete theory of justice rather than exhaustive of its full magnitude.

Although distributive justice has been criticised and relegated to the fringes of green political theorising about justice, this development has been too hasty. Distributive justice can account for living beings' neediness and dependence on a material world that is becoming scarcer. It is scarcity itself that constitutes an existential threat to life and it is the creation of scarcity by using, misusing, overusing, excluding and consuming that becomes the subject of distributive justice. This problem of misdistribution then finally culminates in the current mass extinction event as a crisis. The threat of increasing scarcity and its actualisation have been driving environmental discourses for decades (see for example the limits to growth debate [Meadows et al 1972, 2004]). Even though liberal theories of justice and surprisingly also accounts of ecological justice have remained very silent on it, the problem of scarcity constitutes a significant problem within the environmental realm that justice needs to address. Because of the materiality of the problem, distributive justice should be considered the main theoretical lens with which to address this issue. Moreover, considerations about participation and recognition when applied to nonhuman organisms (with perhaps the exception of a few mammals) *only matter to them if* they translate into secured and increased access to material goods that ground their lives. Status, or the political representation of their interests do not matter in themselves when it comes to nonhumans; they only matter as vehicles for receiving appropriate treatment, and access to material goods.

Structure of the book

Each of the following chapters discusses a particular aspect of my overall argument according to which the current extinction crisis is indeed an issue of justice and that a political non-ranking biocentric account of distributive ecological justice to wild nonhumans can account for this. In [Chapter 2](#) I start by outlining a few premises on which I will base my argument in favour of non-anthropocentric distributive justice. I will begin by introducing biocentrism and then explain

why specifically I develop a political non-ranking biocentrism that is partially inspired by Plumwood (2002) and that rejects the provision of an a priori ranking of moral significance of living beings. The crucial point is that such a version of biocentrism opens up the conceptual space for making justice an important building block within a broader environmental ethic.

In Chapters 3 to 6, I then develop an account of distributive ecological justice to wild nonhuman living beings. In Chapter 3 I begin with the question of how we can move from claims about moral considerability to claims about justice, because moral considerability is necessary but not sufficient to ground a community of justice. Thus, the question is how we can include nonhuman living beings into this community as holders of justice entitlements in their own right. After considering questions about the circumstances of justice and about how to conceptualise justice itself, I will claim that humans and wild nonhuman living beings constitute a community of justice which I call a community of fate.

In Chapter 4 I will introduce ecological space as a suitable currency of distributive justice in this context by analysing a range of different definitions of the concept. I will particularly draw on Tim Hayward's (2005, 2006a) argument in favour of ecological space as a currency of justice which is part of the debate about a just global distribution of resources between humans. With the aim of providing a theoretically level playing field for demands of environmental and ecological justice, I propose a specific but broad definition of ecological space as the appropriate currency of justice for both spheres which can provide in this manner a common realm in which conflicting claims can be assessed.

Building on this discussion, Chapter 5 is dedicated to developing principles of distributive justice – not only focusing on ecological justice but also proposing complementary principles of environmental justice. Particular emphasis is on how these different justice principles interact and change when the conventional assumption of moderate scarcity in justice theorising – where all needs could theoretically be fulfilled – is dropped. The issue of scarcity is a problem that will already have been introduced in Chapter 3 because it is one of the matters of divergence between ecological and environmental justice theorising. Moreover, the problem of scarcity becomes acute if one accepts, on the one hand, that natural resources are becoming scarcer, habitats are becoming more degraded and ecosystems are being put under increasing pressure, and if one simultaneously accepts on the other hand, that both demands of environmental *and* ecological justice have

to be acknowledged. By discussing how demands of justice change depending on different circumstances of scarcity, I will introduce a grid of sufficientarian justice principles that reflect different conditions of scarcity. In the last part of [Chapter 5](#), I will then turn to how a duty to pursue sustainability is a demand of environmental and ecological justice, and also suggest a beneficial theoretical linkage to environmental virtue ethics.

[Chapter 6](#) concludes the development of my theoretical groundwork by engaging with an alternative theoretical framework for grounding ecological justice: the capabilities approach. The capabilities approach has proven to be a popular theoretical framework for extending considerations of justice beyond the human realm, but I explicitly do not situate my theoretical framework in this body of work. Because of that I will present and discuss several challenges that cast doubt onto the viability of an expansionary project based on the capabilities approach. In the end, it will have to be considerably adapted to be able to meet these challenges. Yet, because of the theoretical overlap between my account and some extensionist versions of the capabilities approach, such a development should be embraced, but neither is that something that I will attempt myself, nor does my own account rely on the viability of the capabilities approach as an account of ecological justice.

In the final [Chapters 7 to 10](#), I will look into some theoretical and practical implications that follow from my framework. Starting with theoretical questions, I begin with asking whether biodiversity loss is an injustice in [Chapter 7](#). I will argue that rather than constituting an injustice in itself, biodiversity loss should be understood as an indicator for past injustices. Thus, it is the outcome of injustice rather than injustice itself which explains how the current extinction crisis embodies an injustice. [Chapter 8](#) outlines an implication that a commitment to ecological justice has for theorising environmental justice. One necessary, but not sufficient, criterium for achieving compatibility between my framework of ecological justice and theories of social justice between humans is that theories of justice must be based on the premise that the Earth is originally unowned. Thus, in this chapter I develop a critique of the notion of humanity's original ownership of the Earth that has been influential throughout the history of political thought.

In [Chapter 9](#), several of the theoretical themes are brought together in order to engage in a more practical debate on just conservation that has developed around the so-called Half-Earth proposal for 'setting aside' half of the Earth for nonhumans, as recently proposed by E.O. Wilson (2003, 2016) and several others. A short overview of the empirical

debate will be provided, but of particular interest are the normative claims involved. Based on the framework developed in the previous chapters, I will argue that the Half-Earth proposal can constitute a distributively *just compromise* between demands of ecological and environmental justice on the question of distribution of space in terms of habitat, but *only if* several conditions are fulfilled. Moreover, whether it can even constitute an all-things-considered demand of justice is, in turn, again dependent on a range of further considerations. In the end, the aim is not to have merely effective, but also just conservation practices. In the concluding chapter, I will bring the discussion to an end by tentatively looking at some implications of my framework in terms of how to implement and discharge duties of ecological justice, as for example in terms of ecological citizenship.

Notes

- ¹ As Jeremy Bendik-Keymer and Chris Haufe (2016) put it, industrialism rather than humans per se is the relevant driver here. Consequently, as will be seen, responsibility is also differentiated.
- ² Of course, there are opposing perspectives that deny the crisis characterisation (such as Thomas 2017).
- ³ That also applies to many agricultural species, but I exclude this case from my analysis because it differs practically and conceptually along several dimensions from the case at hand.
- ⁴ Teea Kortetmäki (2016) has pointed towards the similarities between the deep ecology and Schlosberg's (2007) ecological justice framework. I will return to the latter later.
- ⁵ Yet the classification of Leopold's position within holism is controversial (see Palmer 2003).
- ⁶ In some of these cases, a centric characterisation might not be fully accurate, but it is still useful to use these labels as shorthand to distinguish how inclusive these different theoretical perspectives are.
- ⁷ Recently John Dryzek and Jonathan Pickering noted that we still 'lack an overarching term and common framework to encompass both environmental and ecological justice, despite the fact that the two are closely intertwined' (2019, p. 67).
- ⁸ This links to the question of whether liberalism that aims for an overlapping consensus and impartiality regarding different conceptions of the good is compatible with environmentalism in general and a theory of ecological justice in particular (see Dobson 1998, Schlosberg 2007). I will put this particular debate aside for now.
- ⁹ I take universal to mean here global and to a degree generalisable, not context-independent and encompassing the full ethical domain.
- ¹⁰ The idea behind this claim is that writers about rhetoric usually distinguish between several distinct rhetorical appeals (see Meyer, M. 2017). Put crudely, in the context of conservation campaigns the focus lies especially on appealing to social values and individuals' empathy in order to generate support for action based on scientific evidence. Moving away from a primary focus on such emotive appeals which

might have diminishing returns of rhetorical impact, the socially shared sense of justice – or rather injustice – might be additionally employed by conservationists if they enjoy credibility, as organisations, and regarding their scientific claims.

- ¹¹ Schlosberg's (2007) account is probably the most well-known example of trying to include nonhuman entities into the realm of recognition justice. He discusses the recognising of similarities between humans and nature, the recognition of integrity in the sense of recognising 'nature's "bodily integrity"' (2007, p. 136), and status injuries drawing on Fraser's understanding of recognition justice as focusing on social status – in contrast to Axel Honneth's more psychology-based account of recognition, which is as Schlosberg points out, less suited to be extended beyond the human realm (for a comparison between the two accounts see Fraser and Honneth 2003). However, for a critique of Schlosberg's interpretation of Fraser's account of recognition see Angie Pepper (2018).
- ¹² Related to this is the debate between luck and relational egalitarianism. See for details on their disagreement Elizabeth Anderson (2010) and Takashi Kibe (2011). Note that the adjective relational used in the context of justice differs from theorist to theorist. For example, Kortetmäki (2017) differentiates between a distributive and a relational paradigm. Thereby, she groups luck egalitarianism and Rawls' difference principle both into the distributive category and understands relational justice as being 'concerned with the social and political relations (and their equality) between recipients of justice' (p. 23). Anderson (2010), in contrast, distinguishes between luck egalitarians and relational egalitarians and assigns John Rawls to the latter category.
- ¹³ There are several reasons that suggest that justice towards domesticated animals is of a different character than towards wild nonhumans (see Donaldson and Kymlicka 2011). To a degree, this is linked to the more general claim that the distinction between wild and domesticated is morally relevant (see Palmer 2010, 2012a) and that it is appropriate to assume that still a lot of nonhumans are wild in the relevant senses (Palmer 2010).
- ¹⁴ My relational perspective shares similarities (but also differs in several respects from) works in animal ethics that highlight the importance of relations (such as Palmer 2010, Donaldson and Kymlicka 2011) which is an aspect that deserves more attention than I can give it here.

Political Non-Ranking Biocentrism

One of the central questions of environmental philosophy is the puzzle about which account of moral considerability of an entity, system, process, object or the like is the least likely to be based on anthropocentric and/or anthropomorphic reasoning while still resulting from a human perspective. For my specific purpose of developing an account of ecological justice, *political non-ranking biocentrism* is what I consider to be the most defensible account of such sort in the context of justice. For this, the political constitutes a qualification and non-ranking is a specification of the biocentric focus. Granted this will be a very quick run-through leaving many open questions. Even though the intention is to provide an account of justice, it is the revisionist nature of any such attempt to move away from highly anthropocentric but influential shared premises in political theorising that necessitates this outline. Usually such premises remain tacit within accounts of justice, but I need to highlight at least some pragmatic, normative, ontological and epistemological premises on which a theoretical framework can be built.

I will focus on three central issues at hand. In the first section I will explain what I mean by a political approach to biocentrism, and then turn to how I understand biocentrism more generally in section two. More specifically, this latter section will entail an overview of my understanding of life and the moral considerability that comes with it. Again, this is by no means a defence or full description of biocentrism, but the elaboration on a few grounding premises. Then in section three I will explain why a non-ranking version of biocentrism that does not construct a hierarchy of moral significance is the most convincing account of such sort and discuss in the final section what implications such a political non-ranking biocentrism has for theorising about justice.

Political biocentrism

In contrast to more holistic accounts, my primary unit of analysis are individual living beings. Yet, I am not claiming that a complete consistent account of an environmental ethic should be individualistic because I see a biocentric account of justice situated within a pluralist environmental ethic. My target is instead a political biocentrism that can ground an account of justice.¹ As discussed previously, justice is a specific concept within the realm of a broader ethical theory. What I am aiming at is one of the branches of an environmental ethic that has not received a lot of consideration so far but has been moving more and more into the centre of attention due to the politicisation of nature – not merely as being an object, a resource, for political discussion but as an intrinsic part of central political concepts such as justice. The issue is about balancing the different ways of how justice has been conceptualised throughout political thought and aiming for a non-anthropocentric reinterpretation of the concept. For this purpose, some conceptual gymnastics are necessary, but with the aim to avoid any conceptual overstretching.

That means that some central features of how justice is understood have to be maintained, such as its implicit individualism with respect to recipients of justice, in order to make sure that what we are aiming at here is a reinterpretation and not merely an empty conceptual shell filled with new meaning. Of course, there is a broad range of different definitions and conceptualisations of justice, and it is not the aim of this book to provide an overview of its rich history, nor an account of ecological justice that is compatible with all plausible meanings of justice. Setting aside metaphysical debates about individualism in general, and in particular within the different political traditions such as liberalism, most influential theories of justice start with the normative relevance of the individual and reflect on the claims, entitlements or liberties of these individuals. That is not accidental, if one agrees with David Miller's assessment that the often cited sixth-century East-Roman definition of justice as found in the *Institutes of Justinian* as 'the constant and perpetual will to render to each his due' (cited in Miller 2017) might constitute a good (or even the best) candidate for getting close to the central meaning of justice. This definition clearly highlights the importance of the individual within how justice is usually understood in terms of giving each individual (usually understood as a person) its due (see also Schmidtz 2006).

For me that has three implications worth mentioning at this point that I will elaborate on in the last section and the next chapter. Firstly,

ecological justice, as I conceptualise it, is a way to normatively assess specific *relationships* between humans and different morally considerable entities – entities that can have a wellbeing. As we will see, in this context it matters that an entity has *a* wellbeing and not a particular *kind* of wellbeing. This is where my non-ranking account of moral significance will come in which does not preclude the possibility or necessity of contextual and relational prioritisation of different entities. As we will also see, the scope of wellbeing is, of course, contested as well, but this has only peripheral importance for my argument here. Important for now is that this relational perspective on justice (as elaborated in the previous chapter) focuses on the relationships between individuals that ground communities of justice. Thus, individual beings matter in themselves but the relationships between entities that matter are as crucial a factor to explain demands of justice.

Secondly, this implies that justice, by definition in this context, is concerned with wellbeing – broadly conceived. It is a way of negotiating individuals' flourishing (and related interests and needs) in a world where these collide and conflict. That limits justice to entities that are alive in a morally relevant sense as we will see. Ecosystems, on the contrary, rather constitute valuable relationships in themselves (for a somewhat similar but also in many ways distinct view on ecosystems see Muraca 2011). One might reasonably want to attach some kind of value (and/or even some kind of moral status) to such a particular kind of system, but the sphere of justice is such a specific area of normative enquiry that – at least in my account – it does not allow for ecosystems to be owed direct inclusion. Thus, the claim is not that individual living beings fully exhaust the realm of moral status (which they might or might not), but that they are the kind of morally considerable entities that can be part of relationships which can be made sense of in terms of justice.

Thirdly, in terms of distributive justice entities such as ecosystems also are analytically difficult to conceive as recipients of distribution where goods are distributed to (spatially and to some degree temporally) discrete entities. As we will see in the last section, this provides a reason for denying ecosystems the status of recipients of justice, even if they turn out to be alive in the morally relevant sense. Having said that, there are good reasons to attach moral values to nonindividual systems such as ecosystems or concepts such as biodiversity, but I am claiming that an account of justice part of this broader ethic should be (and has to be) individualistic – biocentric individualistic. This biocentric account of justice is in turn situated within a pluralist environmental ethic. In that sense, justice can shed light on an individualistic element within a broader environmental ethic that can appreciate a diverse set of

moral status and value. That means that political biocentrism is limited to the realm of justice including its entitlements and duties and does not constitute a broader environmental ethic which would constitute a more ambitious project for which biocentrism might not be able to provide the necessary grounding theory. Accordingly, the biocentrism that I describe does not claim to exhaust all that is of moral relevance, only what is of relevance in terms of justice.

To readers that come from animal rights or welfare backgrounds, my approach here will have some similarities (and differences) to a related body of literature that has been termed the ‘political turn’ of animal ethics or animal rights (for an influential overview see Milligan 2015). For now, I will highlight two of several interesting features of this body of work but I will return to the issue of relationality that also plays a role in this literature. Very generally speaking and simplified, central to the theoretical accounts that are part of this political turn is that political philosophical concepts such as justice, property rights, sovereignty or citizenship are introduced into the realm of animal ethics (prominent contributions are, among others, Donaldson and Kymlicka 2011, Garner 2013, Hadley 2015). More specifically, a focus on justice is the primary feature shared by these works (Cochrane et al 2018). Similarly, I aim to contribute to a wider political turn that is developing in the environmental ethics literature more broadly under the heading of ecological justice. The focus here has been nearly exclusively on justice and I aim to expand on these theoretical efforts (here prominent examples are Baxter 2005, Schlosberg 2007).

Moreover, these new works in animal ethics *tend* to share a certain political pragmatism – aiming for real world relevance with their suggestions to improve the political standing of animals and consequently to improve their treatment by including them within such already valued concepts. As I tried to illustrate in the previous chapter, the promise of an account of justice that includes living beings is that it might be of political rhetorical power for people that want to defend their wellbeing. There is also a fairly broad consensus in political theorising on considering justice to be a particularly weighty moral demand. This philosophical status as well as its intelligibility in the language of social movements and policymaking should be utilised. Thus, similarly to the political turn in animal ethics, also environmental ethicists with biocentric and/or holistic commitments should aim to move into the realm of the political because the treatment of nonhuman living beings goes beyond individual encounters but matters in, and is contingent on, collective and institutional decision-making.

Life and moral considerability

Simply put, biocentric positions of different varieties share the assumption that living beings are morally considerable. Moreover, many of these will be able to agree, as do I, that every being that has a life also has a good (Von Wright 1963 (1993)), and to live in accordance with this good appears intuitively to be some kind of full way of living which constitutes *flourishing*. Because of that it makes sense to consider whether a state of affairs is good or bad for a living organism because it is possible to harm or benefit this entity. Yet, this view carries already a lot of implicit baggage about what considerations should be at the centre of ethical enquiry and about the nature of the world around us. This is problematic insofar as this perspective is not widely shared and, thus, will need some elaboration. Two questions suggest themselves. Firstly, how should life be defined; and secondly, how is this definition morally relevant?

A central problem already arises from the fact that the debate on how to define life has not reached any consensus, and it seems problematic to claim that an entity matters morally if we are not able to come to an agreement about the actual entity in question that is supposed to be morally considerable. Even more problematically, as Edouard Machery (2012) has illustrated, it is futile to wait for a single accepted definition of life. On the one hand, he argues that trying to develop a definition of life based on its folk concept is not compatible with the nature of folk concepts themselves which do not constitute definitions. On the other hand, he argues that there are good reasons to believe that also no unified accepted scientific definition will be reached, due to the fact that different disciplines concerned with the definition of life – for example astrobiology, synthetic biology or artificial life – have an interest in explaining different phenomena. Thus, the question is how severe this epistemic problem is for moral theorising. Arguably not very. As Nicholas Agar has rightly noted:

it is a mistake to aim at an all-purpose definition of life, as there is no reason to expect any single modern account can fulfil all of the theoretical interests that arise in connection with life. [...] Each different plausible naturalization of life should build upon an important strand taken from common sense so as to establish clear links to central notions within a target area. (2001, p.88)

In the end, as Agar puts it, '[i]f an area within the biological sciences can have a concept of life finetuned to suit its needs, then why shouldn't ethical theory?' (2001, p. 89). In other words, depending on the field of enquiry different entities might be considered alive, but this diversity should not worry us too much because each discipline is looking at the concept of life from a different angle and with different aims. Moreover, there is still a large amount of convergence on which entities count as being alive with disagreement focusing rather on marginal cases (such as viruses, products from synthetic biology and so on). That it is a malleable concept that consistently escapes attempts to be definitionally pinned down does not imply that the conceptual space it inhabits is vacant. In the end, conceptual sharpness does not seem to be a necessary condition for moral relevance (see also Sterba 1998).

To reiterate, biocentrism, or more precisely biocentric individualism, is the position within environmental ethics that has focused on individual living beings as loci of moral considerability (for example Schweitzer 1923, Goodpaster 1978, Agar 1997, 2001, Sterba 1998, 2011, Kallhoff 2014, Donoso 2017). Different versions of this perspective either implicitly assume a certain understanding of life or explicitly defend what constitutes a living being with an immediate interest in showing that such an entity is morally considerable. As already mentioned, several scholars have supported some version of the claim that every being that is alive also has a good (such as Attfield 1981, 1995, Taylor 1986, Varner 1998, Rolston III 2012). In Holmes Rolston III's words, '[e]very organism has a *good-of-its-kind*' (2012, p. 97, emphasis in original). Similarly, Paul Taylor states that '[t]he biocentric outlook on nature [...] includes a certain way of perceiving and understanding each individual organism. Each is seen to be a teleological (goal-oriented) centre of life, pursuing its own good in its own unique way' (Taylor 1986, pp. 44–5). Taylor's influential account describes living beings as centres of life goal-oriented towards their own good. From this point of view, life is then a concept that describes the goal-directedness of an entity to strive for its own wellbeing, whatever that may be. It situates the teleological feature in the living being itself and not in the abstract notion of life which means that it does not rely, for example, on the claim that nature itself has a telos. On the other hand, this is also not a description of some obscure life-force that resides in the living being (in the sense of vitalism) but rather a normative description of what actual living beings appear to do based on a specific scientific account of life as will be discussed later (for an overview of different conceptions of life see Agar 2001, Deplazes-Zemp and Biller-Andorno 2012).

What suffices for the purposes of this book is a very broad definition of life as a classificatory description which is open for revisions and additions. A philosophical concept of life is needed that converges with but is also distinct from folk or scientific concepts. Being distinct is important to create the possibility to challenge intuitions based on the folk concept as well as to challenge implications of scientific definitions which might both be morally problematic due to, for example, anthropocentrically coloured ideological biases. Conversely, that also allows the normative concept to be challenged – and improved – in turn. Moreover, a moral philosophical understanding of life needs to inspire a moral response by triangulating the concept of interest with a range of ‘morally interesting’ – as Agar (2001) would put it – descriptions.

First of all, because I am interested in individual living organisms these need to be attributed some loose sense of distinctness as individual entities. Thus, organisational accounts of life that highlight independence in terms of self-organisation are for this purpose a good start such as provided by Humberto Maturana and Francisco Varela’s (1980) influential *autopoiesis* theory. Generally speaking, all living beings are open systems that interact with their environment by exchanging energy and matter. What makes them a particular type of open system is that living organisms are ‘self-maintaining and self-producing systems’, as Maturana and Varela put it. This self-maintenance view is again then compatible with Taylor’s philosophical view of living beings as goal-oriented centres of life, where self-maintenance is given a normative twist by highlighting that such self-maintenance is neither fully random nor fully externally driven but directed towards an internal good – a process that can be aided or frustrated.

The important normative distinction between living and non-living systems is that something – that is, an object, system or chemical process – that is not alive cannot be harmed or benefited in any meaningful way. Of course, non-living entities can be damaged, but that should be distinguished from the possibility of harming such entities. It is important here to distinguish between living entities – living in the morally relevant sense – and other objects or systems that are colloquially also described in similar terms and sometimes treated in similar ways. For example, a campfire is in essence a chemical process that is made visible by its flames. Linguistically this fire is treated like a living entity by being nourished with wood and ‘kept’ alive. The fire ‘needs’ the fuel and has the ability to ‘grow’ and ‘die’. Yet, despite this being a very visible chemical process, such a process in itself does not necessarily constitute a living system – a system that has a ‘telos’, in

Taylor's terminology. The important point is that living beings are more than just chemical processes or machines (a point heavily discussed in the ethics of synthetic biology, see for example Deplazes–Zemp 2012). Even though machines – as paradigmatic non-living systems – can have a goal – or rather a function – the relevant difference is that machines do not have wellbeing that is *intrinsic* to themselves (for example in terms of an intrinsic account of teleology, see Holm 2017); their goal can only be *instrumental* to the wellbeing of some other living entity. There is a distinction between 'other-directed' and 'self-directed' goals, and only the latter actually refer to the entity's own good (Agar 1997, 2001).² Taylor (1986) made a similar point claiming that '[o]ne way to know whether something belongs to the class of entities that have a good is to see whether it makes sense to speak of what is good or bad *for* the thing in question [...] without reference to any *other* entity [...]' (1986, p. 61, emphasis in original). He is right in asserting that the machines in question do not belong into this category (see also Attfield 1995).³

Resuming the discussion about the good, I would like to reiterate my initial point that every being that has a life also has a good (Von Wright 1963 (1993)), and to live in accordance with this good appears intuitively to be some kind of full way of living which constitutes flourishing. Thus, flourishing embodies the idea of the good life which makes the ability to flourish central to understand what constitutes a living being. In the end, the idea of a good held by living beings is one way of showing that it makes sense to speak of the *wellbeing* of a living entity in contrast to any inanimate object which has none. It is precisely this close connection between life and wellbeing that provides the concept of life with the moral force it is often intuitively ascribed (Von Wright 1963 (1993)), and consequently life comes with a vulnerability to harm. Based on this link it can be distinguished whether an organism is merely living, or living well, and this allows us to think of its flourishing as a way of describing the good life of each individual organism. An implicit premise for this point is that the wellbeing in question is of normative relevance, but the burden of proof about this matter lies with less inclusive positions.

In the nonhuman case, pinning down what constitutes the good of each being is not an easy task, but by setting aside issues such as culture which will become more relevant in the human context (Chapter 5) the focus lies with nonhuman beings in many cases on the kind of being it is – that is, its species.⁴ Accordingly, it might be easier to tentatively generalise what the good of a being is in the nonhuman case and thereby provide an 'objective' definition of what constitutes flourishing

for the members of a certain species (Fulfer 2013). For example, with regards to (vascular) plants, Angela Kallhoff has listed three conditions for plant flourishing which together constitute a description of the good life for plants. These are: the ability to react ‘to external stress without endangering the overall performance which sustains its life’; the ability to accomplish its life-cycle; and succeeding ‘in expressing the typical characteristics both of a plant which has specific life-form and of more specific organisms, generally fitting its species description’ (2014, p. 687). In practice, it might then be necessary to construct similar lists of criteria for flourishing for most kinds of living beings. In any case, a being flourishes when it lives fully by living in accordance with its own good; what kind of good it has depends *partly* on what kind of being it is. Flourishing in this sense has no psychological connotations, but rather evokes the metaphor of the flourishing tree that grows towards the sun.⁵ That species membership does not tell the full story is something that will become apparent when examining what would constitute an interest or need of an individual living being.

For our purposes it seems warranted to keep it an open question which entities are alive in any meaningful way and concentrate on the instances where we are on epistemically and intuitively firm ground, in particular because this question has only peripheral relevance to my project of developing a non-anthropocentric account of justice as I will explain. Because all living beings – that is, that are living in a normatively relevant sense – can be harmed by impeding their striving for flourishing, it follows what Kenneth Goodpaster famously claimed that ‘[n]othing short of the condition of *being alive* seems to me to be a plausible and nonarbitrary criterion’ for being morally considerable (1978, p. 310, emphasis in original). Life in this sense links, by design, innately to normatively relevant concepts such as needs and interests and making it appropriate to use terms like harming or benefiting in this context (see Taylor 1986). Accordingly, the grounding premise for what follows is a moral definition of life according to which X is alive if it can be harmed or benefited in a way that refers to X’s own good. Accordingly, a machine or a mountain are not alive in this sense, but also body parts such as livers are excluded. On the other hand, a long list of entities is included ranging from bacteria to giant redwood trees. The link between life and moral considerability then follows if concepts central to morality such as needs and interests are applicable to this entity. Many of the biocentric accounts developed so far argue that the necessary link between life and moral considerability is provided by the concept of interests which are widely regarded to carry moral importance. Thus, a few words on the topic of interests and needs are

in order because both are contested concepts concerning their shape, content and how they can be identified.

Needs and interests

When it comes to interests, examples such as a bee defending its hive (for example Agar 2001) are frequently found in the biocentric literature to showcase one of the difficulties of identifying what constitutes an interest. Similar to other animals that built their homes, some bee species build hives in which they live as colonies for the sake of storing food and rearing their young. For the purpose of successful cooperation there is a clear division of labour inside of the hive. For example, worker bees have several tasks, such as defending the hive, which can have dire consequences. In the case of honey bees, for example, the worker bees can sting an intruder as a means of defence. While they can survive stinging a wasp, for example, they cannot survive stinging a mammal. Its stinger gets caught in the skin and the bee ends up badly injured and dies shortly thereafter. Cases like this one illustrate a central problem when trying to make sense of interests because the bee does not act solely in its own interests in the sense of pursuing its own flourishing, but also according to interests inscribed into its genetic make-up that might benefit the species or colony overall but not this particular individual, if it makes *prima facie* sense to call both instances an interest.

In their colloquial use, interests are usually connected to the existence of certain mental capacities (that is, linked to desires). That puts biocentrists that are concerned with interests into the uncomfortable position of justifying why it is possible to plausibly disconnect the concept from this widely shared sentientist connotation. Taylor (1986), for example, did associate interests with conscious aims and therefore did not think that having interests would constitute a necessary condition for having a good. Thus, the bee in this example would not constitute a holder *of* interests in his account. Yet, he argues that something ‘being *in* an entity’s interest’ (p. 63, emphasis added) would be enough to consider whether it would be beneficial for a being’s wellbeing as in the bee example. I will not say much about this question here, but the literature on ethical biocentrism is rich enough to provide a range of plausible conceptions of interests such as, for example, a differentiation between basic and non-basic interests (Taylor 1986, Baxter 2005) in order to be able to differentiate between the importance of different interests that an individual organism holds.

The bee problem also highlights that it might become appropriate to distinguish between relevant interests and non-relevant interests in this context. Relevant interests, specifically, can ground moral considerability – in that they refer to an entity’s wellbeing – which does not apply to every kind of interest that can be identified and, consequently, non-relevant interests do not refer to the flourishing of the individual itself (Donoso 2017). In the bee example, on the first view, the defence of the hive via the individual’s self-sacrifice does not appear to constitute a case of relevant interests in that sense, but it could constitute such an interest if it could be shown that the continuation of this specific bee population is relevant to the individual bee’s own *internal* good.⁶ That also demonstrates that the species good or, better, the good of the colony and typical good life of an individual of such a species can come apart. Of course, this means that our initial problem just resurfaces about how we can non-arbitrarily describe an individual’s own good and its self-directed goals in order to identify the related relevant interests. For this purpose, a range of explanatory accounts of interests and wellbeing have been proposed such as accounts of historically evolved (that is, etiological) biological functions that have been used to explain interests (such as Varner 1998) and alternative non-etiological accounts of teleology to explain wellbeing (such as Holm 2017). Based on what was said earlier about autopoiesis, it is clear that I prefer organisational-based accounts, but there might also be theoretical space for alternatives (see for a critique of etiological accounts McShane 2019). Yet, both interrelated questions, of interest and wellbeing (and specifically wellbeing’s relationship to teleological organisation), are still a matter of debate and in need of more satisfactory arguments for limiting wellbeing to the realm of living beings (for discussions of this problem see Holm 2017, Basl 2019, McShane 2019).⁷

Moreover, despite that having interests constitutes a sufficient condition for moral considerability, it does not appear to be a necessary condition because also the morally loaded concept of *needs* can bridge the gap between wellbeing and moral considerability. Needs are conceptually very closely linked to wellbeing and harm and describe the parameters that would enable an entity’s flourishing. As Elizabeth Anscombe has claimed regarding an organism that ‘[t]o say that it needs that environment is not to say, e.g., that you want it to have that environment, but that it won’t flourish unless it has it’ (1958, p. 7).⁸ Despite that interests and needs come often in tandem (that is, the argument goes, that where there is a need there is also an interest to fulfil it, but not necessarily vice versa), an emphasis on needs shifts the focus of attention by not evoking per se any immediate references to mental

capacities or the mind itself (compare Agar's (2001) representational account of life or Val Plumwood's (2003 (1993)) account of weak panpsychism). This is also why Alfonso Donoso (2017) argues that, in the end, relevant interests should be understood as interests in the satisfaction of essential needs and functions. Putting interests aside for one moment and focusing on needs highlights also another aspect of flourishing – the vulnerability of living beings – and, thus, provides another close connection between moral considerability and a teleological account of life.⁹ It seems that the recognition of a need on its own seems enough to warrant an appropriate moral response without having to evoke any reference to interests.

Returning to the bee example, it seems less plausible to consider the bee's interest to defend its hive despite imminent death (which is based on a backwards-looking account of biological function in order to explain the interest which I reject) as fulfilling a need in Anscombe's sense because the fulfilment of this function is not something that moves this individual living being any closer to flourishing, and neither does the frustration of this particular function seem to negatively impact the bee's wellbeing. On the contrary, it shows that the fulfilment of certain functions can rather be obstructive to flourishing. If the beehive in this example would have never been attacked, we would not think that the bee in question would have lost the possibility to fulfil its need for 'heroism' despite having a biological function to do so. Note that I am not claiming here that the existence of such functions does not serve a purpose, for example in terms of benefiting a population or species. As such these functions are not void of instrumental value, but they do not seem to be part of the explanation of why the wellbeing of living being implies moral considerability as entities as ends in themselves.¹⁰ But it should be noted that this also relies on having already settled what constitutes the wellbeing of the bee. A living being might not consistently act upon what one would expect to constitute its own flourishing, but in general it tends to strive towards that goal. This striving is attached to certain needs which can be frustrated. Thus, based on such an account of life, it is the needs of a living being that highlight its vulnerability which connects its welfare most straightforwardly with normatively relevant harm. Most living beings will never flourish, but it is the striving for this goal that prompts for being morally considered.¹¹

Non-ranking biocentrism

Provided that this rough sketch of biocentrism is plausible, a few additional premises need to be highlighted before it is possible to focus

on the issue of distributive justice. The first set of premises concerns the variety of different arguments that can be made in support of biocentrism. As alluded to previously, there appear to be good grounds for favouring a non-ranking version of biocentrism which results from (1) my commitment to a non-extensionist argumentative strategy and (2) the need to balance the emphasis on similarities and differences in nature in any biocentric account. I will be drawing here heavily on Val Plumwood's version of critical ecofeminism and will discuss each of these points in turn.¹²

Extensionism

Behind what has been said so far in this book lurks the biocentric intuition that is shared by many other theorists: that drawing the line of moral considerability between sentient and non-sentient beings is too restrictive and therefore morally problematic. Thus, as a matter of consistency all living beings have to be included into the realm of moral considerability which is *necessary but not sufficient* to include them into the realm of justice. By no means is it my aim to fully exhaust the possibilities of all entities that could plausibly hold moral status, but it is the nature of justice itself that necessitates drawing the boundary around entities that could be considered members of a community of justice which generates the need for a political biocentrism. In other words, my understanding of interspecies justice is based on the claims that (1) moral considerability should *include* all living beings and that (2) in the context of justice this extension needs to be also *limited to* individual living beings.

Despite the need to limit the scope that a specific concept such as justice can cover, I would like to stress that there are different strategies for delineating this realm. My rationale for opting for a life-centred ethical starting point is *not* grounded in an extensionist (or assimilationist) perspective that fully relies on seeing similarities between humans (that are assumed to matter by virtue of having certain morally relevant features) and nonhumans, and thereby extends mattering to nonhumans as well. That would constitute a 'hegemonic' argument that does not break out of an anthropocentric logic (Plumwood 1998b, 2002).¹³ Plumwood identifies as the central problem here the implicit human/nature dualism that is part of an extensionist argument grounding moral considerability. It is important that such a problematic dualism has to be differentiated from a less problematic distinction or dichotomy, because a dualism contains characteristics that resulted from domination. In Plumwood's words, 'it [the dualism] capitalises

on existing patterns of difference, rendering these in ways which ground hierarchy' (1993, p. 447). Thus, dualisms can be characterised as involving:

- backgrounding: the denial of dependency via treating the other as background to the master's foreground;
 - hyperseparation: the emphasis of differences and the denial or downplaying of shared characteristics;
 - relational definition: the other defined as a 'negative' in relation to the master;
 - objectification: denial of the others' own ends as something that needs to be taken into account;
 - stereotyping: downplaying of differences between the inferior.
- (all points from Plumwood 1993, also elaborated in Plumwood 2002, Chapter 5, drawing on a range of feminist and postcolonial scholars)

The normative problem generated by a dualism becomes especially apparent when taking into account the implications that follow from objectification. As Plumwood states:

[i]n the typical case this involves setting up a moral dualism, where the underside is not part of the sphere to be considered morally, but is either judged by a separate instrumental standard (as in the sexual double standard) or is seen as outside morality altogether, part of the realm of the "natural and expedient", of usefulness to the centre. (1993, p. 451)

The human/nature dualism as an exemplary case for moral separation constitutes a particular stumbling block for my aims here. An account of justice written from a master's perspective and retaining hegemonic argumentation patterns appears quite odd indeed. It could hardly constitute a useful account for envisioning a just world, if some basic requirements in terms of methodological recognition would already be violated by the grounding premises of our account of justice. Plumwood herself does not use this specific language of methodological recognition, but that seems to be her primary description of doing justice to nonhumans (see Plumwood 1999, 2002). That is one of the ways in which our understandings of justice diverge, but indeed, an account of distributive justice cannot rest on methodological and normative assumptions that are problematic in terms of constituting

a misrecognition. An extensionist argument falls into such a trap by looking only for similarities and working its way out from a centre of mattering.

This rejection of an extensionist argument generates the need to look anew at biocentrism, despite that others have already covered a lot of ground to develop a biocentric ethic (notably Agar 2001) or theory of justice (notably Baxter 2005) by employing some version of such an argumentative strategy. Because such a strategy more easily links commonly held normative intuitions to biocentric conclusions, it is a promising approach. Yet, following Plumwood, I aim to build my account of justice on a non-dominating starting point which necessitates the rejection of an extensionist argumentative strategy as much as possible and in consequence the adoption of a non-ranking account of moral significance.

Before turning to such a non-ranking perspective, I would like to say a few words on the debate that Plumwood's critique of moral extensionism has attracted.¹⁴ Crucial is that I do not agree with John Andrews' (1996) charge that Plumwood's account falls itself into a morally extensionist logic (see for a reply Plumwood 1998b). A detailed analysis of this concern would take us too far, but as Christian Diehm (2010) has argued convincingly regarding one of the main lines of critique, Plumwood's emphasis on continuity – that is, similarities – between humans and nature does not constitute an extensionist argument but is rather important to deconstruct the dualism in the first place. My point is that a balance between appreciation of similarities and otherness (in the sense of difference) will leave us with a non-ranking biocentric account. The life-focus is a reflection of the appropriate appreciation of similarities (compare Plumwood [1998b, p. 409] who displays a more ecocentric perspective that goes beyond the scope of my definition of wellbeing). The non-ranking specification, on the other hand, is a way to appropriately appreciate difference or otherness in nature.

Non-ranking moral significance

An important distinction in the context of biocentrism is the distinction between moral significance – that is, moral weight or moral worth – and moral considerability (Goodpaster 1978). This distinction explains why some (non-egalitarian) biocentric theories accord equal moral considerability to all living beings – that is, all living beings *matter* – but do *not* claim that all living beings matter *equally* (which applies to the majority of biocentric accounts). Accordingly, such biocentric theories

of environmental ethics (but also found in sentientist or ecocentrist accounts) usually employ some kind of ranking of moral significance where humans are attributed the most moral weight. Considering that attributing equal moral significance to all organisms might create many difficulties to resolve cases of conflict, such a weighting system makes sense. However, it also potentially allows anthropocentrism to re-enter non-anthropocentric ethical theories through the back door, for example most crudely by implicitly alluding to the idea of a great chain of being. But of course, most hierarchical accounts are considerably more sophisticated than that.¹⁵ In contrast, Taylor's (1986) account of biocentrism is the most prominent egalitarian perspective that aims to challenge the notion of human superiority. It is egalitarian insofar as he attributes all living beings the 'same inherent worth' (Taylor 2003 (1981), p. 83, emphasis in original, also re-stated in 1986). Yet my preferred solution to this problem of whether a hierarchy in terms of moral significance is troublesome for honouring non-anthropocentric commitments is Plumwood's account of non-ranking which moves beyond the notion of biocentric egalitarianism. In her words:

The options of ranking as superior/inferior or as scalar equals leave out a critical further alternative, namely not ranking at all. [...] [T]here are a number of contexts where ranking itself is unnecessary and either logically or morally problematic. One of the logical cases is the case of incommensurability between beings, where we can neither rank as equal nor rank in a hierarchy: between beings with very different and only intersecting capacities, ranking is not possible in any accurate or meaningful way. (2002, pp. 172–3; see also 1998b, p. 409)

Drawing on Plumwood's (1998b, 1999, 2002) account, the crucial point is that I refuse to provide an a priori ranking of moral significance but try instead to provide more context-sensitive principles of distributive justice that account for conflicting needs in the context of scarcity. What is important about this non-ranking starting point, is that the resulting duties, principles and so on are not already intrinsically built into an account of moral significance but are developed later on in a context- and relation-sensitive manner based on the starting point that all living beings are morally considerable, but without having predetermined that some entities are intrinsically always more (or even equally) worthy of moral consideration than others. Note that this is my interpretation and development of Plumwood's position

that diverges from her account in several ways in order to adapt it into my theoretical perspective and, consequently, it might not fully represent her own stance on non-ranking, moral considerability and moral significance. For example, the latter is a term that she rarely uses, but I interpret her use of moral worth (such as in Plumwood 1998b, 2002) as roughly synonymous.¹⁶ Let's review briefly each of the two points central to this position.

Plumwood (2002) makes two separate claims about ranking. The first normative claim is that, as we have seen earlier, from a normative perspective species-ranking and otherising behaviours (in the sense of constructing an Other) should be prevented, if possible, in order to develop an appropriate interspecies ethic. I argue that it is possible to devise an account of ecological justice (at least that is my aim in the following chapters) that can provide normative guidance without having to rely on an a priori ranking of moral significance and thus allows for appreciating otherness.¹⁷ Such an account would be preferable by relying less on moral reasoning that could potentially help to construct a moral dualism. According to Plumwood (2002), we should become more suspicious of a ranking (1) the more it relies on a broad generalisation, and (2) the closer it is associated with moral relevance. Put differently, allowing for contextual variation instead of relying on an overarching ranking of moral significance, would be a way of maintaining methodological and normative openness on that view.

Her second descriptive claim is that there is also a logical incommensurability between different kinds of living beings. I think this point is crucial to explain the tension between similarities and otherness that an account of moral considerability of living beings is situated within. Plumwood's (2002) take is that the differences between living beings imply not only that no ranking can be provided in any meaningful way, but also that to 'rank as equal' (in contrast to Taylor's position) is not what logically follows from their incommensurability. This should not be understood as a challenge to but rather a development of the egalitarian position – 'egalitarian' in the sense of Taylor's account mentioned earlier and not in the sense of an egalitarian distributive principle. As Plumwood puts it, 'the concept of equality is expressible both along the axis of sameness and along that of difference. Equality on the axis of the Same yields scalar equality, while equality along the axis of Difference yields the completely different concept of incommensurability or non-ranking' (2002, p. 172, also in 1998b, p. 409). Put simply, building on Plumwood's account I claim that instead of focusing purely on similarities and arguing for a version of equality in terms of equal moral significance we should

be looking at differences and arguing for a version of equality in terms of incommensurability in the biocentric context. Allowing for incommensurability puts different living beings on an equal footing in terms of their otherness. What follows from my biocentric stance is that there are many different kinds of wellbeing. The point here is that there are not merely epistemic limits to how well we can understand the wellbeing of other lifeforms, despite that it is certainly possible to gain some understanding of what their wellbeing requires as discussed earlier. Yet, there is a certain sense of difference that obscures meaningful commensuration in terms of better/worse, more/less/similarly morally significant and so on. The alternative that Plumwood suggests is to not provide any ranking. Thus, if this is a viable alternative, then a non-ranking version of biocentrism is needed to reflect this condition of incommensurability. More specifically for me this means that an appreciation of similarities has led to the acknowledgement of equal moral considerability of living beings, and an appreciation of differences leads to a non-ranking account of moral significance.

The incommensurability, in my account here, refers to the absence of a common measure for their moral significance between different individuals or kinds of living beings. This incommensurability applies to moral significance and *not* moral considerability because the incommensurable *kinds* of wellbeing (or flourishing) are based on a commensurable ground of similarity – that they constitute a form of wellbeing. Plumwood’s own position seems to be similar to this as she claims that the spread of intentionality (which included, among others, goal-directedness for her) throughout nature provides ‘a web of difference against an overall ground of continuity’ (2003 (1993), p. 134; see also Plumwood 2006). In the following chapters I will focus on how this incommensurability of entities with entitlements towards commensurable goods (in the form of ecological space) plays out.¹⁸

The consequence is that the refusal to rely on a priori rankings of moral significance is, on the one hand, a way of accommodating the condition of incommensurability and, on the other, a way of honouring a commitment to a non-extensionist perspective. That does not imply, however, that it is never possible to prioritise some entities over others. Rather the non-ranking position aims to minimise ranking and focus on the contextuality of conflict cases.¹⁹ Plumwood (2002) stresses strongly the importance of contextual ethical frameworks as part of her counter-hegemonic program and also highlights interspecies justice, yet without specifying what such an account should look like. This means that there are good reasons to minimise the reliance on comparison, but that does not mean that comparisons are theoretically

ruled out. As Ruth Chang (2013) explains, incommensurability does not necessarily involve incomparability which keeps open the possibility of prioritisation.²⁰ Simply put, it is possible to acknowledge difference without being able to measure this difference in a scalar manner but this does not preclude, in itself, the option of prioritising some entities over others based on additional contextual considerations. The consequence is that my position is *neither* hierarchical *nor* egalitarian about moral significance. Different living beings have incommensurable kinds of wellbeing and I am neither claiming that some kinds of wellbeing are more morally weighty than others, nor that these kinds of wellbeing can be shown to matter exactly to the same degree. Based on this, contextual and relational prioritisation of different entities is possible, necessary and morally permissible.

My point is that justice is indeed such a contextual ethical concept (even when a global justice perspective is taken) that can be helpful for making normative decisions and even prioritise some entities over others in certain contexts. This does not rely, however, on an account of moral significance but can draw on different contextual and relational features of the normative conflict at hand. Methodologically speaking, I take it that an environmental ethic falls less likely prey to being built on an anthropocentric bias if the prioritisation (or ranking) of different living beings is, theoretically speaking, clearly separated from its justification of why these different entities matter in the first place. Thus, a justification of why it is defensible, and even just, to prioritise fellow humans over nonhuman beings under certain circumstances should not be built on the claim that humans are more morally significant, but refer to the specific context of the problem and the relational situatedness of the moral agents that are duty holders. The difference amounts to theorising about ethics based on a human perspective (that is, epistemological anthropocentrism also debated as ‘perspectival anthropocentrism’ see Diehm 2010) which is unavoidable, and ethics subservient to the human perspective (that is, moral anthropocentrism).

Implications for theorising about justice

So, how can the non-ranking and the political biocentric aspects be brought together? Simply put, a commitment to non-ranking can be understood as the necessary *preamble* to an account of ecological justice including the principles, duties and entitlements that follow from it. It does so by opening up the conceptual space for interspecies justice. By rejecting the building of a meta-ethical hierarchical order of difference that translates into differences in

moral significance, it creates the possibility to look at human-nonhuman relationships more contextually without having predetermined how situations of conflict should be normatively resolved. Related but slightly different problems would arise if one would start with a meta-ethical order of sameness. Thus, it allows contextual and relational variation to play a significant role in any resulting environmental ethic, and distributive justice is one such theoretically contextual lens.

Focusing on the political situates biocentrism within an appropriate *theoretical niche* where it can play a useful normative role while being protected (to a degree) from challenges from more holistic or sentientist ethical accounts by being humbler about its theoretical aspirations while explicitly trying to constitute a pragmatic account. In that sense, political biocentrism provides an additional contextualisation that is compatible with the contextual nature of commitment to an additional non-ranking specification of biocentrism. A counter-argument to this might be that non-ranking biocentrism does not appear to be a very pragmatic stance at all. Indeed, highlighting incommensurability does lead us, at first, more in the direction of debates about value theory rather than in the direction of considering actual problem cases in terms of more widely shared political normative concepts. However, such a starting point that does not pre-determine important questions about how to prioritise some living entities over others on a meta-ethical level gives more space for political theorising about what it means to share a planet with other living beings.

Accordingly, based on all of these considerations, it seems justified to limit a framework of interspecies justice to biocentrism and not broadening it further in line with ecocentric commitments in order to keep the implicit individualism that is deeply engrained within the justice concept. Yet that goes against a tendency in the literature to increase the scope of the interspecies community of justice further and further. It should be said that this development does not apply to the animal justice literature which, while supported by an extensive animal rights literature, remains primarily concerned with the wellbeing of sentient animals. More radical theorists, however, are exploring more widely drawn boundaries of justice, and are thereby moving away from moral individualism. While Baxter (2005) still advocates a ‘mixed’ approach in which he attributes justice entitlements to individual nonhumans and populations, David Schlosberg (2007) and Teea Kortetmäki (2017) include ecosystems and species, and Adrian Armstrong (2012) goes so far as to include the whole Earth.

For example, the reasoning with regards to ecosystems is that, according to Katy Fulfer, an ecosystem is ‘a natural environmental system composed of abiotic and (sentient and nonsentient) biotic entities that interact, support, and depend on each other’s existence’ (2013, p. 32). She argues further that ecosystems can be regarded as ‘organic wholes’ which have value that is not ‘necessarily reducible’ to the overall value of its parts (Fulfer 2013). This points to the not uncommon claim that ecosystems are more than just the value of their parts, but there are also more ambitious interpretations. Freya Mathews (1991), for example, has even claimed that not just organisms but also ecosystems (and the cosmos as a whole) are self-realising in the relevant sense and hence living beings in their own right. Similarly, Schlosberg also argues that such ‘[s]ystems are living entities with their own integrity’ (2007, p. 148). Moreover, more recently it has been argued that one way of conceptualising ecosystems puts them into the same category of teleological organisation on which I have relied to explain a morally relevant account of life (see Holm 2017). This would indicate that they are potential candidates for moral considerability specifically as described here, in contrast to potentially holding a different type of moral status. So, how do these claims relate to my commitment to political biocentrism?

For the sake of argument, let us assume that ecosystems are alive in the morally relevant sense – which I doubt. There are two – not exhaustive – reasons why I do not consider ecosystems to be appropriate candidates for members of the community of justice based on what I have claimed in section one. These reasons are additional to the question about conflicting needs that will be the topic of [Chapter 3](#).

Firstly, it seems a bit more difficult to define what ecosystems are than explained by Fulfer. As formulated by Elizabeth Cripps, ‘individual ecosystems are not fixed or finite’ (2010, p. 13). This is a problem insofar as one would want to consider them within the framework of distributive justice where goods are distributed to (spatially and to some degree temporally) discrete entities. Entities do not only need to be morally considerable but also be able to be made sense of in terms of justice. That most accounts of justice will struggle to accommodate entities such as ecosystems does not necessarily spring from their anthropocentric nature, but rather seems to be a result of thinking in terms of justice itself. Pragmatically, when aiming for a non-anthropocentric reformulation of justice, some of its core meaning will have to be retained, and that includes a certain individualism as an analytical foundation. Thus, here is where my political biocentrism comes in, because I do not claim that such an individualism should be defining for environmental ethics

as a whole but rather is important for the narrower realm of justice that should be situated within a broader pluralist environmental ethic. In the end, the aspiration cannot (and should not) be to develop an account of justice that can be a comprehensive solution to all issues that an environmental ethic has to cover.

Secondly, and relatedly, my understanding of justice is situated within the relational paradigm, meaning that a community of justice needs to be constituted by a normatively relevant relationship. That means that more holistic entities such as ecosystems can remain of (indirect) relevance for my account because they might constitute valuable relationships in themselves part of the narrative of this broader justice relationship. Thus, not constituting an entitlement holder in its own right does not necessarily mean to be outside of the realm of justice altogether. Moreover, the ‘health’ of ecosystems is also of instrumental importance for the living beings they comprise. Claiming that the flourishing of living beings matters in terms of justice, therefore, also provides a derivative protection to ecosystems from considerable anthropogenic influence.

This last point also applies to populations. Most living organisms, to differing degrees, have the need to be immersed in a population in order to survive and flourish. Thus, populations are of instrumental value for the wellbeing of individual organisms. This also does not mean that a population lacks some independent value that matters which can provide additional reasons for protecting endangered species, but it does not matter necessarily within the narrow context of justice. Having said that, one way of including populations into an account of justice would be to make a case for group entitlements held by populations (but not species or ecosystems) which is a possibility that I will not explore but would be open to such a theoretical addition. Of course, even in my narrower account, how important it is for a being to be immersed in a healthy population depends on the kind of being it is. For example, Baxter (2005) has claimed that in the case of the ‘merely living’ beings (for example plants or some animals such as corals), it is not the individual but its respective population that is the bearer of claims in the context of justice, because these beings lack individuality and sentience. Even though I would argue that members of such species can also flourish as individuals and that therefore populations per se are not the primary bearers of any justice entitlements, many beings are highly dependent on being part of a healthy population. Hence, in practice, in many cases it appears necessary to think in terms of populations instead of individuals in order to enable the individuals’ flourishing.

The implication is that ecosystems (and similar considerations apply to similar collectives) are not included in the realm of justice as entities that hold entitlements because they do not fulfil a range of necessary conditions for inclusion, such as (1) having a wellbeing. That is a contested point, but not decisive as we have seen because ecosystems, for example, also do not seem to fulfil the criteria for (2) being part of a justice relationship on the same level of analysis as individuals and for (3) being a good candidate for constituting a recipient of distributed goods (in [Chapter 7](#) I will provide a few more details on why I exclude species).

A benefit of this (political non-ranking) approach to interspecies justice is that it can avoid some of the criticism that some feminist writers have put forward against some Western philosophical concepts including justice. Plumwood (1999, 2002, 2003 (1993)) approvingly uses the notion of justice in her work but rejects the (related) notion of rights which she thinks is ethically problematic insofar as rights theory has propensities for cultural universalism and extreme individualism and, in turn, tends to support a moral dualism via, among others, a moral extensionism and ethical closeness. This is another way in which Plumwood's and my descriptions of justice diverge. I will point towards how my account of justice relates to moral rights in terms of justice entitlements in [Chapter 5](#), but to foreclose some avenues of critique I would like to highlight a couple of points in defence of the justice concept insofar the criticism of rights is also applicable here. On the problem of individualism, we have seen that the individualist feature embedded in justice discourses should be maintained. As previously discussed, the purpose of this is not to argue for an individualist environmental ethic, but that justice can shed light on an individualistic element within a broader environmental ethic that can appreciate a diverse set of moral status and value. Moreover, my account is by no means universal in Plumwood's sense, as it neither aims to exhaust the realm of ethics nor claims to be applicable to all contexts. Plumwood calls explicitly for attributing context a bigger part in ethics, thus we should be letting contextual and relational notions such as justice and, in consequence, its entitlements, into the realm of environmental ethics.

Even if that is the case, however, my position still leaves ample room for criticism which I cannot address at this point. One final comment on Plumwood's position within the wider literature is that her affirmation of justice (and mine by association) stands in contrast to some other ecofeminist writers who sort rights and justice into the same undesirable category of abstract principles (for example Merchant 1996). Crucial for me, is to highlight the significance of the need to

find a balance between contextual situatedness and abstraction to such an extent that we can start to make sense of large-scale environmental and ethical problems. These problems are not merely the sum of some individual discrepancies but ingrained in our political and social systems. For these problems it becomes necessary to highlight that their contextual and relational features are of a *systemic* nature in which individuals are embedded (in terms of interconnectedness). Thus, the very contextual and (affectionate) relational focus of care ethics, for example, is not able to articulate the full moral story (recall also the argument for focusing on distributive justice in [Chapter 1](#)).²¹ Likewise, also the notion of justice and particularly my focus on global justice would never be sufficient. As Plumwood states, '[i]nterspecies ethics can, for example, involve both more generalisable relationships involving considerations of fairness and justice and deeply personal relationships involving care, and the conflicts and connections between these dimensions' (2002, pp. 187–8).

This brings to an end this preamble to my account of ecological justice. So far, in the introductory chapter, I have only provided some reasons for why it is discursively and theoretically advantageous to be able to speak about the current mass extinction crisis as a matter of distributive justice. Now I have laid out some theoretical premises to explain why I think that it is appropriate to start with political non-ranking biocentrism as a perspective on nature in this context. As mentioned earlier, I do not aim to provide a full defence of my non-ranking biocentric stance at this point which means that numerous critics will justifiably not be satisfied with this outline. Yet this is merely meant as springboard for the argument in the following chapters. Nothing that I have said so far justifies that an account of ecological justice can be coherent, explains what it would entail or, indeed, constitutes an actual theory of justice. That is the aim of the following, starting with how we can move from moral considerability to being members of a community of justice in the next chapter.

Notes

¹ This has a slight resemblance to John Rawls' (1996) political liberalism insofar as he explicitly limits the scope and aims of his account. But the analogy does not go much farther than that.

² Returning to the campfire example, it does not seem appropriate to speak of its good life. It is possible to feed the fire to keep it going, but as a chemical reaction it does not constitute a system that *strives* to keep going but rather is merely a process that *happens to continue* if the conditions are right. Maybe that is an intuition that needs to be dropped in that there exist cases such as the Belousov-Zhabotinsky reaction that arguably self-organise (see Boden 1999; and for a more general point

see Holm 2017). On the other hand, there might also be more to being alive in the normatively relevant way than self-organisation in this very minimal way, and there seems to be conceptual space between a normative conception of life and one that relies only on the notion of self-organisation because some relevant sense of flourishing might be lost. I am not aiming to solve this problem now.

³ Of course, the developments in artificial life might lead to the creation of machines that do have a wellbeing that is intrinsic to themselves, and biocentrists are usually open to accepting this hypothetical implication of their position (for example Taylor 1986, Sterba 1998).

⁴ Undoubtedly there is high variation between different living beings (even sometimes between beings that belong to the same species). As I will indicate, such species descriptions can only tell a partial story of wellbeing. Moreover, humans are also clearly not the only animals where considerations about culture and individual choices are relevant for describing an individual's flourishing.

⁵ That does not exclude, however, that sensory and cognitive factors do matter for the description of the wellbeing of a living being. These play indeed an important role for sentient animals. Thus, the idea rather is that wellbeing spreads throughout different living beings, but it will be of different kinds which means that what constitutes appropriate treatment will also differ considerably throughout the spectrum of life.

⁶ That means that we might end up with the possibility of conflicting relevant interests.

⁷ These questions also link the related problem of individuation. While I do think that it is not a major problem to have no conceptual sharpness regarding what constitutes an individual, this is also clearly a question that deserves more elaboration. Importantly, my account allows for a range of plausible conceptualisations of what constitutes an individual and, therefore, does not have to resort, for instance, to a simplistic atomistic account.

⁸ Of course, needs – including their link to harm – are also contested (see Wiggins 2005, Hoozer 2008, O'Neill, J. 2010), but their moral force is usually accepted in everyday discourse. Moreover, Anscombe's formulation also specifically connects needs to the notion of flourishing, but granted that this is not strictly necessary for making sense of the concept of needs as they could plausibly be defined without any such linkage.

⁹ For example, Kallhoff's (2014) account of how harming a plant involves obstructing its flourishing processes.

¹⁰ Taylor's (1986) distinction between an organism's good and its biological fitness appears to also point into a similar direction.

¹¹ The attentive reader will have noticed that I did not mention any links to the intrinsic value debate in environmental ethics so far. This is a deliberate omission, because I do not think that such engagement would help us to move along in our quest for an account of interspecies justice, at this point at least.

¹² I do not aim to provide a detailed critical review of Plumwood's theoretical position and I do not adopt all parts of her theoretical account.

¹³ An additional problem is that some extensionist strategies might also be anthropomorphising as Kallhoff (2014) notes. Moreover, despite that I will focus here on Plumwood's work, other ecofeminist critiques of moral extensionism can be found in Chris Cuomo (1998) and Karen Warren (2000).

¹⁴ For me, from this critique of moral extensionism it does not follow that Taylor's biocentrism should be fully rejected based on his meta-ethical commitment

to rationalism (compare Plumwood 2003 (1993)). But putting debates about rationalism aside, more important is here that Taylor's account of biocentrism and more specifically the teleological organisation starting point of biocentric arguments that I have loosely adapted earlier is not intrinsically more extensionist/assimilationist (at least with regards to moral considerability) than Plumwood's own position. Also Plumwood (1998b, 1999) herself relies on the teleological account to describe how something matters to a non-sentient living being.

- ¹⁵ This is not the place for a discussion of the variety of arguments that have been made in favour of hierarchies. A recent example is Shelly Kagan's (2019) hierarchical account of animal ethics.
- ¹⁶ Accordingly, my focus lies here on incommensurability of moral significance which might differ somewhat from Plumwood's (1998b, 1999, 2002) original argument about incommensurability in terms of value and moral worth.
- ¹⁷ Note that construction of an Other as part of a dualism is not the same as appreciating otherness.
- ¹⁸ Thus, this focus differs from more widespread uses of incommensurability. Usually it is either distinguished between (1) the incommensurability of different values (or entities embodying such values) and between (2) the incommensurability of different scientific theories. For an overview see Ruth Chang (2013).
- ¹⁹ To be clear, claiming that contextual prioritisation is possible does not amount to the claim that any kind of prioritisation can be justified.
- ²⁰ Published in the same year as Plumwood's *Environmental Culture*, Chang (2002) has also made the case for the idea of being 'on a par' as a fourth value relation between two entities when making *comparisons* in addition to the usual 'better than', 'worse than' and 'equal to' options.
- ²¹ For a critical discussion of the notion of care from an ecofeminist perspective see Sherilyn MacGregor (2004). For an overview of different versions of relational environmental ethics see Clare Palmer (2010), because my application of the relational specifications differs from how it is usually employed within care ethics and is closer to Palmer's causal account.

The Community of Justice

How can ‘we’ all live well together on one planet with a finite amount of ecological space crucial for life? While a mass extinction is underway, it seems that the pronoun ‘we’ can no longer merely refer to humanity. As previously introduced, over the last two decades a new body of literature has sprung up that tries to tackle this problem – either directly or indirectly – via evoking some understanding of justice (such as Baxter 2005, Nussbaum 2006, Schlosberg 2007). Because an account of justice to nonhumans in whichever form is a considerable addition to a position that attributes moral considerability to nonhumans, it is met with resistance from outside as well as within environmental philosophy. At best it is a widely held suspicion against the idea that justice is applicable to nonhumans; at worst it is an outright rejection that justice as a concept can expand beyond the human community. Thus, after having discussed in [Chapter 2](#) that nonhuman living beings are morally considerable, this chapter will elaborate on the theoretical basis of interspecies justice to show that it is more than just a slogan.

Recall the distinction between ethical arguments and arguments about justice; this distinction remains true outside the human realm. For example, a convincing argument against fox hunting because it causes the foxes suffering does not automatically lead to the claim that these animals are entitled to a certain amount of space and food in order for their situation to be distributively just. In order to make a strong case for ecological justice, it is necessary to maintain a clear distinction between the realm of ethics and the more particular realm of justice. As previously discussed, this distinction between ethics and justice also indicates that a theory of ecological justice is part of, and not a substitution for, a more general theory of environmental ethics. In other words, all issues of justice are part of the realm of ethics but not all ethical considerations can be framed as problems of justice.

Consequently, moral considerability is a necessary, but not sufficient, criterion for being a holder of entitlements of justice. Taking it as a premise that all living beings are morally considerable, I propose that a grounded justification for interspecies justice in terms of just biological conservation requires an additional four-step argumentative process as a method for including all wild living nonhuman beings in the community of justice, to which I will turn in a moment.

Because moral considerability alone is not able to ground the more specific claim that duties of justice are owed to a certain entity, the theoretical move towards grounding a community of justice is a crucial feature of accounts of ecological justice. However, that is an issue that still requires more elaboration than it has received in the ecological justice literature so far. For example, Brian Baxter (2000, 2005) provides the only elaborate defence of a biocentric theory of distributive ecological justice which has inspired my own account, but notwithstanding my own position diverges in several respects (see also Chapters 1, 2 and 5).

In an initial paper Baxter (2000) combines Brian Barry's theory of justice as impartiality with ecological justice because the question regarding membership in the community of justice is separate from different 'substantive theories of the good', and he expands on his initial arguments in *A Theory of Ecological Justice* (2005). Baxter considers all nonhuman living beings to be morally considerable and states that '[w]e need to recognize other life-forms' claim to a fair share of the environmental resources which all life-forms need to survive and to flourish' (2005, p. 4). Furthermore, in contrast to Martha Nussbaum's (2006) account of justice in which she introduced a multitude of questions debated in environmental ethics – ranging from animal experiments to eating meat – Baxter makes clear that his account of ecological justice is limited to a circumscribed set of questions:

Provided that viable local populations of nonhuman species are not destroyed without good moral cause shown, and thus provided that existing species are left overall in a flourishing condition, it is not a matter of ecological justice to resolve issues of meat-eating, domestication, animal experimentation and so forth. (2005, pp. 137–8)

Here, Baxter makes an important distinction between distributive justice and ethics, but these arguably appear still to be issues to which other dimensions of justice, such as in terms of recognition of domesticated animals, might be applicable.

Despite attributing moral considerability to all living beings, Baxter does not consider them to have equal moral weight. For example, he grants members of an endangered species an ‘automatic boost’ (2005, p. 150) of their weighting. I do not contest that this is an important consideration, but I rather consider endangeredness an additional contextual feature that needs to be taken into account instead of being built into the moral weight of the individual beings. Moreover, Baxter distinguishes between ‘individualised’ living and ‘merely living’ beings. Because he deems merely living beings are not individualised enough, he attributes their rights to populations, whereas more individualised living beings hold justice claims as individuals. Regarding the more individualised living beings, Baxter claims that it ‘becomes increasingly appropriate to conceptualize the claims of ecological justice in the case of such creatures as involving various freedoms, such as that of pursuing a distinctive course of action of their own choosing’ (2005, p. 14).

Putting aside discussions about the different biocentric versions that Baxter and I propose, the problem is that I am also not fully convinced by an argumentative move in Baxter’s theory when he presents his reasoning for a biocentric community of justice; for which he appears to present three different but connected arguments. Firstly, he claims that because it is difficult to differentiate between sentient and non-sentient beings due to a ‘continuum of capacities’, all living beings should be awarded moral standing because there are good arguments supporting the inclusion of all sentient beings. Secondly, he argues that humans are in ‘circumstances of justice’ not merely towards each other but also towards other living beings on Earth, because of the ability to have an effect on the ‘welfare interests’ of each other.¹ A combination of these two lines of argument (that is, a combination of an argument about moral considerability and about the grounding of the community of justice) could arguably be sufficient to defend the inclusion of all living beings into the community of justice if he would further specify the circumstances of justice.

However, Baxter then goes on to argue that ‘making a contribution to the sum of environmental benefits’ (2005, p. 84) is a necessary but not sufficient condition for being a member of the ecological justice community (in line with contractarian thinking about justice). This argument appears problematic because he connects making a contribution to the environmental benefits (that is, resources and ecosystem functionings) available with having a distributive justice claim to these goods. Intuitively, it appears that the greater the contribution by an organism, the greater its fair share of the resulting benefits should be if one deems contribution relevant for

distribution in terms of desert. This would mean that in many cases small, non-sentient organisms would have a more fundamental claim to the Earth's resources than more complex sentient beings such as humans, who do not appear to provide much of a contribution at all if one discounts certain cultural landscapes. Baxter acknowledges the point that humans contribute probably rather little and, thus, rejects contribution (as the sole grounding) of an account of ecological justice. However, later on he allows for organisms to have different moral weights (that is, moral significance on my reading) with more individualised organisms having more moral weight than populations of less individualised organisms. Even if one accepts the introduction of moral weights, which I consider to be a problematic feature of a ranking biocentric perspective as discussed in the previous chapter, then that at least stands in tension with the relevance of Baxter's necessary condition of contributing to the overall environmental benefits. A question lingering in the background seems to be about how much and what kind of contributions count as contributions in this context. Based on Baxter's other theoretical commitments this argumentative move to include the condition of contribution is not unfounded, but I will try to show how it is not strictly necessary for a biocentric account of justice.

An alternative account of justice to nonhumans that spells out the notion of justice in less detail than Baxter's is found in Adrian Armstrong's (2012) work that extends the capabilities approach beyond animals to include ecosystems and even the whole Earth. Armstrong draws on an understanding of justice that is based on a revised Leopoldian land ethic: 'A thing is *just* when it tends to preserve the integrity, stability and beauty of the biotic community. It is *unjust* when it tends otherwise' (2012, p. 107, emphasis added). Based on this perspective, Armstrong proposes Nussbaum-style capability lists which he calls 'consideranda' for animals, ecosystems and the Earth as well as societies, that is, 'human ecosystems' (for an overview of Martha Nussbaum's position see Chapter 6). However, establishing moral considerability alone cannot be enough to warrant the argumentative move from having intrinsic value (when understood as moral standing) to being a subject of justice, as Armstrong seems to imply. In general, it is the appeal to justice that makes theories of interspecies justice more controversial than any theory of environmental ethics, and they therefore require additional justification due to the still-dominant anthropocentric paradigm in political thought. Consequently, Armstrong's argument seems to stop short of providing the account of 'justice for the environment' that he wants to establish. His reasoning is

that ‘in order to take the leap to requiring justice for the environment we have to identify a value in the environment that will require a relationship of justice’ and ‘only intrinsic or extrinsic value is really sufficiently strong to demand justice’ (2012, pp. 111–12). He does not explain, however, how the value found in nonhuman nature translates into a community of justice.²

Baxter’s (2005) second argument appears to have the most potential for defending the inclusion of all living beings. He refers here to the interests and *interconnectedness* of all living beings which points to where, arguably, the essential argument lies for including all life into the community of justice, as will be discussed later. I would like to build up on these considerations and go step by step through the different issues that will have to be settled in order to ground a framework of ecological justice. The first step concerns David Hume’s ‘circumstances of justice’ (hereafter shortened to CoJ) as a foundation for analysing whether the human–nonhuman relationship actually falls within these circumstances. They constitute the *origin story* of justice in the sense that they generate conditions to which justice can provide answers. Hume probably would have argued that the human–nonhuman relationship does not fall within these circumstances. The point is, however, that justice is applied as a solution to the problems embodied by the CoJ (Hope 2010). This means that justice is a contextual concept that aims to solve some problems arising from actual circumstances, and hence it stands in comparison to some other moral laws which are supposed to have a more universal applicability. Furthermore, the CoJ take on the function of weeding out all inappropriate theories that cannot make sense of these circumstances (Hope 2010). From a pluralist perspective this means that there is not one set of universally valid circumstances for all kinds of justice, but that depending on the scope of our enquiry, different problems/circumstances need to be taken into account. This issue will be discussed in the upcoming section.

The second step is then to outline what constitutes justice, which will be looked at in section two. This is difficult because justice is a contested concept, but a particular definition has already been partially provided in the previous chapters. One’s definition of justice has strong implications for what, or who, is included in the community of justice and what principles of justice we think apply within this community. The third step and the last section is where the focus of the ecological justice discussion in the literature has been so far. But only after having settled all the previous issues can we inquire into who or what might be included into a community of justice based on what we think justice

is, and what circumstances we need to take into account. Put simply, the specific human–nonhuman relationship on which I focus grounds specific circumstances of justice, a specific conception of justice and a specific community of interspecies justice which I call a *community of fate*, because it constitutes a non-consensual sharing of destiny. In the final step we can then start to consider what principles of justice apply to this particular justice community, which in this case is limited to wild nonhumans. However, this in turn includes so many different issues that I will only focus on distributive justice, and [Chapters 4](#) and [5](#) are dedicated respectively to the currency of distribution and the distributive principles.

Circumstances of justice

To reiterate, an enquiry about justice should ideally start with a consideration of Hume’s CoJ ([2003 \(1739–40\)](#)) as termed by John Rawls ([1971](#)), because the general exclusion of nonhumans from considerations of justice can, among other things, be traced back to Hume’s influential postulation of the CoJ which he defined in such a manner that the protection of justice became unobtainable for nonhuman living beings. The voluntarian cooperation/contractarian/proceduralist obstacle to including nonhumans into the community of justice indicates that ecological justice needs a different conceptualisation of the circumstances and the meaning of justice than has been provided by the theories of distributive justice of the 20th century. The same applies for the inclusion of the capacity to reciprocate. Moreover, interspecies justice also needs the concept of justice to be detached from the notion of property rights that has been influential since its introduction by theorists such as John Locke ([2002 \(1689\)](#)) and Hugo Grotius ([2012 \(1625\)](#)) explaining its origin in the ‘state of nature’ (for the latter point see [Chapter 8](#)).

If justice is supposed to be the solution, then the CoJ embody the corresponding problems that cannot be ignored (Hope [2010](#)). When looking at a society a prime example of such a problem or circumstance would be the limited access to necessary and luxury goods for its members in the distribution context. In the context of justice to nonhumans a question is whether any theory of ecological justice can actually get off the ground by including nonhumans in the CoJ. If they are deemed to be outside such circumstances then the whole project of ecological justice seems futile, and at first glance this does

indeed appear to be a difficult undertaking. As Elizabeth Cripps points out, the CoJ as they are traditionally understood do not really match up with how ‘natural’ societies function which, as she notes, ‘revolves around the sacrifice of the individual’ (2010, p. 14).

Fortunately, the idea of the CoJ and the notion of interspecies justice seem compatible, which results from considering the three relevant questions in this context which I will discuss in turn. To begin, how exclusionary are traditionally conceived Humean circumstances of justice towards nonhumans? This is an important question for some theorists of social justice who might be reluctant to move away from or expand the Humean/Rawlsian set of accepted CoJ. However, how the CoJ have been traditionally understood was a function of the issue in question which was how to live well together in a society (for example via cooperation). The problem here, on the other hand, is a different one from social justice. The starting question for ecological justice is how to live well together on one finite planet and, then, this sets the problem background for inquiring into what the appropriate CoJ, as well as the complementary understanding of the nature of justice are in this context.³ As mentioned earlier, justice is a contextual concept that aims to solve some problems arising from actual existence; from a pluralist perspective this means that there is not one set of universally valid circumstances for all kinds of justice. Deconstructing the purpose of the CoJ makes this fluidity clearer. The CoJ have a dual but interrelated meaning. On the one side, they flesh out the context of the problem by adding realistic factors that explain the need for establishing rules. On the other side, the CoJ also function as parameters that allow justice to be a solution within their limits. From this dual understanding follow two further questions that need answering.

Secondly, should what CoJ understood as problems have to be accounted for in the context of the human–nonhuman relationship? If justice is context specific then this is the least controversial question to answer because it allows the CoJ to differ in the interspecies justice and social justice cases as they need to take into account (potentially) different problem factors. The last question then regards how the CoJ function as parameters limiting the applicability of ecological justice. This issue seems more problematic for establishing interspecies justice because, at first glance, the human–nonhuman case is not compatible with moderate scarcity –that is, limited scarcity provisioning enough for everybody’s needs but not everyone’s wants – which is a key circumstance of justice in Hume’s and Rawls’ theories.

The traditional circumstances of justice

Hume claimed that ‘limited scarcity’ and ‘confined generosity’ were necessary CoJ.⁴ This means that in situations outside of these circumstances (which have upper and lower boundaries) justice would not apply. For example, if there were an endless amount of certain goods available it would not make much sense to consider how to justly distribute these goods. According to Simon Hope (2010), Hume clearly excluded nonhuman animals from these CoJ in part because his conception of justice was strongly linked to owning possessions. This is, however, part of step two of the justification process (that is, what justice is about) and thus not relevant at this point, because it can be detached from the idea of CoJ (as has also been argued by John Salter 2012). So far, therefore, it seems that nonhumans might as well be within the CoJ because Hume distinguishes between the origins of justice – meaning, the CoJ – and who, or what, justice actually applies to. It is when discussing the latter that Hume excludes nonhumans from the community of justice because they simply cannot own property.

On the other side, however, Hume also adds a less well-known condition or circumstance to his list – rough ‘equality of powers’ – which is more or less met ‘by the simple fact of human interdependence’ (Hope 2010, p. 137). This accordingly excludes animals and other nonhuman beings from the CoJ by failing to fulfil this equal-powers criterion which, it seems, can only be met by humans. This interpretation is also consistent with Salter’s (2012) reading of Hume’s ‘equality of powers’ passage. In contrast to many critics of Hume (such as Barry 1989), Salter claims that the requirement of equality of powers does not force Hume to exclude weak or disabled people from the domain of justice. Rather, it is a requirement that applies between species instead of between individual human beings because – according to Salter’s reading of Hume – ‘we develop a self-interested disposition to abstain from the possessions of other human beings, including those human beings who have no capacity to harm us’ (2012, p. 3). Put simply, Hume’s position is to make ‘being human’ the inclusion/exclusion criterion for the kind of beings to which justice can apply by framing it as a ‘motivational’ circumstance of ‘equal powers’ of some sort. This refers again to his conception of justice that focuses on property. Thus, by excluding the content of justice that is focused on property from Hume’s considerations of the CoJ, the CoJ appear to be also applicable to nonhumans. The only issue that remains is that it is not nonhumans per se but the human–nonhuman relationship that does not seem to fall within the traditional CoJ. More specifically, the

circumstance of limited (or moderate) scarcity is problematic, which is where Cripps' (2010) critique of the CoJ in the context of the nonhuman seems to be aimed.

The problem-context

Others, most prominently Rawls, have picked up Hume's idea and modified it slightly. According to Rawls, for example, the CoJ are 'conditions under which human cooperation is both possible and necessary' (1971, p. 109). By understanding the CoJ in this manner (very similarly to how he understands justice itself), Rawls has excluded nonhuman beings from being subjects of justice right at the first step. He then carries on and lists some 'objective' CoJ (moderate scarcity and human similarity and vulnerability) and some 'subjective' CoJ (mutual disinterestedness and limited knowledge). Likewise, Hope (2010) adds his own considerations to Hume's list. Similarly to Rawls, he adds human vulnerability to each other's actions and ethical variety. Considering that the CoJ are contextual, I would like to propose a tentative list of circumstances that would apply to the human-nonhuman relationship – more specifically, the relationship between humans and wild nonhumans – and thereby start to answer the question about which circumstances understood as contextual problems need to be taken into account in the case of this particular relationship. This list is not necessarily complete, but the following three points appear to be issues that theories of interspecies justice cannot ignore.

Firstly, as proposed by Hume and Rawls, 'scarcity' needs to be part of a list of CoJ. This is as true for ecological justice as for any other considerations of distributive justice, but it is especially relevant in the context of a finite planet which provides the main problem context for interspecies justice. However, the applicability of justice should not just be confined to merely limited or moderate scarcity because, arguably, (1) the language of justice is applicable to all situations between (but not including) extreme abundance and full human societal and ecological collapse, and (2) in the case of interspecies justice moderate scarcity is a circumstance that is unachievable because of inevitable conflicts between humans and nonhumans that do not allow for the (theoretical) satisfaction of everyone's and everything's needs at the same time.

Concerning the first point it seems intuitive that abundance of all kinds of goods undermines the need for distributive justice. This circumstance gives the applicability of justice an upper boundary – somewhere short of a land of milk and honey and, thus, it has usually been regarded as a given in theories of justice (but for a more nuanced

perspective on this upper boundary see [Chapter 5](#)). More importantly, regarding its lower boundary it seems mistaken to claim that it is necessary for justice that there is enough to fulfil everyone's needs. The applicability of justice must stretch into a territory where needs clash, otherwise we might already be outside the CoJ today or in the near future with regard to environmental goods and benefits provided by ecosystems, even in the context of social justice. This is a problem insofar as one might want to turn to justice for answers particularly in these more difficult cases. As has been argued by Donald Hubin (1979), the distribution in circumstances of moderate/limited scarcity is merely 'simpler' than in more scarce circumstances, but that does not mean that distributive justice in circumstances of severe scarcity is inconceivable. As Hubin (1979) has rightly pointed out, cases of 'severe scarcity' are not that rare – even in wealthy societies – as, for example, the distribution of donor organs to people with kidney failure shows. Therefore, scarcity is a CoJ in the context of ecological justice but it stretches into an area of conflicting needs where theorists of justice have often been reluctant to enter. Because I consider different conditions of scarcity and the principles of distributive justice closely connected, I will elaborate in more detail on the implications of scarcity for theorising about interspecies justice in [Chapter 5](#). For now, it suffices to say that scarcity in the context of justice should not be confined to *moderate* scarcity only.

Secondly, some sort of confined generosity (Hume) or mutual disinterestedness (Rawls) should be kept on the list. The main point here is that there are many (potential) conflicts of interest between different parties – some of which justice can help to resolve, such as sharing limited resources. If people would be generally very keen to be generous, there would arguably not be much left for justice to resolve, but that does not preclude the need for an account of interspecies justice to be supplemented with an environmental virtue ethic, as will be proposed in [Chapter 5](#). The same seems true in the context of human conduct towards other species where no reciprocity applies. Thirdly, Hope's (2010, p. 14) addition of 'vulnerability' to the actions of others should also be included. This point is important because it stresses the fact that each individual life happens in the context of the lives of many other living beings, and each being's actions can causally impact the livelihood of the others. Similarly, Onora O'Neill (1996) has made the point that in light of human vulnerability it is the function of justice to protect from injury. In contrast to Hope, who only considers justice between humans, it is crucial from my point of view that not only humans, but all other life-forms as well are

vulnerable to the actions of others, such as polar bears suffering from anthropogenic climate change – one of environmentalism’s oft-used examples. As we have seen, a similar point has been made by Baxter (2005) who claims more generally that circumstances of justice also extend to other ‘morally considerable’ beings because their ‘welfare interests’ can also be affected.

Never-ending conflicts

The understanding of the CoJ as parameters that limit the applicability of justice as a solution is challenging in the context of the human-nonhuman relationship because the human-nonhuman case *as a whole* is not compatible with moderate scarcity (where all needs can potentially be met), which as we have seen is a key circumstance of justice in the theories of Hume and Rawls. Including nonhumans in the relevant group of beings means that meeting all needs is never – even not theoretically – possible. This is because living beings use other beings as necessary resources for their survival and flourishing. For example, salmon is an important source of nutrition for some bears. By meeting this need, however, the bear cuts the life of the salmon short. There are, of course, on the other hand, many examples of plants, bacteria and animals using each other as resources without needing to harm their resource, or by even living in a symbiotic relationship. Yet, because of the existence of less benign relationships, not only does it follow that justice should not be limited to moderate scarcity, but rather that in the case of ecological justice moderate scarcity seems impossible to achieve. For some theories of ecological justice this is a major area of concern, as will be seen in the next section. The implication is that ecological justice to wild nonhumans can only work with a negative version of justice because it would otherwise run into many difficulties by trying to solve deep-seated conflicts. This limitation appears to apply in this *particular* way, however, only to interspecies justice to wild nonhumans because of its particularity regarding prey-predator relations (more on this issue in [Chapters 5 and 6](#)).

Even when focusing only on the human-nonhuman relationship and thereby excluding all intra-nature relationships from the scope of justice, deep-seated conflicts arise. For example, the needs of a salmonella bacterium are not compatible with the needs of its human host. Hence, deep-seated conflicts between humans and nonhumans remain, even though in the grand scheme of things, interspecies and social justice are to some extent complementary in their aims

(Cripps 2010). This then eases many of the conflicts that persist on an individual level when considering at a more societal level how to live, and what policies to adopt. For example, policies that aim at intergenerational justice between humans usually – but not always – also benefit current and future nonhuman beings. In the end, most living beings have an interest in humans pursuing sustainable practices (in the strong sustainability sense at least). However, as I will argue in [Chapter 9](#), this potential convergence of interests should not be overstated.

Because of the problem that some conflicts between humans and nonhumans will remain, a further, but likely not exhaustive, implication follows for interspecies justice. The implication is that the residual conflicts that prevent interspecies justice as a whole achieving circumstances of moderate scarcity might be circumvented regarding the sphere of interspecies justice to wild nonhumans if it is differentiated from the other human–nonhuman justice relationships. Thus, when focusing on the relationship between humans and wild nonhumans only (and excluding, for example, farm animals, crops, city-dwelling species and so on) and additionally excluding conflicts where humans embody the role of the prey (as for example of the salmonella bacterium), then moderate scarcity becomes at least theoretically achievable. This qualification supports the necessity to keep distinct the different human–nonhuman relationships (recall the discussion in the introductory chapter), because different principles and conceptions of justice apply to each of these spheres.

In other words, for distributive justice it is important to disentangle the different conflicts between humans and nonhumans and inquire into their impact on the circumstance of scarcity. If certain human–nonhuman relationships are intrinsically constituted by more than moderate scarcity, then such a sphere of ecological justice is moved even further away from the main justice theorising discourse. Yet, as will be elaborated in [Chapter 5](#), moderate scarcity appears at least theoretically conceivable if applied to the relationship between humans and wild nonhumans which is focused on here. To clarify again, ecological justice is an umbrella concept which includes a multitude of different spheres of justice. One of these spheres is interspecies justice in terms of *just biological conservation*. In contrast, for example, the relationship between humans and the animals and plants used for agricultural purposes is of a different kind. Arguably, justice is also applicable in this sphere, but the circumstance of moderate scarcity appears to be unachievable due to the nature of that relationship.

The conception of justice

All of this still does not tell us what kind of a solution justice embodies, and because justice is a contested concept its content is difficult to pin down, as previously discussed. For example, Rawls bases his influential theory on what he calls a ‘political conception of justice’ which forms the basis of cooperation for a ‘reasonable’ citizen in a liberal society (Rawls 1971). He thereby looks at justice with the intention of deciding on the most appropriate system of cooperation for a society which embodies a ‘cooperative venture for mutual advantage’ (p. 4), with justice applying to the ‘basic structure’ of that society. Accordingly, one of the main aims of his theory is to determine a just ‘division of advantages from social cooperation’ (p. 6) in a fairly closed off society. As already indicated, however, considerations of justice are applicable to more than this very specific situation envisioned by Rawls. For example, there exist extensive bodies of literature claiming that justice also applies on a global level (for example Caney 2005, Risse 2012) and between generations (for example Gosseries and Meyer 2009). Accordingly, it is possible to conceive justice as applicable to many different scenarios. They all appear to have in common a connection between everyone (or everything) in the in-group where justice applies and an out-group where it does not. For Rawls, for example, a delineated liberal society constitutes the in-group (or community of justice) which is held together by cooperation; or for some cosmopolitans, the common humanity of all people triggers considerations of justice in the global sphere and excludes all nonhumans from these particular considerations. Therefore, what triggers considerations of justice, and thus determines the specific nature of justice is interlinked with the nature of the in-group that generates justice considerations. This makes it impossible, to some degree, to differentiate between what justice is about and the in-group in question (see step three), because it is only in reference to an actual group of beings that thinking about justice makes any sense.

In step three it is argued that humans and wild living beings on Earth form together a justice community that should be understood as a community of fate and it is towards this particular community that a conception of justice applies in the form discussed here. This means that I do not directly argue against other definitions of justice. I merely want to claim that what justice is about depends (to a degree) on the problem-context to which it is applied, and that in my much broader scenario (including all living beings on Earth that stand in particular circumstances with each other) justice should be conceived as being about *enabling flourishing* because the potential to flourish based on

having a wellbeing is the common feature of all living beings while simultaneously also creating the conflicts for justice to address.

Under these conditions, justice's goal or solution is, more specifically, that all living beings that are part of this community have the opportunity to flourish after their own kind, as the puzzle it addresses is *coexistence* and not cooperation. There is nothing in the circumstances of justice – as defined earlier – that excludes nonhumans from the domain of justice, nor is there anything – by definition – in this specific definition of justice that discounts (wild) nonhuman beings, as all living beings have the innate ability to flourish. Thus, my understanding of justice is here very similar to how capability theorists (like Nussbaum 2006, Fulfer 2013) and ecological feminist theorists (like Cuomo 1998) have defined it. For instance, Katy Fulfer claims that 'relationships and flourishing' are 'what we take to be the crucial aspect of justice' (2013, p. 27) and Martha Nussbaum claims that the capabilities approach 'wants to see each thing flourish as the sort of thing it is' (2006, p. 349). Similarly, Chris Cuomo states that '[a] defining feature of ecological feminist thought is its commitment to the *flourishing*, or well-being, of individuals, species, and communities' (1998, p. 62, emphasis in original).

A conception of justice that takes into account different kinds of living beings because they are morally considerable as entities that strive for their own wellbeing aims to solve the puzzle of coexistence of all these individual beings. Very simplified, what (objective) good a being has depends partly on its nature as already discussed in the nonhuman case in Chapter 2. The matter becomes more complicated in the human case where different cultural contexts, and a subsequent range of different 'substantive theories of the good' (as termed by Rawls 1971) are introduced which humans can hold. Even though questions about human wellbeing and flourishing bring us onto difficult terrain, they are unavoidable as their resolution helps us to understand what we, as humans, need (see Biro 2016). The concept of need and what constitutes human flourishing, in turn, are then highly relevant when one wants to consider how to distribute certain goods – such as ecological space – as they influence the strength of claims to certain amounts of ecological space which, in turn, have implications regarding what claims of distributive justice humans might have towards the Earth's ecological space (see Chapters 4 and 5).

In order to make this understanding of justice – especially in the context of interspecies justice – less controversial and more in line with the restrictions outlined in the discussion of the circumstances of justice earlier, it seems useful to think of it being understandable in

two ways when applied to wild nonhumans. A *positive* interpretation would require the (active) supporting of flourishing. This is the more demanding version which would demand from agents of justice (that is, moral agents) the assisting of the flourishing of other beings, even if their non-flourishing status is fully independent of the agent's actions. Following this interpretation, agents of justice (humans) would have a duty of justice to provide the conditions needed for subjects of justice (nonhumans) to flourish.

A *negative* interpretation would require merely not to inhibit flourishing. This interpretation is more in line with definitions of justice that see it as a kind of negative duty not to harm (see O'Neill, J. 2010), and I assume that harming is *prima facie* wrong and that it is not identical to allowing an agent-independent harm to happen (see Palmer 2010). In this understanding, justice merely demands humans not to negatively interfere with the lives of wild nonhumans by, for example, destroying their habitat. The positive interpretation (supporting flourishing by enabling/creating the possibility of flourishing) is very demanding, and following the discussion earlier, such a positive interpretation would run into the problem that not all needs can be satisfied at the same time when nonhumans are included in the scope of justice. As will be elaborated in [Chapter 6](#), this point is illustrated by the problems the capabilities approach runs into by attempting to support flourishing via capabilities (as seen in Nussbaum 2006). This problem can be illustrated by the dilemma of the opposing interests of prey and predator, since, for example, the flourishing of a hungry lion is not compatible with the flourishing of a nearby antelope. The negative interpretation avoids this problem, because from this perspective it is not a requirement of justice to help certain species to flourish if their non-flourishing status is not due to any human actions. For example, under this approach there is no need to protect the prey from the predator – as long as humans did not introduce the predator in the first place by, for example, introducing new species into an ecosystem, which would generate additional normative problems to consider. The capabilities approach (at least in some of its forms) runs into such a problem because its focus lies on enabling capabilities, and hence it faces the dilemma that one cannot necessarily enable the capabilities of all individual beings (or species) simultaneously (Cripps 2010). By understanding ecological justice in this way and by limiting it to living beings I try to avoid some of the deep conflicts intrinsic to some capability approach versions of ecological justice as proposed by Nussbaum (2006), who runs into the prey-predator problem, and David Schlosberg (2007, 2014) who generates an even more conflictual

picture by bringing ecosystems into the scope of justice. However, by keeping a commitment to flourishing I believe that my proposal here is meant in a similar spirit.

In order to avoid this conflict, I will merely argue for the more modest claim that only the negative interpretation of justice as flourishing applies to the wild nonhuman living world, compatible with what Clare Palmer (2010) calls the ‘laissez-faire intuition’, to illustrate the difference between our moral duties to wild and domesticated animals.⁵ This means that in the case of wild nonhuman nature the focus is on refraining from injustice rather than providing justice in the positive sense. From a pluralist perspective the resulting duties of justice that follow from this account are also, at first, only *prima facie* duties of justice as opposed to all-things-considered duties of justice that take all different spheres of justice into account. Therefore, the resulting duties of distributive ecological justice to wild nonhumans that originate from this account have to be put into conversation with other duties of justice in order to inquire into what would be all-things-considered just. Because of my non-ranking version of biocentrism (recall Chapter 2) I need to stress that such a consolidation of different demands of justice cannot rest on a ranking of living beings – either hierarchically or as equals – in terms of moral significance, but this will become more important when formulating appropriate principles of justice later on. Moreover, this negative understanding of justice to wild nonhumans when formulated into principles of justice does not only imply negative duties narrowly understood. The mere avoidance of injustice to wild nonhumans will require an extensive restructuring of the current modes of economic and social organisation. Recalling the distinction between justice and ethics, in principle there is also no objection to situate this account of interspecies justice within a theory of environmental ethics that deems it *prima facie* permissible or even under certain circumstances requires to assist nonhumans impacted by non-anthropogenic natural disasters, such as a volcano eruption.

In this account, justice remains an intrinsically human concept and thus only originates with humans as the distributor (or more fittingly as the appropriator) and the rest of nature only constituting recipients, as justice can only apply to human conduct because it is meant as a normative guide for the human perspective (recall Chapter 2’s perspectival anthropocentrism). Having said that, some evidence suggests that also some other species exhibit morality by having, for example, a sense of fairness (Bekoff and Pierce 2009). Yet, it would be inaccurate to infer from this that such nonhumans should be considered full agents of justice that can cognitively comprehend

demands of global justice and, similarly, devising (and dictating) rules of conduct for nonhumans would just be part of a hubristic worldview that the notion of ecological justice is meant to overcome. (The relationship between distributor and resource for distribution will be discussed in [Chapters 4](#) and [5](#).) Humans as distributors can either (re)distribute what is already in their possession or take something away. Regarding ecological space it appears that humans as distributors only have the ability to deprive nonhumans because the ability to (re)distribute is connected to some conception of ownership, which is something that humans do not have over the entirety of the available ecological space (see [Chapter 8](#)). The negative interpretation of justice as flourishing fits into this context by understanding the deprivation of ecological space as the inhibition of flourishing, if too much is taken by human appropriation.

Connecting justice with flourishing points to a relevant lower threshold because living beings have a set of flourishing needs (again, recall [Chapter 2](#)). For justice it is relevant for a being to get over this flourishing threshold as well as the more basic survival threshold, and based on the negative interpretation this amounts to the requirement not to inhibit (the opportunity of) flourishing. Even though it is possible to diminish the flourishing of a being despite the continuation of its flourishing status because it is possible to flourish to a greater or lesser degree, bringing a being's situation below the flourishing threshold and the less demanding survival threshold is what matters primarily for justice here. Accordingly, this already outlines the shape of the justice principles that build on this close link between justice and flourishing. In this sense, it matters for justice that a being has the opportunity to flourish after its own kind, rather than achieving the maximum level of flourishing theoretically possible. Because of this distinction, I frame the justice requirement as not inhibiting flourishing instead of not harming flourishing because the notion of harm is more broadly applicable. Meaning that it seems problematic to define harm in the sense of a threshold because it does not solely capture everything that is regarded as harm (see [Hoozer 2008](#)). For example, reducing somebody's level of welfare is also considered to be a harm, but as long as it does not drag them below the flourishing threshold this does not necessarily have to concern us in the context of justice. I will expand on this implicit sufficientarianism when devising the corresponding justice principles. To recapitulate, a being can flourish – more or less – after its own kind, and there is a flourishing threshold that can be achieved. In the scenario of a community of all living beings – or more accurately of humans and wild nonhumans – justice is about

not inhibiting flourishing whereby flourishing constitutes some kind of full life.

The community of justice

Having laid out some foundations of ecological justice to wild nonhumans, we can finally turn to the step of analysis on which inquiries of ecological justice have focused primarily: who or what is included into the ecological community of justice? In addition to my (political) biocentric position, the considerations about the CoJ and the negative conception of justice, my main argument for the relational basis of this specific justice community is as follows, wherein the first three premises are merely a reiteration of one of the points in [Chapter 2](#):

- 1) being X is alive;
- 2) all beings that are alive have a good;
- 3) all beings that have a good can flourish
→ Therefore, X is able to flourish;
- 4) being Y is an Earthly being. This means the Earth is its only viable basis of existence;
- 5) if Y is also X, then it is able to flourish and it *needs* the Earth's environmental goods and ecosystem benefits (that is, ecological space) to do so;
- 6) there are many beings of the type XY
→ Therefore, all beings of type XY need to *share* the Earth.

The sharing of the Earth embodies a relationship of justice which is not generated by a semi-voluntary or hypothetical social contract but rather by the real world coincidence of simultaneous evolution. It does not matter whether one wants to describe the Earth as a lifeboat, a spaceship or the like; the basic intuition remains the same – that we living beings are a community of fate. This is an active, interdependent relationship which is implicit in its being a sharing relationship as opposed to mere coexistence, even though the condition of coexistence is a necessary prerequisite for this relationship. It is a community of fate because it rests on sharing the most fundamental basis of everyone's and everything's being without giving individual beings a choice in the matter. It is precisely because it is a non-consensual sharing of destiny that makes it a community of fate. This means that in order to live, all beings XY have to share something – the Earth – which is inextricably linked to themselves.⁶ It is important to note here

that sharing does not imply any form of ownership in this context. Hence, justice is not borne out of an ownership relationship here. On the contrary, the argument here is that justice can apply without any form of common ownership held by all beings towards the Earth (see [Chapter 8](#)). Rather, the unowned status of the Earth frees the way for ecological justice – for life in common.

The notion of sharing re-emerges sporadically in writings about interspecies justice (broadly conceived). For example, in an insightful passage Plumwood argues the following:

Reductive and Othering modes of conception herald other forms of injustice, such as distributive injustice, preventing the conception of non-human others in ethical terms, distorting our distributive relationships with them, and legitimating insensitive commodity and instrumental approaches. We must take much more seriously concepts of distributive justice for non-humans, as not inferior or lower in priority to human justice issues. Interspecies distributive justice principles should stress the need to *share the earth* with other species (including difficult and inconvenient ones like snakes, crocodiles and bears – animals that are predators of humans or of animals under human protection) and provide adequate habitat for species life and reproduction. (2002, p. 117, emphasis added)

Decades before distributive justice gained traction in environmental ethics discourse Paul Taylor had also already stated that:

[t]he principle of distributive justice requires us to devise ways of transforming situations of confrontation into situations of mutual accommodation whenever it is possible to do so. In this way we can *share the beneficial resources of the Earth* equally with other members of the Community of Life. (1986, p. 293, emphasis added)

For most people this might not be a sufficient reason to believe that justice is supposed to apply in this context, because, while there might indeed be a relationship that is observable here it still does not lead to considerations of justice. They might simply want to concede that it is necessary to at least take nonhuman interests into consideration. However, one needs to recall the aforementioned distinction between

distributing ecological space to nonhumans and depriving nonhumans of needed ecological space. To illustrate, humans do not own the Earth. The Earth is not owned but commonly inhabited by all species. Thus, by leaving enough ecological space for other species to live and flourish we, as humans, do not redistribute from the owners of these resources to some needy beneficiaries, but by taking more ecological space away than nonhumans would need we harm them by impeding their functioning and flourishing. This deprivation of ecological space that impedes flourishing appears *prima facie* to be an injustice. Whether it actually *is* an injustice is context-dependent as will be explained in [Chapter 5](#). Hence, regarding wild nonhumans we can settle on a negative sense of justice which only requires us not to inhibit flourishing.

Furthermore, this is a biocentric account which puts life – or being alive – at the centre of attention. Even if one denies that being alive in a common biosphere primarily characterised by interconnectedness while all needing scarce ecological space is a sufficient condition for generating duties and entitlements of justice, one might still have to grant it some importance in the broader domain of ethics, where life is due at least some moral respect (see for example Holmes Rolston III 2012). Nevertheless, I want to make here a more specific case: a biocentric account of justice. Following the argument set out earlier, all living beings have needs which refer to their ability to live and to flourish. It is these needs, held by living entities that pursue their own good, that are in competition for the Earth's goods. And it is because these needs refer to the same object – ecological space – and this object of need is clearly spatially circumscribed and without alternative – the Earth – that some kind of sharing arrangement needs to be found between all needy beings. Such an arrangement obviously cannot be actively negotiated by involving all beings that have a stake in its outcome, but from a human perspective the requirement is to take into account that all human usage of ecological space has an impact on the ability of other beings to live and flourish. The nonhuman usage of ecological space influences in turn what there is for humans to take (while assuming a finite planet). All living beings on Earth – beings that live and do not merely exist, have a good and can flourish – do not merely coexist on Earth by living independent lives but are bound together by a sharing relationship – a relationship that determines their fate. Therefore, the moral considerability of life and this sharing relationship that falls within the previously described CoJ are together enough to ground a biocentric account of interspecies justice to wild nonhumans.

Returning to the bigger picture, I hope it has become apparent, by now, that it is useful for approaches to ecological justice to follow a four-step justification process to cover the necessary ground for developing a justice framework. This process should help to consistently argue for the inclusion of nonhuman beings in the community of justice and thus to aid the separation of interspecies justice from the more general discussion of environmental ethics. So far, following this structure I have illustrated how my proposal for grounding distributive interspecies justice to wild nonhumans is based on specific accounts of the circumstances of justice and justice itself. The resulting community of ecological justice constitutes a community of fate built on a sharing relationship. And even though the remainder of this book will focus on spelling out this particular distributive justice relationship between humans and wild nonhuman beings, it should be clear that justice is also applicable to other human-nonhuman entanglements that emerge, for example, from farming practices and city living. More enquiry is required into these justice relationships as well which are distinct to my focus on just biological conservation. Now, continuing to elaborate on this account of interspecies justice, I will turn to what constitutes an appropriate currency of justice – ecological space – in [Chapter 4](#).

Notes

- ¹ 'Welfare interests' (in contrast to 'preference interests') is a concept that Baxter has adopted from David DeGrazia (1996).
- ² Of course, Armstrong (2012) might reject the point that justice can be distinguished from the broader realm of morality but that would go against a fairly widespread assumption in political theorising which has been defended by John Rawls (1971, 1996) among others.
- ³ I borrow here the term 'problem background' from Eric Brandstedt's (2015) discussion of intergenerational justice.
- ⁴ This section refers to Hume's discussion in *An Enquiry Concerning the Principles of Morals* (1751) and *A Treatise of Human Nature* (2003(1739–40)).
- ⁵ In many ways my position is compatible with Palmer's relational account of animal ethics, but a significant difference is that my negative interpretation of justice to wild nonhumans is relationship based, whereas for Palmer only duties to assist must have a relational grounding. Moreover, Palmer considers 'wild' animals to be 'outside of the realm of justice' (2010, p. 89). See also Paul Taylor's 'rule of noninterference' towards nature which he, however, distinguishes from his 'principle of distributive justice' which focuses on conflicts of 'basic' interests only (1986, pp. 172 and 270).
- ⁶ As indicated previously, the justice relationships between humans and domesticated or 'liminal' species will differ from this case. That does not mean that these relationships do not also involve such a sharing component. Rather it means that these relationships involve additional relational components that will shape the

quality of these specific justice relationships and, in turn, these will impact on the overall context of the sharing component in these relationships.

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The Currency of Distributive Justice

Having established that it makes sense to speak of a community of justice when describing the human-wild nonhuman relationship, we can turn to the question of which principles of distributive justice follow from this account. However, first we need to establish what constitutes an appropriate currency of distribution in this context. Or, putting it differently, first we need a clear identification of an appropriate metric – that is, a *distribuendum* – of distributive ecological justice, because it is not self-evident what the good that gets distributed is supposed to be in this context. Because distributive ecological justice has not received much attention to date, the literature cannot give us very much guidance on that matter. Brian Baxter (2005) only points to environmental resources (with an acknowledgement of the ecological footprint concept and the importance of territories), and Val Plumwood (2002) refers to environmental resources and land that need to be shared between humans and nonhumans. Yet in order to evaluate current practices in terms of justice, the currency of justice needs more specification if it is to be operationalised in terms of being measurable and consequently distributable. Moreover, it also needs to include all goods of distribution relevant in the sphere of interspecies justice which are not exhausted by the environmental resources concept.

Fortunately, the debate is already more advanced in the realm of environmental justice, broadly defined. When writing about global distributive justice, Tim Hayward (2005, 2006a) introduces the concept of ecological space as an alternative to the global justice literature on the distribution of natural resources (see Beitz 1979, Pogge 2007, Wenar 2008). Hayward originally defined ecological space as comprising ‘*all* the environmental goods and natural resources that play a part in the socio-economic life of humankind’ (2007,

pp. 445–6, emphasis in original), and the concept has consequently been adopted by other environmental political theorists (see Dobson 2003, Vanderheiden 2009, Peeters et al 2015). For example, Steve Vanderheiden (2009) has also argued that looking at global justice as a problem of how to allocate ecological space has a number of advantages. These advantages are, according to Vanderheiden, that it highlights the global nature of most environmental harms, allows for ‘robust analyses’ of intergenerational duties, and crucially ‘the analysis of anthropocentric obligations like those inherent in distributive justice can be made commensurable with duties of environmental ethics insofar as both involve allocating ecological space as the core means of satisfying their distinct categories of obligations’ (2009, p. 271). This is indeed the important bridge between environmental justice and ecological justice considerations that ecological space can establish. If environmental justice – which is already clearly established in the domain of the political in theory and practice – and ecological justice are two sides of the same coin, as I understand their relationship, then there needs to be some *common ground* that these two spheres of justice share, and ecological space as a *distribuendum* can constitute just that. This link enables us to then consider the relationship between environmental and interspecies justice, and in turn enables a more inclusive picture of justice on one planet.

Even though ecological space is a promising concept for theories of justice, it also has remained under-specified, and it is attributed a multitude of different meanings by different theorists. Thus, some analytical clarity is needed and, building on this literature, I will propose a definition of ecological space that is useful for our specific problem-context. Importantly the resulting definition simultaneously allows it to function as a *distribuendum* for theories of environmental *and* ecological justice. For this purpose, as currency of justice it needs to be expanded to take into account environmental benefits and burdens beyond natural resources (Bell 2015). In this manner ecological space can shed the anthropocentric connotations of its initial interpretations without losing its analytical benefits in the sphere of social justice. The challenge is that, on the one side, ecological space needs to be a concept specific enough in order to be more content-laden than just referring to manna from heaven, but also needs to be wide enough to encompass more than merely what is valued by humans in order to be applicable equally to both spheres of green justice – that is, environmental and interspecies theories of distributive justice.

I will refer to ecological space as ES in the following sections. I begin with providing a short survey of how the concept of ES has been used

in environmental political theory and how it relates to similar concepts. Based on this, it is possible to propose that green theories of justice should understand ES as the (potential) benefits provided by the Earth's life-support systems (as, for example pollination) *and* physical resources such as land, and non-renewable and renewable natural resources. In the second section I will then explain why this is an appropriate distribuendum for green theories of justice and indicate how such an understanding of ES might be operationalised in order to assess real world distribution problems.

Different interpretations of ecological space

The term ES is used in several contexts in ecology, geography and political theory. Even though within all these contexts the outer structure of the concept remains the same by referring to some amount, or range, of ecological benefits and environmental parameters *via* a space metaphor, the actual specific content of the different ES definitions varies. As a consequence, ES seems vague, which prevents it from being as useful as it could be for green theories of justice. However, as already said, if clearly specified it could be a promising way to bridge the divide between justice theorising about humans and nonhumans. For this purpose, let us survey how ES has been understood in the environmental political theory literature and see what perspective offers the most potential for bridging the gap. Four different meanings predominate:

- 1) ecological space as what is specifically (and maybe only) measured by the ecological footprint indicator;
- 2) ecological space as environmental services;
- 3) ecological space as environmental services and (material) goods, that is, natural resources;
- 4) ecological space as describing a species' ecological niche.

Primarily, the concept of ES has been championed and made popular in the field of political theory for more than a decade by Hayward (2005, 2006a, 2007, 2015). As mentioned, his target of critique was the global justice literature on the distribution of natural resources, and he initially proposed ES as an alternative to considering the distribution of natural resources because of its closer link to global inequalities in wealth.¹ In Hayward's earlier writings on the topic, he focuses on natural resources and their human use, and argues that natural resources should be 're-conceptualised in terms of "ecological space"'

(2006, p. 349) and understood to ‘include environmental services and energy’ (2006, p. 357) according to meaning (3).² In more recent work, he also draws on ecological science, and conceptualises ES more abstractly, and in less human-focused terms, ‘[a]s what is provided for particular species or populations by their ecological *niche*’ (2015, p. 2, emphasis in original). This is meaning (4). In practice, Hayward sees the ecological footprint indicator as an appropriate methodology for measuring ES usage, which I have categorised as meaning (1). According to Mathis Wackernagel and William Rees, who developed the ecological footprint indicator, the ‘[e]cological footprint analysis is an accounting tool that enables us to estimate the resource consumption and waste assimilation requirements of a defined human population or economy in terms of a corresponding productive land area’ (1996, p. 9). For theoretical purposes, Hayward then in turn advocates that ES ‘should be conceived as the ongoing initial appropriation of nature by humans’ (2006, p. 360), based on which he argues that a Lockean sufficiency proviso to ‘leave enough and as good’ should apply to these acts of initial appropriation. This then leads him to argue for an equal per capita right to ES globally (Hayward 2006a). We will look more closely at this specific claim in [Chapter 5](#).³

Yet, returning to the notion of an ecological niche, it seems that within Hayward’s own account of ES his linking of this concept to the idea of an ecological niche is the feature that does not fully add up. On the one side, he paints a resource-based picture of ES with a focus on environmental goods and services that humans use (see Hayward 2005, 2006a, 2007). On the other side, he refers to the concept of an ecological niche (see Hayward 2015) which holds several connotations in the field of ecology. In ecology, the term ecological niche can refer to the ‘recess niche’, the ‘population-persistence niche’, or the ‘resource-utilisation niche’ (Schoener 2009). Hayward’s understanding of an ecological niche is based on the population-persistence niche first proposed by G.E. Hutchinson which allows for the distinction to be made between a *fundamental* niche – ‘the general conditions functionally required for its persistence and reproduction’ – and a *realised* niche – ‘the actual, realized, circumstances that pertain for a given population’ – of a species (Hayward 2015, endnote 7, p. 12). This then allows Hayward to nicely illustrate humanity’s unsustainable practices as an expansion of their realised niche, which ‘requires large and continual subsidies of energy, food and other resources’ (Freedman 2016 quoted in Hayward 2015, p. 3).

Even though, at first sight, the insights from ecology appear to enrich the ES concept, there remains a lingering tension in

this two-dimensional understanding of ES. My contention is that requiring energy, food and other resources understood as ES *in order to increase* humanity's realised niche is not identical to understanding humanity's ecological niche *itself* as ES. Putting it differently, Thomas Schoener states that 'Hutchinson formulates the ecological niches as a quantitative description of the range of environmental conditions that allow a population to persist in some locations'; such environmental conditions being, for example, temperature and humidity (Schoener 2009, p. 4). These environmental conditions, however, do not play a role in the more resource-based ES definition that Hayward initially defended. Hence, it seems that, in political theory at least, a choice has to be made regarding what ES refers to. For the sake of clarity, it appears that *access to certain resources or ecosystem benefits* such as coal or clean air, which can be deemed useful by individual beings, should not be confused with *environmental conditions*, such as temperature, which set the boundaries of where and when certain species can persist. Of course, not all environmental goods and services have value for all kinds of living beings. Mineral non-renewable resources are an example of an environmental good that is only deemed valuable by humans; and only during the most recent section of human history. If the aim is to consider how to distribute ES between people and between species, it needs a more singular meaning – not in all fields of enquiry but definitely within a theory of justice.

Other theorists have also considered ES as a currency of justice. Like Hayward, Vanderheiden understands ES as 'life-supporting natural resource-based goods and services, conceived in spatial terms' (2009, p. 257). That is again meaning (3). He also refers back to the ecological footprint as the appropriate measurement of ES (meaning (1)) and thereby perceives the ecological footprint to imply 'a normative ideal of global resource egalitarianism' (Vanderheiden 2008, p. 435). The main innovative feature that Vanderheiden adds to Hayward's perspective is that he conceptualises ES as 'space for autonomy', within which individuals, that is, humans, 'can act according to [their] own view of the good' (Vanderheiden 2009, p. 257), which introduces a new perspective into liberal justice. Hence, both Vanderheiden and Hayward argue for global resource egalitarianism by invoking the ES concept. In doing so, Hayward puts emphasis on how using ES is a form of 'initial appropriation'; something that libertarians have traditionally (but not exclusively) been especially concerned with. In contrast, Vanderheiden tries to show how his global resource egalitarianism can be integrated into the tradition of liberal justice.

Another different but related perspective on ES is provided by Peeters, Dirix and Sterckx (2012, 2015). They propose an integration of thinking about ES and the capabilities approach in order to gain, in their words, ‘a comprehensive account of equitable and sustainable distribution’ (Peeters et al 2015, p. 481). Their account combines the ES idea to account for sustainability and the capabilities approach to stress the importance of individual freedom (see Chapter 6 for a critique of the latter). A combination of this is what they recommend as the appropriate *distribuendum* in a theory of distributive justice. They do not go into details on what such a hybrid currency of justice would look like, but in the context of their discussion that specifically considers issues of environmental and interspecies justice as I understand them – though not labelled by them in this way – it seems that they only consider ES as the *distribuendum*, and the capabilities approach merely as a guide on how to distribute ‘the *material conditions*, which ultimately rely on ecological space’ (2015, p. 489, emphasis in original). Still, as will be discussed later, it is helpful for analytical clarity to keep the means and ends of distributive justice distinct, which does not seem to be easily compatible with what Peeters et al try to achieve with their hybrid *distribuendum*. Nevertheless, they work with a broad understanding of ES that encompasses all ‘provisional, regulating, cultural, and supporting services that ecosystems and the Earth as a whole deliver’ (2015, p. 482). That is meaning (2), because their focus appears to lie on environmental services rather than resources. Regarding measuring ES, they also point to the ecological footprint (meaning (1)), but in addition to greenhouse gas emission permits and the ‘Safe Operating Space for Humanity’ (see for the latter Rockström et al 2009).

A further example of ES being discussed in a political theory context is provided by the work of Andrew Dobson. In his *Citizenship and the Environment*, Dobson (2003) argues for ‘ecological citizenship’ which gives rise to citizenship rights and obligations for (all) humans.⁴ Based on this position, he argues that ‘obligations of ecological citizenship are due to anyone who is owed ecological space’ (2003, p. 120), and the main obligation for individuals – that is, humans – to fulfil is to have sustainable individual ecological footprint levels that do not exceed the total available ES on Earth when aggregated (see meaning (1)). It is important for Dobson to distinguish between the causal impacts of individuals’ ecological footprints, which bring about obligations of ecological citizenship, and the global ‘moral community’ which might generate moral prerogatives independently of causation.⁵

In all four examples sketched so far, the theorists concerned with ES consider it in conjunction with the ecological footprint as an appropriate operationalisation. This is because the analysis that generates the ecological footprint indicator draws on several categories of ES – understood in the literal sense of space as actual sections of the surface of the Earth. These are ‘arable land, pasture land, built/degraded land, forest land, productive seas space, energy land and biodiversity land’ (Chambers et al 2000, p. 61). Biodiversity land, for example, is defined in this analysis as ‘the land needed to ensure the protection for the planet’s 15 million, or so, non-human species’ (2000, p. 63).

Of course, there are also other accounts written in the same spirit as our four examples that focus on ES, but which do not actually refer to the idea of ES itself. Fabian Schuppert’s (2012) argument for a universal right to the benefits of life-sustaining ecosystem services is such an example. Schuppert emphasises the difference between ecosystem services and specific *physical resources*, and conceptualises *natural resources* in terms of ecosystem services. Ecosystem services can be subdivided into the categories of provisioning, regulating, cultural and supporting ecosystem services. While supporting ecosystem services (as for example soil formation) uphold the other three kinds of services, Schuppert deems only provisioning ecosystem services (such as generation of wood and so on) and regulating ecosystem services (such as pollination and climate regulation) as actual ‘life-sustaining’ services towards which his universal right applies (Schuppert 2012). This universal right, in turn, would then be a constraint on distributive claims towards specific physical resources (for example land or non-renewable mineral resources) towards which this universal right does not apply. If Schuppert’s account would be framed in terms of ES, he might argue that his universal right applies to ES defined as ‘life-sustaining’ environmental services in line with meaning (2).

Before turning to more substantive matters, it is useful also to discuss briefly the terminology surrounding the ES concept. It has two main competitors: environmental space and eco-space, and the similarity of their names likely creates some confusion. For one, *ecological space* and *environmental space* are often used interchangeably (such as in ecology) which makes it sometimes difficult to navigate the conceptual waters. However, in other discourses environmental space is also the name of a sustainability indicator on par with the ecological footprint. In this context, environmental space is not a single indicator but rather a ‘set of resource consumption indicators’, each with its own yardstick of what is considered sustainable (Chambers et al 2000, p. 21). The ecological footprint, on the other hand, is an aggregate indicator in which several

dimensions of resource use are integrated. Hence, this understanding of environmental space embodies a set of measurements that try to make claims about sustainable/unsustainable practices and, therefore, operates on a different level than ecological space, which embodies a more general idea of the Earth's capacity, as illustrated by how it is employed by political theorists. Therefore, environmental space is an indicator – that is, a measuring tool – that stands in contrast to ES which is a more general concept that can potentially be measured to a degree using such indicators as environmental space.

The relationship between *eco-space* and ES is less clear. The *eco-space* concept appears in Rafael Ziegler's work, and it is not immediately obvious how he understands its relationship with ecological space. At first it seems that Ziegler (2007), who critiques Hayward's ES proposal, equates ES with *eco-space*. However, in the same paper he traces ES back to Hans Opschoor (1992), who originated the *environmental space* indicator, and to reports by the Friends of the Earth, even though these reports are also associated with the environmental space approach. This confusion is clarified in a later publication in which Ziegler (2009) distinguishes between *Umweltraum* – that is, environmental space – and *footprint space* which is based on the ecological footprint indicator, which is in turn usually linked to ES. Hence, it seems that Ziegler understands *eco-space* as a superordinate general concept that spans over an array of different sustainability indicators and measurements. This is how I will argue ES should also be understood.

A new definition

Given all these different understandings of ES in environmental political theory, which definition is the most appropriate? As hinted at earlier there are at least two criteria that must be fulfilled. On the one side, ES needs to be a concept more specific than manna from heaven, but on the other side it needs also to be wide enough to encompass more than merely what is valued by humans in order to be applicable to environmental *and* interspecies justice. So how do the four different meanings of ES found in the literature help us here?

The problem is that none of these definitions of ES is able to fulfil both criteria for the following three reasons. Firstly, if ES is merely understood as what is measured by the ecological footprint indicator (meaning (1)) then it remains an inherently anthropocentric concept, since it only focuses on what is needed by *humans* and thus it can only measure ES in terms of human use. Even though it allows for taking into consideration nonhuman interests by setting aside ES for

biodiversity as ‘biodiversity land’ (Chambers et al 2000), ES is still mainly conceptualised as what is valuable for humans, such as agricultural or energy space. In order to also be applicable to interspecies justice, the close ties between ES and the ecological footprint have to be loosened. This does not mean that ES cannot be operationalised by the ecological footprint; rather, ES should be understood as a superordinate general concept which spans over an array of different sustainability indicators and measurements including the ecological footprint, similar to how Ziegler (2009) appears to understand eco-space. Later we will look at some ways of how such a wider understanding of ES can be operationalised – that is, how ES can be applied to the distributional conflicts in the real world.

Secondly, again regarding the second criterion, the concept of ecosystem *services* (meanings (2) and (3)) is too anthropocentric to describe the content of ecological space. This is because ecosystem services are usually understood as ‘the conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfil human life’ (Daily 1997, p. 3). Again, this does not help us when aiming to provide a definition of ES that can also be meaningful in the nonhuman context. Therefore, an alternative non-anthropocentric framing of what is usually understood as ecosystem services would be *the (potential) benefits provided by the Earth’s life-support systems to living beings*, as the focus then lies on what is needed by life in general, rather than by human life in particular. The qualification ‘potential’ indicates that what we are after is the full theoretical amount of such benefits at a given moment in time, rather than what is actually being benefited from at that moment.

Thirdly, from a distributive justice perspective it does not seem useful to understand ES as what is provided by each species’ niche (meaning (4)). This is because the concept of an ecological niche – as Hayward (2015) seems to use it – entails the wellbeing of each species *and* what resources and ‘services’ are needed for the wellbeing of each species. In other words, besides the fact that the ecological niche concept makes reference to the environmental conditions under which a certain species can live well, it also judges what benefits provided by the Earth’s life-support systems and physical resources are needed for a species’ wellbeing. If, however, ES is supposed to function as a distribuendum within a theory of distributive justice, a clearer distinction needs to be made between what is distributed and how the distribution should look. For the purpose of analytical clarity this seems to imply that the ecological niche concept obscures this distinction, and that ES should rather be limited to what is needed for wellbeing (the currency of

justice). How ES then converts into wellbeing, and how it should be distributed, should be an issue addressed by a different part of a green distributive justice theory: the principle(s) of justice.

Overall, ES has to be limited to, but also encompass, most that is needed for the wellbeing of all kinds of life on Earth in order to fulfil the two criteria discussed. This leads to an understanding of ES as the (potential) benefits provided by the Earth's life-support systems (such as pollination) *and* physical resources (such as land, non-renewable and renewable natural resources). With the wellbeing of living beings in mind, that leads us to also including physical resources in addition to system benefits in our definition, because all living beings require some amount of land, or three-dimensional space, which counts as a physical resource. If that were not the case, then there would be no need to debate the size of nature reserves or the amount of private and green spaces people living in large cities need to minimise the burden of the stress of modern living conditions. Moreover, most humans' wellbeing is dependent on the use of non-renewable physical resources, at least for the time being. That does not apply to everyone but many people are heavily reliant on this type of physical resources to provide the basis for their ability to live a flourishing life and to even survive. Therefore, it seems necessary to conceptualise ES as both the benefits provided by the Earth's life-support systems and physical resources, because it can then embody the most basic instrumental goods that different kinds of living beings need in order to live their lives.

Ecological space as a currency of justice

If ES, understood in this way, is the appropriate distribuendum for green theories of justice, then it is useful to shed some light on the different ways in which individual beings can interact with it and thereby influence its distribution. I propose that there are at least four relevant dimensions in this context: using, generating, degrading and being.⁶

The *using* ES dimension is where the focus of discussions has been targeted so far; questions of who uses how much and how the distributional patterns of ES can constitute fair shares. In the using context, Hayward (2015) distinguishes between using, occupying and commanding a share of ecological space. Literally, using ES here means the use of ES passively or actively by an individual to sustain its body and pursue its projects. Occupying and commanding operate on a more abstract level and link to property rights. According to Hayward, the occupation of ES refers to the normative ability to exclude others from a particular share of ES without necessarily having to use it, because

it is backed by social norms about holding property. Command of ES differs from occupation by implying a potential, rather than an actual, occupation of ES by holding ‘a power to create or extinguish rights of exclusion’ via, for example, one’s purchasing power (Hayward 2015, p. 7). Hayward’s analysis aims at illuminating the different aspects of ES distribution between humans, and hence he refers to social norms that bring about property rights that translate into occupying and commanding ecological space. Therefore, occupying and commanding ES refer to *actual* property rights for Hayward and this nicely illustrates one of the ways that ES can be conceptually linked to social institutions. In contrast, as I will expand upon in [Chapter 8](#), *natural* property rights that are often attributed to humans are rather problematic if the interests of nonhumans are taken into account. For example, accounts that claim that humans hold a common ownership of the Earth are problematic because they provide normative legitimacy for human occupation and command of ES vis-à-vis nonhumans. Hence, when taking nonhumans into account, it is not just the actual human use of ES that matters; it is also important to consider how such use by humans is supposedly supported by claims that attribute vast normatively justified powers to humans to occupy and command ecological space.

The second dimension of ES interactions is the *generation* of ecological space. Some parts of ES are constantly renewed – these are the aforementioned benefits provided by the Earth’s life-support systems. These systems, however, rely heavily on the ‘labour’ of many living beings in order to function, like, for example, the degradation of waste by billions of bacteria or the provision of oxygen by the photosynthesis of plants. Thirdly, as it can be generated, ES can also be *degraded* which reduces the overall amount of ES available and, in the most extreme scenario, putting too much stress on the Earth’s life-supporting systems can even lead to their collapse. This possibility shows that a distinction needs to be made between simple use and degrading use of ES which leads to a reduction of available space that could be used by future human and nonhuman beings. The use of ES that causes degradation, in turn, includes all kinds of ES usage that are environmentally unsustainable.

The last notable dimension of ES interactions is *being* ecological space. For example, human bodies *are* themselves ES by providing the habitat of many different species of bacteria which either merely live on us, or live in symbiosis with us during our lives. Later on, human bodies turn into a different kind of ES that nurtures other living beings after death. Acknowledging that humans do not just use but also are themselves ES helps to revise the human-nature dualism entrenched

in modern Western thinking which perpetuates the degradation of ecological space. As Val Plumwood argues, ‘an ecological understanding of the self can point towards such reshaping narratives and practices’, which she understands as a ‘more fluid and embodied concept of self and its boundaries’ (2008, p. 328). One route to such an ecological understanding of the self is becoming aware that humans are not just at the receiving end of distribution but also instrumental to the flourishing of other beings as habitats and food. In [Chapter 5](#), I will explain why there are good reasons for excluding human bodies from distribution, despite constituting ecological space, but the relevant point here is that being aware of humans’ bodies being included into the Earth’s ES as well as the generating ES dimension encourages a less dualistic perspective of what is perceived as the Earth. In other words, it encourages a more ecologically sound imaginary and, similarly, Hayward argues that the ES concept ‘can support and inspire a particular *way of seeing*’ (2015, p. 2, emphasis in original). This is useful insofar as both environmental and interspecies justice can gain from a non-anthropocentric vision of the world.

In contrast to being and generating ecological space, the using and degrading dimensions are more immediately practically relevant for considerations of distributive justice as they, among other things, can be measured, and thus, distributed or ground calls for compensation. Therefore, when considering whether ES is an appropriate distribuendum for environmental and interspecies justice, the focus lies primarily on the using and degrading dimensions of interaction. For example, distributive justice can make sense of fair shares of ES use and the injustice of ES degradation. However, what is considered just is in turn informed by an attitude to nature that should be informed by the generating and being ES dimensions.

This shows how ES fits into the distributive justice context but, so far, I have taken it as a given rather than given reasons for why ES is supposed to be an appropriate distribuendum for green theories of justice in the first place. Five (not necessarily exhaustive) points give us good grounds for focusing on ES instead of potential alternatives. Firstly, in comparison to the global justice literature on natural resources, ES is more inclusive than only focusing on natural physical resources because it better tracks all the environmental goods and life-supporting systems that humans and other living beings actually use. As has been already convincingly argued by Hayward (2006a), global environmental justice should focus on ES instead of natural resources because of its closer connection to actual economic value, and hence global inequalities. Accordingly, in the case of global environmental

justice at least, I will assume that a strong case for ES has been made. Regarding interspecies justice, it seems fairly apparent that focusing on physical resources alone provides only a limited picture of the human–nonhuman distribution conflicts. If the distribuendum of interspecies justice were limited in that manner, it could only account for the uneven distribution of habitat which does not exhaust the relevant distribution conflicts. Having said that, habitat distribution is an important conflict within this realm, which is why that is also the problem that will be looked at closer in [Chapter 9](#).

Secondly, ES is a broad enough concept to allow for individual differences between how it is used by humans. For example, a theory can prescribe equal shares of ES for each individual human and would still allow people to have different kinds of ES usage as long as their usage adds up to the same overall amount. As we have seen, this appears to be one of the reasons Vanderheiden (2009) supports ES as the appropriate distribuendum between humans.

The third reason is that considering ES as a currency of justice allows for maintaining a distinction between resources and welfare; if ES is defined as I have proposed earlier. If what is needed for wellbeing *and* the wellbeing of individual living beings are conflated into one single currency of justice, then it becomes difficult to distinguish between ecological space, which is finite, and the wellbeing of individuals. Their wellbeing is dependent on ES but potentially exceeds what can actually be provided by the ES available. As discussed previously, how ES converts into wellbeing and how it should be distributed should be tackled by the principle(s) of justice instead of the currency of justice itself. It is important to distinguish between what *is* – that is, ES as the currency of justice – and what ideally *ought* to be – the ES needed for wellbeing. For example, just because there ought to be a certain amount of ES to satisfy all relevant needs does not mean that the required amount of ES is actually available, which is precisely where considerations of justice can come in as a normative guide. A distinction needs to be kept between what can be distributed and how it should be distributed which links back to the problem of scarcity. If what is needed for the minimal wellbeing of individuals provides the lower boundary of sufficiency, then the upper boundary is given by the available ES (for a range of perspectives on sufficiency see Spengler 2016). Both thresholds can then inform the principle(s) of justice, but they are not identical. This distinction is obscured by the hybrid currency of justice – combining ES with the capabilities approach – proposed by Peeters et al (2015) and by Hayward’s (2015) conceptualisation of ES as what is provided by ecological niches,

because the concept of a niche refers to both – the available ES and what resources are required.

Fourthly, and crucially, ES provides a linkage in the form of a common ground between environmental and interspecies distributive justice when it is understood according to my definition. If environmental and interspecies justice are understood as two sides of the same coin constituted by ES and symbolising living on Earth justly and sustainably, then ES can embody a *distribuendum* that (1) is applicable to both domains; (2) is general enough to cover most interactions living beings have with the Earth; and (3) therefore allows for more integration of these two domains of justice. In turn that means that ES allows for comparisons between these two dimensions of justice and thereby enables the analysis of distributional conflicts between humans and nonhuman beings.

Lastly, ES – more specifically, the using and degrading interactions of individuals with ES – can be operationalised. That is useful insofar as it allows theories of environmental and interspecies justice to make assessments of actually existing distributional patterns and actual use of ES, and then make concrete recommendations to achieve a more just distribution. This means that ES is not a sustainability indicator itself, but that it can be operationalised *via* a range of such measuring tools which are indicators that can *approximate* ES.

Operationalisation

As we have seen, most mentions of ES consider it in conjunction with the ecological footprint as an appropriate operationalisation. This is because the analysis that generates the ecological footprint indicator draws on different kinds of ecological space understood as different kinds of land use.⁷ However, the ecological footprint indicator is only a useful operationalisation of one of the four dimensions of ES interactions; namely the use of ES by humans, due to the kinds of ES use it includes in its calculations.⁸ Because the ecological footprint indicator provides a snapshot in time of (some) use, it also cannot account directly for the degradation dimension which stretches across time. Moreover, it is not able to track all the different kinds of human ES use, such as fresh water use (Hoekstra 2009).⁹ Hence, measuring ES via the ecological footprint will not provide all information needed for considerations about justice because it is not able to track all relevant dimensions of ecological space.

In order to provide a more complete picture, complementary measurements are needed. The following two indicators seem to be

helpful additional indicators, but this is only meant as an initial general overview that needs to be developed in order to provide a more detailed approximation of ecological space as defined previously. Firstly, the HANPP (Human Appropriation of Net Primary Production) indicator, complements the ecological footprint by being able to tackle – at least to a degree – the degradation dimension of ES interactions. First introduced by Vitousek et al (1986), it is an ‘aggregate indicator of pressure on biodiversity’ by considering how much area is used by humans as well as considering how ‘intense’ the use of that area is (EJOLT 2013). An important difference between the ecological footprint and HANPP is that the HANPP can show how *intensely* an area is used by humans – a way of illustrating ‘human domination’ – whereby the ecological footprint measures *how much* ‘area’ is used exclusively by humans (Haberl et al 2004). Because high levels of intense use correlate with degradation of ecological space, the HANPP is able to illuminate this particular dimension of ES interactions, and this sustainability indicator therefore appears particularly relevant for interspecies justice considerations.¹⁰

For global environmental justice, in turn, *ecological debt* can introduce the historical dimension of unequal use which the ecological footprint cannot provide. According to Paredis et al (2008), a state’s (here: country A) ecological debt comprises:

- 1) ecological damage caused over time by country A in other countries or in an area under jurisdiction of another country through its production and consumption patterns, and/or;
- 2) ecological damage caused over time by country A to ecosystems beyond national jurisdiction through its consumption and production patterns, and/or;
- 3) the exploitation or use of ecosystems and ecosystem goods and services over time by country A at the expense of the equitable rights to these ecosystems and ecosystem goods and services of other countries or individuals. (2008, p. 40, emphasis of original not retained).

Based on this definition, Gert Goeminne and Erik Paredis (2010) provide a ‘quantification methodology’ in order to turn the ecological debt concept into an indicator of the unequal historical ecological impact of countries. Their methodology, based on material flow analysis, tracks ecological footprints and environmental space over time to account for usage, and combines these with ‘indicators for

pollution, depletion and degradation’ in order to account for ecological damage (2010, p. 703, Fig. 1). The resulting metric is able to account for ‘ecologically unequal exchange’ (see Martinez–Alier 2002) as well as overuse of (some) ES in terms of justice.¹¹

Of course, the reliance on different indicators for measuring ES comes with dangers. As Ziegler points out, ‘[t]he shift from disagreement on values to agreement on measurements is in practice an empowerment of those who set the (measurable) criteria’ (2009, p. 170). Thus, relying on measurable indicators generates complicated questions about power and epistemology, which will have to be set aside for now because they would involve a considerable detour. Keeping the problematic features of relying on measurements in mind, the decisive beneficial feature of measurement tools for my purpose is that they have the potential to give green distributive justice means to make more concrete judgements in specific cases and, thus, give it more discursive weight.

Before moving on to discuss what principles of justice follow in Chapter 5, I would like to reiterate the key point: there are good reasons for green political theorists to understand ES as the potential benefits provided by the Earth’s life-support systems and physical resources, such as non-renewable and renewable natural resources. This understanding of ES is determined enough to function as a *distribuendum* within a theory of justice, but broad enough to be applicable to both environmental and interspecies justice. As we will see in the following chapters, ES provides the necessary link between these two domains of distributive justice – their interactions and conflicts – to be able get a more complete picture of the distributive justice relations that regard the material conditions of life on Earth.

Notes

- ¹ In particular, Hayward critically engaged with the theories of Thomas Pogge who argues for a ‘Global Resources Dividend’ to redistribute wealth globally, and Charles Beitz who argues for an ‘international original position’ (see Hayward 2005, 2006).
- ² Hayward attributes this understanding of ES to work by the ecological economist Nicholas Georgescu-Roegen (1976) who called attention to the significance of the second law of thermodynamics. As John Dryzek explains, ‘[t]he fact that there is only a limited supply of low entropy or order on this planet has major economic implications. Low entropy is really the ultimate form of *scarcity*. It exists in mineral structures, concentrated fossil fuels, in ecosystems; but human economic activity is running down the supply of low entropy’ (2013, p. 34, emphasis added). Thus, this background of the ES concept should be kept in mind with an eye towards the problem of scarcity that will be discussed in Chapter 5.
- ³ See Ton Bührs (2009) for a critique of Hayward’s proposal. However, Bührs who argues for framing the sustainability debate in terms of *environmental space* (≠

ecological space, ecological footprint) appears to misrepresent Hayward's proposal, because he attributes to Hayward and the ecological footprint indicator the inability to make per capita comparisons, which is exactly something that both Hayward and the creators of the ecological footprint aim to provide.

- ⁴ Note that Dobson is unconvinced by the idea of interspecies justice and hence considers only humans to be part of the 'citizen community' (2003, p. 88).
- ⁵ Dobson (2006) understands this to ground a 'thick cosmopolitan' theory of global justice.
- ⁶ Arguably, there are also additional ways in which individuals interact with ES such as *maintaining* or even *strengthening* existing ecological space.
- ⁷ For a critique of the ecological footprint indicator see G. Cornelis van Kooten and Erwin Bulte (2000) and Nathan Fiala (2008).
- ⁸ The ecological footprint indicator's usefulness for considerations of ecological justice is limited because it is only indirectly related to biodiversity. However, it is used in practice as a measure of pressure on biodiversity (Global Footprint Network n.d.).
- ⁹ The *water footprint* – introduced in 2002 – is a complementary measurement to the ecological footprint indicator (Global Footprint Network n.d.).
- ¹⁰ In addition, *BioScore* is a 'biodiversity impact assessment' tool that was first introduced in 2009 and is still being developed (Hendriks et al 2016, p. 4).
- ¹¹ See Warlenius et al (2015) for a discussion of the link between ecological debt and environmental justice.

The Principles of Distributive Justice

In the context of a multitude of environmental crises and in regard to considerations about distributive justice in particular, it has become apparent that the circumstance of scarcity plays an important role for the articulation of appropriate principles of justice. Based on the assumption that ecological space is (to a degree) finite, considering different scarcity scenarios becomes highly relevant in order for considerations of distributive justice to be able to make recommendations for a world shaped by scarcity, which in turn is where distributive justice becomes most salient. This issue is the focus of this chapter.

Despite the preparatory reflections in the previous chapters, there is still a lot of ground to cover. I begin by looking more closely at the character of scarcity of ecological space in the first section and then turn to the demands of environmental and ecological justice in moderate scarcity scenarios. Based on this, I will introduce a grid of different principles of justice that follow from different, more demanding, scarcity scenarios in section three. Finally, in section four, I will sketch some of the theoretical space surrounding this distributive justice framework by highlighting, among other things, its links with environmental virtue ethics.

Scarcity of ecological space

As discussed in [Chapter 3](#), there is an influential paradigm in political theorising according to which distributive justice is only considered in circumstances of moderate scarcity where all needs could theoretically be met. Yet we also want a theory of justice to account for situations where scarcity is more severe. As argued by Donald Hubin, *moderate* scarcity is not even an accurate description of the circumstance of

moderate scarcity underlying most theories of distributive justice because ‘while goods are assumed to be scarce relative to desire for them, they are abundant relative to our minimal needs’ (Hubin 1989, p. 185). Thus, Hubin concludes that moderate scarcity ‘might as well be called “moderate abundance”’ (1989, p. 185). Thus, the concept of moderate scarcity is actually not really about actual scarcity at all. This is troublesome insofar as material scarcity is one of the main complications of distributive justice in particular and, in general, a major obstacle to achieving some kind of sustainability, an important feature of which is the acknowledgment of limits. When also taking into consideration that a large number of human and nonhuman beings live on this finite planet, dependent on what it provides, then the issue of scarcity becomes unavoidable.

Consequently, what are the implications for global distributive justice once we stop assuming that we live in a world with abundant, limitless resources? Relevant to this issue, Andrew Dobson argues that:

economics has paid much more attention to the distinction between, and implications of, full worlds and empty worlds than political theory. Economics has its critiques of empty world scenarios and has articulated its full world alternatives to a degree that political theory has not even begun to imagine. So much political theorising is done as if scarcity was only ever a local and contingent problem – and this is reflected in the fact that scarcity-thinking is confined to a relatively small and relatively independent field of political theorising: social and distributive justice. The task for political theory is arguably the same as that which [Herman] Daly outlines for economics: “As the world becomes full of us and our stuff, it becomes empty of what was here before. To deal with this new pattern of scarcity, scientists need to develop a ‘full world’ economics to replace our traditional ‘empty world economics’”. What might a “full world” political theory look like? (2013, pp. 249–50; with citation from Herman Daly 2005, p. 102)

Dobson might be even too charitable in his assessment of what resembles scarcity blindness in political theory. *Actual* scarcity does not feature in most discussions of distributive justice besides being implied in debates of intergenerational justice – where current generations might leave conditions of scarcity for future generations – or considered in debates in bioethics, such as the distribution of donor organs (for the latter see

for example Alvarez 2007). It is quite surprising how little has been written on the topic of scarcity considering the large body of literature on the topic of distributive justice – even if it is only a subsection of political theory overall.¹ Thus, in light of environmental limits it falls to green political theory to urgently fill this theoretical void.

From this follows, as put by Derek Bell, that ‘a theory of *justice on one planet* – that is [...] a theory of environmental justice or of ecological justice – will be significantly different from theories of justice that have dominated liberal political and moral theory for the last fifty years’ (2015, p. 2, emphasis in original). In particular, important for my argument in this chapter is his claim that:

liberals assume that the environment currently provides circumstances of moderate scarcity [...] and that these circumstances can be maintained indefinitely in the future [...]. This assumption reflects the liberal failure to take seriously the dependence of the economy on an “earth-ecosystem” that is “finite, non-growing [and] materially closed”. (2015, p. 10; with citation from Herman Daly 1995, p. 451)

Hence, based on these assessments of the neglect of political theorising of the environmental conditions in which human life is embedded, and the acknowledgement that distributive justice is applicable to scenarios that are scarcer than moderate scarcity, the conclusion follows that it is not only possible but also necessary to consider the impact that scarcity has on moral theories and intuitions. In other words, how do the distributive justice principles developed under the assumption of moderate scarcity change in order to reflect the more conflictual reality of actual scarcity?

Before assessing this question, I would like to return to our *distribuendum* for a moment. As discussed in Chapter 4, ecological space is the appropriate currency of distribution for theories of environmental and ecological justice, and it should be understood as the potential benefits provided by the Earth’s life-support systems and physical resources. This definition implies, as we have seen, that living beings are themselves ecological space in that they provide the basis of life for many other living beings. Trees, for example, constitute an important resource for humans. Human bodies, on the other hand, constitute an important resource for many nonhuman beings. Among these are, for example, certain bacteria that are specialised to live on human hosts. In the words of Eileen Crist, ‘[t]here’s ceaseless feeding

on one another and on each other's by-products, as well as co-molding of physical and chemical environments in which more life is supported to flourish' (2014, p. 3).

The complexity of this picture of ecological space has two implications for how it can be considered as a *distribuendum* within theories of distributive justice. Firstly, as Marcel Wissenburg (1993) has pointed out, we need to be aware of the different functions nature can have in the domain of distributive justice. According to him, all nature can take the function of a resource of distribution – that is, as a *distribuendum* – but nature (excluding humans) cannot be a distributor of justice, and only sentient nature can be a recipient of justice. Putting aside whether Wissenburg has good reasons to include or exclude parts of nature from these functions, his distinction is nonetheless important because it illustrates the implicit power relations within the justice game. The role or function an entity is ascribed within the domain of distributive justice can have considerable implications for its existence.

Wissenburg's denial of the status of distributor of justice to any entity other than humans seems to be – mainly tacitly – reflected in the ecological justice literature at large. I also accept this assumption, because only humans have – at the moment at least – the necessary moral agency, due to their cognitive capacities, to act as distributors (or agents) of global justice. Justice is a concept that makes sense within our human sphere and helps us to understand and order the world, but that is not necessarily the case regarding how other entities perceive their reality. Moreover, as introduced in [Chapter 2](#), the perspectival situatedness of humans particularly implies that we are limited to developing an account of the *human* duties to nonhumans and fellow humans. Thus, justice on Earth is about how we humans treat others (other humans and nonhumans) but it cannot prescribe to the other (other nonhuman species) how to treat us humans. In contrast, regarding what gets distributed it becomes unavoidable that parts of nature take on the function of resource of distribution.

Secondly, regarding the resource of distribution it might seem based on my understanding of ecological space that humans – that is, human bodies – should also be understood as part of what is being distributed. However, because the human-nonhuman justice relationship is one-directional, significant theoretical problems arise if humans as the distributor would try to distribute their own bodies.² There are two (main) types of human-nonhuman distribution conflicts regarding ecological space. On the one side, there is scarcity of *external* (to humans) resources such as land and benefits provided by ecosystems.

On the other side, there are *prey-predator* conflicts where humans embody the prey and, hence, in some sense one could speak of an ongoing scarcity of human bodies because the interests of individual predators and prey are never compatible. To some degree this distinction is artificial because human bodies are also resources, but it is necessary in order to be able to speak meaningfully about different circumstances of scarcity, and to obtain principles of justice that provide guidance for action in these different scenarios. When considering questions of distributive environmental or ecological justice it is the conflict regarding external (to humans) goods that matters, because in the case of environmental justice there are several reasons why one would not want to distribute human bodies based on respecting each individual's autonomy – as ends in themselves and so on – even if they can be deemed an 'environmental resource' of value to other humans. In the case of ecological justice, the one-directionality of the justice relationship and the incompatibility of the nature of some nonhumans with human wellbeing require that such prey-predator relationships are set aside from distributive considerations.

Consequently, humans are not included in the *distribuendum* in either sphere of justice despite human bodies remaining part of ecological space. Because of this, I understand scarcity specifically as scarcity of *external* resources from here onwards; all ecological space excluding human bodies. All prey-predator conflicts that involve humans as prey fall into a different moral category where considerations of distributive justice are not applicable. Rather, in these cases it would be more useful to turn to considerations about having a right to self-defence (see Sterba 1998). This is supported by Paul Taylor (1986) who stated that distributive justice (to nonhumans) could only apply in circumstances in which the human right – or in his wording 'principle' – of self-defence was not applicable.³

Before turning to the different levels of scarcity of such (limited) ecological space, I want to reiterate two important points. Firstly, recall that I focus on the conflict between humans and wild nonhumans. This means that farm and companion animals and plants, as well as city-dwelling species, are set aside for now because they blur the boundary between the human-nonhuman analytical distinction by introducing relations shaped by domestication (broadly understood), and by constituting different potential justice relationships, in addition to the scarcity-related problems hinted at in [Chapter 3](#). For example, regarding the relationship between humans and farmed species it seems difficult to ever reach a situation where all needs could be theoretically fulfilled due to the instrumental

nature of the relationship itself, which might make us question whether such a relationship can ground justice in the first place (see Palmer 2010 and Donaldson and Kymlicka 2011 for animal ethics perspectives that discuss the latter). In many cases at least, it seems that the flourishing needs of individual plants and animals farmed by humans are in conflict with large-scale agricultural practices necessary to satisfy human needs. Even when putting this issue aside, demands of justice regarding domesticated nonhumans seem to clearly differ from what is required with regards to wild nonhumans. It seems that these distinct relationships also ground distinct principles of justice which have to be kept separate from justice requirements towards wild nonhumans. It is important, however, that the distinction lies here between different kinds of relationships, which can change and have perforated boundaries, in contrast to creating different non-changeable categories of living beings. Simply put, a pine tree, for example, does not intrinsically belong in either the wild or domesticated category. Rather, circumstances such as whether it is standing within a part of the Taiga which is not heavily managed, or has been planted as part of a managed forest grown for timber will situate it within different categories of human-nonhuman relationships. The second related point that I would like to reiterate is that I maintain an individualist perspective that living beings are (to a certain degree) discrete entities that are embedded in wider relations (recall Chapter 2). Based on this individualism, and based on the distinction between (reciprocal) justice between humans and (one-dimensional) justice between humans and nonhumans, it remains analytically necessary to distinguish between the human and the nonhuman spheres in order to put these two different domains of justice into conversation.

Demands of justice under conditions of moderate scarcity

Up to now, we have established that a biocentric account of distributive interspecies justice is theoretically conceivable and can form the counterpart of environmental justice between humans. These two spheres of justice are the two sides of the ecological space coin which constitutes the appropriate distribuendum for both spheres. This is only the case, however, if environmental justice is narrowly understood as the just distribution of access to (or use/occupation/consumption of) ecological space. Thus, broader understandings of environmental justice that also encompass, for example, justice as recognition or questions about just

distribution of environmental bads, such as location of landfills, which are often at the centre of concern of environmental justice are set aside here.

Environmental justice principle(s)

The (second) Lockean proviso originates from John Locke's discussion of property in his *Second Treatise of Government* (2002 (1689)) in the context of considering justice in acquisition of natural resources in a state of nature. The state of nature is a situation in which everything is unowned at first – even though Locke presupposes some degree of human common ownership (see Chapter 8). From this starting point, the question arises: what kind of acquisitions are just in such situations? Locke answers this question by providing three provisos or principles that regulate just acquisitions. The second principle is Locke's famous sufficiency proviso which requires that 'there is enough and as good left in common for others' (2002 (1689), p. 13). Locke himself concluded from this that no strong limits have to be put onto acquisitions (of land). This is because, among other reasons, during his time the large land mass of the 'New World' was still up for grabs because indigenous communities had not 'acquired' the land in the relevant sense according to Locke. Of course, such a colonial perspective (towards other humans and nature) is problematic for several reasons, but we will have to set a critical discussion of the implicit premises of Locke's view aside for now (for a critique see Plumwood 2006). A non-anthropocentrically adjusted account of ecological space in combination with Tim Hayward's (2005) conceptualisation of its use can move beyond this limitation.

As we saw in Chapter 4, Hayward builds on this framework by conceptualising the use of ecological space as a recurring act of 'original appropriation of nature by humans' (2005, p. 10).⁴ This means that 'using' ecological space is a form of appropriation because it excludes others from occupying this particular ecological space. Because, in theory, all units of ecological space are equally 'good' (Hayward 2005), it is only the 'enough' part of the proviso that does any work. Accordingly, Hayward concludes that there needs to be 'as much and as good' (2005, p. 10) ecological space left for others – that is, other humans – because in practice 'enough' and 'as much' lead presently to the same outcome (Hayward 2006a).

Leaving aside whether one wants to follow the move from sufficientarianism (that is, the focus on enough) to egalitarianism (that is, aiming for as much in terms of equal shares), this approach is very promising. I will not provide a full defence of why Hayward's approach to environmental justice is preferable to any other theory of environmental justice at this point, but it should suffice to say that it fulfils – if slightly

amended by dropping the Lockean common ownership starting point for instance – what I consider two necessary criteria for theories of environmental justice in order to be compatible with a theory of ecological justice. These are firstly that it focuses on ecological space as a *distribuendum* (Chapter 4), and secondly that it does not rely on claims about the human common ownership of the Earth in order to ground its global justice demands (Chapter 8). Moreover, Hayward’s account produces a parsimonious principle of justice that aids decision-making by illustrating when it is acceptable, in justice terms, to use some ecological space. However, when it comes to how ecological space should be defined, we have seen in Chapter 4 that instead of Hayward’s own definition it is more consistent for both considerations of environmental and ecological justice to define ecological space as the potential benefits provided by the Earth’s life-support systems and physical resources such as land, non-renewable and renewable natural resources.

Hayward’s pragmatic argumentative move from enough to as much might not satisfy everyone, but considering an ever more crowded planet, the benefit of keeping the enough/as much distinction might be negligible. This would be good news insofar that the necessary sufficiency threshold of humans seems difficult to determine in practice which is a problem that we have encountered already. For example, are we interested in enough for survival, or enough for a good life? What is a good or flourishing human life? How dependent is a good human life on environmental goods and benefits? Also, different people will need different levels of ecological space to fulfil the same needs, as well as reasonable people might disagree about what their basic – that is, fundamental, minimal – needs are. Hence, Hayward’s approach allows us to leave many difficult questions unanswered as he circumvents questions about what constitutes a good human life and how to account for individual and cultural variety.

However, taking claims to ecological space by nonhumans into account makes a difference regarding whether one claims that enough or as much should be left for other humans, because it impacts on the overall amount of ecological space that humans in total could possibly appropriate. In other words, if one assumes that the ecological space on Earth is finite, that every human has the same claim to a share of ecological space and that there are probably too many humans for these shares to be very large, then there might not be a big difference between claiming that every individual human should get enough for a flourishing life defined as X – where X stands for a theory of human wellbeing – or that every individual human should get an equal share of ecological space.⁵ This is especially the case if equal shares would provide

each human with less than enough because there would be no more ecological space left to distribute – as long as one does not prioritise the wellbeing of some humans over others. If claims by nonhumans are taken into account then the as much version of environmental justice would require that the overall available ecological space is divided into two sections – one for humans and one for nonhumans. The size of each section would then be determined by the demands of ecological justice because the as much version of environmental justice would remain silent on this matter (if it lacks a direct link to a theory of human wellbeing). It only determines the size of each individual human's share relative to other humans, and remains silent on the question of how large the overall amount of ecological space required by humanity is in the first place. Thus, only the demands of ecological justice would determine the overall amount of ecological space that could be distributed by the as much environmental justice principle.

Of course, for everyone that takes human needs seriously that would be a very troubling implication of introducing demands of interspecies justice and, because of that, we are going to adopt an account of environmental justice that can bring more to the table. In contrast, putting claims of nonhumans into conversation with an enough version of environmental justice would create more engagement between the demands of environmental and ecological justice. This is because this version of environmental justice requires that humans get enough ecological space to secure their X which might be – and quite likely is – much more than would be compatible with the maximum ecological space demand of ecological justice on the first view.

Therefore, it seems that Hayward's move from enough to as much is more problematic than it first seems if nonhumans' interests are taken into consideration. This suggests that the sufficientarianism embedded in the Lockean sufficiency proviso should be maintained because of the normative significance of individuals being able to live flourishing lives, and proposes that environmental justice requires that humans *leave enough and as good* ecological space for other humans; even if enough might not be achievable in practice at this moment in time (due to the current socio-economic arrangements), and even if it is difficult to achieve a consensus on what constitutes enough. Although it is not my aim to answer the question of what enough means in the human context, it is an important question nevertheless and we will return to this question in the last section. Even if enough is understood in terms of flourishing – that is, enough for individuals to flourish – complementary to my understanding of ecological justice, questions remain about what constitutes and what is needed for human flourishing. As previously

mentioned in [Chapter 3](#), it might be even more difficult to determine what constitutes human flourishing than to (roughly) assess what is entailed in the flourishing life of a nonhuman being. Furthermore, human flourishing could be understood in terms of capabilities – that is, having opportunities for different human functionings – (Nussbaum 2006, Sen 2017 (1993)), basic/minimal/fundamental human needs or rights, or in terms of a ‘decent living standard’ (Rao and Min 2017). Of course, based on what has been discussed so far it should be clear that I am leaning towards a needs-focused account. Yet in order to determine what constitutes a plausible account of enough, a consensus is neither necessary nor sufficient. As we will see, not all theories of human wellbeing will be acceptable candidates for a theory of green distributive justice even if a contractarian theorist, for example, might deem them an acceptable outcome of a hypothetical agreement. My position here does not rely on contractualist reasoning. Moreover, a range of different descriptions of enough will be logically consistent with our other commitments to social and interspecies justice (this latter point links to Steve Vanderheiden’s [2008, 2009] argument in favour of ecological space as a distribuendum that we looked at in [Chapter 4](#)).

However, even if the question of what constitutes human flourishing is settled, the difficult issue remains of how much ecological space such an understanding of human flourishing translates into, which again is highly dependent on the different modes of needs provisioning that turn different parts of ecological space into human welfare. For example, Martha Nussbaum’s (2006) list of capabilities does not constitute a concrete list of material goods that are needed to bring about these opportunities, probably because, among other considerations, there are many empirical factors that mediate the relationship between human flourishing and the material basis that enables that flourishing. Because these are difficult questions and out of the scope of my narrower enquiry, I understand the Lockean sufficiency proviso in the context of environmental justice as requiring *leaving enough ecological space for other human beings to lead a flourishing life defined as X*. Maintaining the sufficientarianism seems important in order to preserve the normative force of the proviso, because what makes the normative work here is the commitment to leave enough for every human being to fulfil X (where X can stand for a range of interpretations of human flourishing) instead of leaving an equal amount of ecological space which might not suffice for the most frugal human life which will become more important in scarcer scenarios. However, in the moderate scarcity context, by definition, it is possible to fulfil this demand of environmental justice, and it is accordingly appropriate in precisely this context. But note

that this principle of environmental justice can only create pro tanto demands of justice. In other words, they are not all-things-considered because, among other relevant spheres of justice, ecological justice considerations are not taken into account. Therefore, let us turn to the question of what principle(s) of justice follows from interspecies justice; at first in the context of moderate scarcity.

On a final note before moving on, for practicality and simplification it could be assumed that people's sufficiency thresholds are normally distributed globally. Based on this assumption we can distribute equal shares of ecological space to 'standardised' people. Each standardised person has the same sufficiency threshold which is based on the average threshold of all people. Based on this, one would reach a similar conclusion to Hayward with regard to the distribution of ecological space: every standardised human has a claim to an equal share of – overall finite – ecological space which should be at least enough to fulfil X under conditions of moderate scarcity. Yet, standardising people in such a way strips them of their material and cultural context in a way that obscures normatively relevant factors, so we should use such simplifications with caution.

Ecological justice principle(s)

As we have seen so far, how interspecies justice has to be theorised differs in several ways from how we understand social justice. One such reason is the ecological realities of nonhuman life which will provide a ground for being suspicious of the capabilities approach in the context of ecological justice in Chapter 6 and which has led to the narrowing of ecological justice to wild nonhumans to not inhibiting the flourishing of others in Chapter 3. Fully independent from human interferences, many nonhumans do not flourish. Accordingly, neither can it be the objective of ecological justice to try to achieve the flourishing of all individual beings; nor can it be assumed (as for environmental justice) that there theoretically being enough ecological space to satisfy all individual needs is able to hypothetically translate into the flourishing of all individual living beings. Rather, ecological justice in the negative sense can only ever be about removing anthropogenic hindrances to the flourishing of individual beings in the sense of providing a *window of opportunity* for nonhumans to flourish. The question about which nonhuman individuals are then actually able to survive and flourish is outside the scope of interspecies justice – at least in the context of the human-wild nonhuman relationship. Now we can finally move to the fourth step of defending an account of interspecies justice that

refers to this particular community, after having discussed the first three steps in [Chapter 3](#).

Complementary to Hayward's proposal of environmental distributive justice by adapting Locke's sufficiency proviso to the context of a finite planet, I want to draw on Hayward's analysis in order to propose a principle of ecological justice. Correspondingly, in the domain of ecological justice as well, the argumentative move from 'enough and as good' to 'as much and as good' does not seem warranted primarily for two (but not exhaustive) reasons (compare with Taylor's [1986] argument for equal shares). Firstly, even though it might make sense to distribute 'as much' ecological space between humans, this does not easily translate into also providing every individual living being with the same amount of environmental goods and benefits. Claiming that a butterfly and a bear are entitled to exactly the same amount of ecological space does not make much sense. Besides, to claim that all beings are entitled to exactly the same amount brings us into the terrain of policing nature; a practice clearly outside the jurisdiction of ecological justice (see [Chapter 6](#)). Our principle of ecological justice should not interfere with the lives of nonhumans if it builds on the non-interference understanding of justice.

However, this is an oversimplification, because it is also possible to distribute equally according to need rather than only equal shares more simply. Still, because my negative interpretation of ecological justice requires not to inhibit flourishing, it aligns more closely with the original formulation to leave enough and as good as they have the same non-harming tenor that involves a lower threshold. By applying the original sufficiency proviso to the domain of ecological justice, and keeping in mind that justice is about enabling flourishing as far as possible within the circumstances given and that the scope of ecological justice stretches over all living beings part of this community of justice, the proviso becomes *to leave enough ecological space so that other wild beings can flourish*. That other beings can flourish means that they have the opportunity to do so without being deprived of this opportunity due to anthropogenic influences. Thus, the requirement is *not* to remove all potentially existing obstacles to their flourishing which would be practically impossible.

As with the environmental justice principle, this principle of interspecies justice only creates pro tanto claims of justice because other justice considerations have to be taken into account as well. Both these principles of justice are based on the assumption that we find ourselves in circumstances of moderate scarcity (where all needs, but not all wants can potentially be met) and, as such, these principles are achievable under these conditions and can therefore constitute

justifiable moral demands. In the context of moderate scarcity, it is possible in theory for an agent to act according to these two principles of justice simultaneously if needs are understood in terms of flourishing. Note that I distinguish here between the circumstance of *pro tanto moderate scarcity* which only applies to one particular sphere of justice, such as interspecies justice, and *all-things-considered moderate scarcity* which is a scenario in which both demands of environmental and ecological justice can in principle be fulfilled.

Based on this account of moderate scarcity we can then think about more conflictual situations where all needs cannot be met simultaneously. Because justice is also applicable to circumstances of more severe than moderate scarcity (recall [Chapter 3](#)) and because the current situation of life on Earth does not seem to fall into the moderate scarcity scenario, it becomes particularly relevant to ask what justice demands in these scarcer circumstances. Accordingly, two additional scarcity scenarios will be spelt out in the course of the next section.

To reiterate, under conditions of moderate scarcity environmental justice demands to leave enough and as good ecological space for other humans that allows every individual human to have the material basis for a flourishing life. Interspecies justice, on the other hand, requires that humans leave enough ecological space so that other beings can flourish in the context of moderate scarcity. If the combination of these two demands of justice pushes justice out of the realm of all-things-considered moderate scarcity, then the resulting conflict raises the question of how to justly distribute ecological space in a way that accounts for both environmental and ecological justice demands, if circumstances are not materially abundant enough to act according to both these principles that were developed under the moderate scarcity paradigm.

Different levels of scarcity and the demands of justice

In [Chapter 3](#), we looked at the circumstances of justice that can apply to the particular justice relationship between humans and wild nonhumans. These were scarcity, confined generosity and vulnerability to others' actions. Among these the circumstance of scarcity is a special case, because 'moderate' scarcity is not the only level of abundance of goods where considerations of distributive justice can apply (Hubin 1979). Thus, I regard considerations of what justice requires in the relative abundance of moderate scarcity as only one out of three scenarios where considerations of justice are applicable.

Hume (2003 (1739–40)) already noted that considerations of justice cannot apply to extreme scenarios of scarcity or abundance.

That is, neither in circumstances of full abundance – illustrated, for example, by a land of milk and honey – nor in circumstances that are so dire that they lead to social and environmental collapse, is it useful to think in terms of distributive justice (McKinnon 2012). Either goods are so abundant that distributive considerations are not necessary, or they are so scarce that there is hardly anything left to distribute in a meaningful manner. Arguably, in all scenarios that fall in between these circumstances we are able to contemplate what a just distribution of goods might be. However, as argued by Robert Goodin, moderate scarcity should also include cases where all ‘wants’ could potentially be met, because also in this case a just distribution has to first be put in place before ‘*at that point* considerations of justice would indeed be rendered irrelevant’ (2001, p. 204, emphasis in original).

The space between the two extremes is not fully occupied by moderate scarcity alone. In Bell’s words, ‘a theory of justice on one planet must take very seriously the possibility of circumstances of extreme scarcity, in which it is impossible to meet even the most basic needs of everyone on the planet’ (2015, p. 10). For simplicity, I have divided the range of different levels of scarcity where justice is applicable into three scenarios: moderate, significant and severe scarcity (see Table 5.1). As we have already looked at moderate scarcity, we can now turn to the two alternative scenarios; both embodying all-things-considered levels of scarcity where human and nonhuman needs are taken into account.

Significant scarcity

I understand circumstances of significant scarcity as a scenario where only the survival threshold – that is, a threshold in terms of fundamental or minimal needs, rather than full flourishing needs (however defined) – can be theoretically achieved for *all* human and nonhuman beings simultaneously, and there might also be some extra ecological space that would allow *some* beings (human or nonhuman) to achieve flourishing. Consequently, the demands of justice need to be adjusted in order to be theoretically achievable in this scenario while remaining demanding enough and thereby leaving a certain amount of ecological space outside of their scope. Hubin (1989) points out that more benign circumstances of scarcity are merely a subcategory of more dire circumstances and, thus, the principles that apply to these more benign situations are also derived from more general principles that similarly apply to more severe situations. With

this framework in mind we can reassess the reasoning behind the justice principles that apply to moderate scarcity and investigate on what they are grounded.

To reiterate, not to inhibit flourishing should be considered the appropriate understanding of justice within the domain of interspecies justice. This, in turn, translates into the principle of leaving enough ecological space for other beings to flourish under circumstances of moderate scarcity, because all living beings need the Earth’s goods and system benefits to flourish and consequently have to share them. As mentioned earlier, we can distinguish between a flourishing and a survival threshold for each individual being; survival being an obvious precondition for flourishing. The existence of a community of fate encompassing all living beings does not hinge on these beings sharing some resources that merely enable their good life, but on

Table 5.1: Summary of the levels of scarcity and demands of justice

Scarcity Level	Situation	Justice Applicability & Principles
Full abundance	A ‘land of milk and honey’	Distributive justice does not apply
Moderate scarcity/abundance	Needs (and maybe also wants) of all human and wild nonhuman beings can be met but are not met yet. This means that all beings can potentially reach their flourishing threshold (excluding prey-predator conflicts etc.).	Distributive justice applies. Ecological justice principle: leave enough ecological space so that other (wild) living beings can flourish (in terms of fulfilment of flourishing needs). Environmental justice principle: leave enough ecological space for the flourishing (in terms of X) of other humans.
Significant scarcity	Only the survival threshold can be theoretically achieved for human and nonhuman beings simultaneously. There might be some extra ecological space for some beings to reach their flourishing threshold.	Distributive justice applies. Ecological justice principle: minimisation of humans inhibiting the survival needs of wild nonhumans → no anthropogenic species extinctions. Environmental justice principle: leave enough ecological space so that at least other humans’ fundamental needs (in terms of X) can be met.

(continued)

Table 5.1: Summary of the levels of scarcity and demands of justice (continued)

Scarcity Level	Situation	Justice Applicability & Principles
Severe scarcity	Not all beings can reach their survival threshold.	Distributive justice applies. Ecological justice: humans should only take as much ecological space as their own fundamental needs (in terms of X) require → minimise extinctions. Environmental justice principle: leave enough ecological space so that other humans' fundamental needs (in terms of X) can be met. → Duty to pursue sustainability policies based on both environmental and ecological justice. → Chapter 9 : The Half-Earth proposal as a pro tanto just compromise (regarding physical space distribution only) between demands of environmental and ecological justice.
Full or extreme scarcity	Societal and ecological collapse.	Distributive justice does not apply.

them sharing the most fundamental necessities of their existence. If ecological justice is about not inhibiting flourishing, then we run into difficulties in this scarcer scenario, but if circumstances make it impossible to have a *good* life, having *a* life appears to be second best from a justice standpoint that sees all beings having the opportunity to flourish in more benign circumstances. The desirable outcome in circumstances where the best option – an opportunity for a good life – is not available for all beings appears to be at least an opportunity to be alive. Consequently, we still have an ecological community of justice in circumstances of more dire scarcity than merely moderate abundance because at the most fundamental layer the justice community remains unaltered.

From this follows a principle to guide human action according to which humans should *leave enough ecological space for other (wild) living beings to survive*.⁶ Furthermore, as survival is a necessary criterion for flourishing, the fulfilment of this principle is also a precondition for satisfying the justice principle that applies in circumstances of moderate scarcity. However, this principle does not account for the

extra ecological space available (if there is any) under circumstances of significant scarcity. The question here is whether we can justify hindering the flourishing of some beings for the sake of the flourishing of some humans. The human species (or some individual humans at least) is in a unique position of power and, arguably, one of the functions of justice is to mitigate power asymmetries which are part of the problem background, which brings ecological justice as a possible solution to the foreground. Does the flourishing of human beings while non-humans cannot flourish constitute therefore an unjust abuse of power?

From my non-ranking biocentric perspective ([Chapter 2](#)), no form of life is superior to any other in terms of moral significance – they are merely different. If survival is all that is achievable for the entirety of living beings, then this perspective is (*pro tanto*) indifferent to which of these beings receive the additional resources needed in order to flourish. If human usage of the additional ecological space would be deemed unjust it would imply that humans can only do justice to nonhumans in a situation of significant scarcity by refraining from using more ecological space than needed for their survival so that other beings can flourish instead. However, even though such self-restraint might be deemed virtuous, it is not required in order to do justice. Neither the biocentric perspective on which the conception of interspecies justice as flourishing rests by putting life in the centre of attention, nor the notion that justice is a solution to, among other problems, the condition of power inequality, requires such self-restraint. In a situation where only the survival threshold is achievable for all living beings, justice is the solution that aims to enable all beings to reach this threshold and thereby works against power asymmetries that undermine this goal. Accordingly, it is only towards this particular goal that power asymmetries are part of the problem background in the context of significant scarcity. Therefore, human flourishing in the face of other beings simply surviving is not an abuse of power but merely one particular distributional pattern among several (such as the human virtuous self-restraint scenario) which appear equally (*pro tanto*) just.

So, this is a (*pro tanto*) *acceptable* outcome. It is acceptable because it allows for the survival of all living beings that are part of this community of justice, which is the maximum that can be achieved for *all* living beings simultaneously in these circumstances. Because flourishing is not open to all beings in this scenario, a non-ranking biocentric position remains neutral. That follows directly from my commitment to refusing to compare in moral significance terms the ways in which

different living beings flourish, as they simply flourish differently. As previously discussed, I do not subscribe to an egalitarian biocentrism that considers all living beings to hold the same moral significance. Rather, I adapt Val Plumwood's (2002) account in which she advocates a 'non-ranking' alternative to ranking all beings as equals. About scarcity, Plumwood says the following:

[n]on-ranking, as the meta-ethical principle of minimising ranking and *dealing with conflict and scarcity of resources cases contextually* in ways that avoid invariant categories and type ranking between broad classes of beings, is also applicable to interspecies ethics, comparisons and choices. Non-ranking is a much more plausible way to interpret the concept of interspecies egalitarianism than ranking as equal in a scale of moral worth. (2002, p. 174, emphasis added)

Accordingly, she concludes that '[n]on-ranking is a counter-hegemonic virtue' (2002, p. 174). In other words, in order to avoid considerations of distributive justice to be tainted by anthropocentrism *via* rigid 'type rankings' of living beings, I consider 'non-ranking' as the appropriate antidote. As suggested by Plumwood, scarcity of resources has to be dealt with contextually. For me that means that the context of global scarcity of ecological space has to be seen through the lens of the human-nonhuman justice relationship and the overlapping justice demands on this issue, without assuming that environmental justice considerations can, by default trump demands of ecological justice, due to the exceptional human moral standing.

Similarly, on the other side of this coin, my commitment to a non-ranking account of moral significance has the advantage that it does not have a built-in rigid egalitarianism in terms of equal moral significance superseding relevant contextual features that would make it often logically problematic to prioritise human over nonhuman claims when similar interests are at stake. Thus, non-ranking biocentrism does not commit us to the claim that *all* ecological space has to be distributed equally between humans and nonhumans, but rather points to the importance of contextual and relational situatedness. Significant scarcity is such a relevant context. However, regarding the extra ecological space that might be distributable in this context, non-ranking biocentrism again does not commit us to an egalitarian distribution *if* other relational factors (besides of the ecological justice relationship) come into play, such as the environmental justice

relationship, which is a relevant relational factor to take into account. In contrast to interspecies justice, the bi-directionality of this justice relationship, as well as it not being limited to a negative understanding of justice, might also involve positive duties of redistribution in addition to a demand to not inhibit the fulfilment of fundamental (and flourishing) needs. Thus, to put the demand of ecological justice in circumstances of significant scarcity into more general terms that do not entail a necessary priority to human claims to flourishing, but allow for accounting for the relational situatedness of agents of justice, the principle to leave enough for other beings to survive can be reformulated into demanding the *minimisation* of humans inhibiting the flourishing and survival of nonhumans.

In practice, both formulations – to leave enough for other beings to survive or to minimise the human inhibition of the flourishing and survival of nonhumans – translate into zero anthropogenic species extinctions. As will be discussed in [Chapter 7](#), the extinction of a species is not an ecological injustice in itself but rather an indicator of past injustices – that is, anthropogenic biodiversity loss is the outcome of severe injustice – because it is the consistent inhibition of flourishing and survival of many individual living beings of a species which then cumulates in the overall extinction of that species. However, as will also be discussed, this claim needs one qualification, which is that while anthropogenic biodiversity loss is always problematic, it might not always be unjust. Biodiversity loss is always troubling, independently of whether it is an injustice or not, because it is always a loss of a unique way of life which is valuable in itself. Whether it is also unjust depends on whether humans cannot do otherwise. Setting aside for now questions about historical injustices for which current humans might still hold moral responsibility, current humans do not commit an injustice if their taking just enough for their fundamental needs (however defined) means that some nonhumans might not get enough. In contrast, in the case of significant scarcity it is theoretically possible to satisfy all the fundamental needs simultaneously. In consequence this then translates into a demand of ecological justice not to cause any species extinctions.

Mirroring the interspecies justice demand, the environmental justice principle turns into *leaving (at least) enough ecological space so that other humans' fundamental needs (defined in terms of X) can be met* in order to account for conditions of significant scarcity. As with ecological justice, this is due to (1) it having become impossible to actually leave enough for the flourishing of all others, but because (2) the satisfaction

of humans' basic needs is a precondition for human flourishing, environmental justice demands that these needs are met.

Before turning to the circumstance of severe scarcity, I would like to note that, even though it is justifiable to allow humans to flourish while nonhumans merely survive, it is not warranted to prioritise human flourishing over nonhuman survival in order to increase the total number of people able to flourish. According to several biocentric positions (such as Baxter 2005), it is problematic to fulfil less 'essential' needs if that means that more fundamental needs of others, including nonhumans, cannot any longer be fulfilled and, according to the non-ranking perspective, no kind of wellbeing is intrinsically worse or better than any other. However, this remains a *pro tanto* claim because contextual and relational situatedness might, on the contrary, lead us to conclude that some (human) flourishing might be prioritised over the survival of (nonhuman) others in some situation. However, as it stands, interspecies justice demands the prevention of anthropogenic species extinctions under conditions of significant scarcity. What is important is that the normative context is decisive and not any meta-ethical commitment to a ranking of living beings.

Severe scarcity

In circumstances of severe scarcity, not all beings can reach their survival threshold, meaning that not all living beings are able to satisfy their most fundamental needs. Accordingly, the justice principles that were applicable to significant scarcity need to be revised again. As indicated earlier, it is not the purpose of a non-ranking biocentric account of global ecological justice to decide who or what specifically lives or dies. Moreover, it depends on whether humans can do otherwise in order to assess whether anthropogenic biodiversity loss embodies injustice rather than simply tragedy. Under conditions of severe scarcity humans are not able to avoid causing the extinction of some species, which, if caused by humans, functions as a practical marker of the inhibition of flourishing and survival needs of individual nonhumans, while humans cater only to their own most fundamental needs. Accordingly, such extinctions are – at least in this regard – not unjust.⁷ However, all additional unnecessary anthropogenic extinctions continue to be indicators of injustice (see for more details [Chapter 7](#)).⁸ Hence, interspecies justice requires in these circumstances of severe scarcity that humans take only as much

as their own fundamental needs require, which translates into an obligation to *minimise anthropogenic extinctions*.

In circumstances of severe scarcity, the complementary environmental justice principle remains unaltered as the requirement *to leave enough ecological space so that other humans' fundamental needs (in terms of X) can be met*. That environmental justice does not reduce the demandingness of its demands in more scarce circumstances than significant scarcity seems to follow from two considerations that have already been discussed. Firstly, according to my non-ranking biocentrism, it is not required that humans put less weight on their own basic needs than on the basic needs of nonhumans. Accordingly, distributive interspecies justice remains – at least when excluding other considerations of justice – silent in this sense on the question of who or what loses out under conditions of severe scarcity.

Secondly, in my discussion of ecological justice I claimed that ecological justice to wild nonhumans is a negative sense of justice in that its focus rests on refraining from inhibiting flourishing, rather than providing flourishing. Environmental justice, however, as a dimension of social justice between humans, is not limited in the same way, as I indicated earlier. Based on this, in this scenario agents have a duty not to interfere with other humans' fundamental needs in terms of access to ecological space, *and* potentially a duty to help other humans to access the ecological space that they require to satisfy their fundamental needs if the situation allows for it. Of course, that presupposes a particular understanding of the human global environmental justice relationship which I cannot give appropriate treatment here. However, at least *prima facie* there are some indications supporting this position, because the make-up of the human community of global environmental justice is constituted differently than the community that grounds ecological justice. For instance, human needs are – in principle at least – not mutually exclusive. Accordingly, this bi-directional justice relationship differs from ecological justice in terms of what appropriate principles of justice apply to it, because on a more fundamental level it also differs in terms of the circumstances and the specific conceptualisation of justice. So, in principle, it is not inconsistent to simultaneously acknowledge, for example, a community of interspecies justice that applies to the problem of coexistence and a community of global environmental justice that also includes a mutual-support element based on the relational story that grounds this community of global justice.

Sustainability

In both more-than-moderate scarcity scenarios, but especially in circumstances of severe scarcity, the principles of justice discussed so far do not appear to be all that follows from distributive environmental and ecological justice. In addition, both spheres also generate a strong duty to pursue policies to promote sustainability. That is because both environmental and interspecies justice do not only demand that their scarcity-scenario-specific principles are satisfied, but also that an overarching principle is satisfied that is independent from the specific circumstances of scarcity and operates in the background. This additional requirement of justice becomes apparent when taking into account that justice aims at normative problem-solving for collective action underpinned by the value of the wellbeing of the entities in question. Accordingly, an account of justice can provide an answer to the problem of how to normatively take into account the potential flourishing of a range of entities with competing needs. This *further demand of justice* requires that action is taken to move from severe, to significant, to moderate scarcity levels in order to create an actual window of opportunity for the flourishing of all living beings within the possibilities of prey-predator relations and so on, if one understands the flourishing of life as holding the ultimate value which justice aims to promote. This means that both environmental and ecological justice do not only demand that their scarcity scenario-specific principles are satisfied, but also entail an obligation to pursue policies geared towards sustainability in order to move up on the scarcity scale to more benign circumstances that would provide more material support in terms of ecological space for wellbeing. In a similar context, Bell points out that '[i]f justice on one planet requires anything, it must require that we avoid circumstances of extreme scarcity' (2015, p. 10). Thus, also a non-utilitarian understanding of justice as flourishing is invested in creating circumstances in which flourishing is actually possible.

Of course, sustainability is a heavily contested concept, but according to some interpretations of strong sustainability it reflects the aim to reduce scarcity of ecological space, even if usually not framed in ecological space and/or scarcity terms (see for an overview of the sustainability discourse Dresner 2008, Dryzek 2013). How to achieve this goal is an empirical question, but it should be noted that not all policies under the umbrella of the sustainability discourse qualify as appropriate means; only the policies that can be shown to actually work towards satisfying this demand of justice while not undermining other circumstance-specific requirements of justice. In practice, it

will involve the implementation of policies that change the course of current modes of production and consumption, social provisioning structures and technology, population growth and so on, in order to achieve more benign conditions for life on Earth. Despite sustainability being a heavily contested concept and being attributed a multitude of meanings, the debates around these issues are very relevant for this overarching question about how to decrease scarcity.

Moreover, in addition to this further duty, note that the other demands of environmental and ecological justice elaborated so far also have an built-in notion of sustainability because we have been primarily concerned with the just *use* of ecological space (although by definition, non-renewable resources are an exception to this). In contrast, as introduced in Chapter 4, *degrading use* does not account for limits to what can be used to the same degree. On the one hand, this degrading use would conflict with this particular duty of sustainability and would be unjust in this regard and, on the other hand, it also generates additional questions of restorative justice and justice to future generations which we will have to set aside for now.

Further implications and considerations

Until now, we have surveyed what green distributive justice demands under different conditions of scarcity, but before we can move on I would like to clarify three further points. First, as discussed, the circumstances of significant and severe scarcity are where the real conflicts between environmental and ecological justice lie. Even though I am interested in the distribution of ecological space to individual beings, these conflicts should not be understood as a utilitarian battle of numbers – that is, in terms of sum ranking – where billions of nonhumans outweigh the interests and needs (or value) of seven billion humans and counting, for two main reasons (more on this issue in [Chapter 7](#)). Firstly, based on my non-ranking biocentric stance, scarcity conflicts have to be dealt with contextually and cannot be categorically resolved by adding up and then comparing the moral weight, value or the like of either party at a more abstract level of analysis. Secondly, utilitarianism has been already subjected to a lot of criticism over the years, such as Martha Nussbaum’s convincing defence against utilitarian sum-ranking. She points out that utilitarianism ‘has no way of ruling out in advance results that are extremely harsh toward a given class or group’ (2006, p. 342).⁹ And indeed, in the case of introducing biocentric ecological justice into what we need to take normatively into account means that a sum-ranking approach would be ‘extremely

harsh' against humans, which clearly overshoots the initial goal of defending a biocentric version of ecological justice. Furthermore, as already indicated, it is more fruitful to understand (distributive) environmental and ecological justice as spheres of justice that interact on a more abstract level with many other spheres of justice – for example, other domains of distributive justice that intersect with procedural justice such as fair trade, and other dimensions of justice such as justice as recognition – within a wider all-encompassing theory of justice in which no particular sphere dominates what all-things-considered can be deemed just.

Entitlements and duties

This brings me to my second point, because a few more words are required in order to explain what I mean by duties and entitlements that follow from these principles of justice and specifically the principles of ecological justice. To clarify, they are conditional on certain circumstances, and this conditionality applies to their content *and* to their coming into being. Recall that being morally considerable is not sufficient for holding justice entitlements and generating the complementary duties of justice held by humans. Whether these entitlements come into being is a matter of circumstances that are external to the morally considerable entity itself, and we have discussed what these circumstances of justice are in [Chapter 3](#). Thus, for example, I am not claiming that a pine tree holds natural rights or that if living bacteria would be found on Mars that that would make them immediately holders of a set of justice entitlements. I am not ruling out the possibility that an account of nonhuman natural rights might be plausible, but developing an account of justice is a more modest affair, only aiming for an account of conditional entitlements. Their complementary duties of justice are circumstance-specific moral demands which are contingent on several factors. From my relational understanding of justice, what these different circumstances of justice amount to is a description of a justice *relationship* primarily characterised by interconnectedness, which in addition to the moral considerability of all living beings generates the justice entitlements. So, the duties of justice that I argue for are borne out of the justice-related arguments in addition to a commitment to biocentrism in the context of interspecies justice.¹⁰

Even after fulfilling all necessary premises, the justice entitlements that I have outlined remain *pro tanto* entitlements – or as Brian Baxter (2005) would put it 'prima facie rights' – due to the pluralist nature

of justice itself. Once again that means that despite my focus here on distributive justice, justice is multidimensional and, therefore, demands of distributive justice must be put into conversation with justice in terms of recognition and participation, and all of these have a time-dimension which also asks about reparations and future generations. In addition to these dimensions of justice, there are also different, but often overlapping, spheres or communities of justice, each of which with its own set of justice principles. Among these, ecological justice is only one sphere. More precisely ecological justice is the overall denomination of a set of justice relationships between humans and nonhuman nature and each relationship, by virtue of its unique features, establishes a different set of justice principles that reflect this particular relationship. However, as mentioned earlier, I use it here to primarily denominate the human-wild nonhuman relationship. In consequence, entitlements and duties of distributive justice, in my account, are not independently valid from other moral demands (despite of their weightiness), in particular from other demands of justice, and thus can, all other things being equal, justifiably be defeated under certain circumstances without requiring restitution.¹¹

In combination with my claims about limiting justice to living individual entities this implies that even if sophisticated products of developments in Artificial Intelligence technology or synthetic biology would turn out to be alive in the morally relevant sense, and thus have a wellbeing that requires being considered, this does not mean that they are part of this *particular* community of justice, because they are not wild in the sense used here. Other justice considerations might apply to them under the umbrella of a life-focused account of justice, but because moral considerability is not a sufficient criterion for grounding a community of justice, it does not necessarily follow that such entities are covered by considerations of justice at all. Therefore, in order to determine what would be just, all-things-considered, it is necessary to take into consideration all relevant dimensions and communities of justice that apply to an area of concern. The upshot is that the moral considerability of living beings in addition to a justice relationship only leads to conditional and pro tanto entitlements and duties of justice.

Environmental virtue ethics

Finally, I would like to return to the question about human wellbeing that I have kept separate until now by simply stipulating that one can choose nearly any theory of human wellbeing and insert it into the X in the environmental justice principles. However, the demandingness

of that theory is one of the factors that influence which scenario of scarcity we currently find ourselves in and, thus, it seems that not every theory of wellbeing is as good as every other. For example, if the theory requires large amounts of ecological space for human flourishing and fundamental needs, even a small human population will create circumstances of severe scarcity. In principle, even a very demanding hedonist theory of human wellbeing that requires Western consumption levels of material goods might be compatible with the structure of my argument, but not with its underlying normative commitments. This means that the distributive justice approach that I have laid out so far also seems to be closely linked to environmental virtue ethics approaches and virtue theory more broadly in two regards, which makes its substantive content not compatible with such a demanding theory of wellbeing.

Firstly, an attitude of *humility* created by a deeper understanding of humanity's place in the biosphere should be understood as a central environmental virtue. This can create the necessary motivational grounding for agents to take the demands of ecological justice seriously. That also links back to the recognition of *being* oneself ecological space that we looked at in [Chapter 4](#). Accordingly, the virtue of humility (or a similar virtue that situates humanity as part of the biotic community) functions as a necessary condition for understanding the demands of interspecies justice by, for example, regarding oneself as part of ecological space which creates the basis for enacting these demands by self-limitation and respect for other living beings. Humility can be understood in this context as a necessary 'virtue of justice' in order to lay the necessary societal foundations for enacting justice. This terminology comes from Onora O'Neill's discussion of the links between justice and virtues. In O'Neill's words, '[v]irtues of justice embody principles of justice in characters and lives [...]. The virtues of justice include justice itself, as well as varied forms of fairness, of toleration and respect for others, of fidelity and probity, and of truthfulness and honesty' (1996, p. 187).¹²

Secondly, the virtue of humility has taken a prominent position in several accounts of environmental virtue ethics. In this context, a virtue of humility is not just required to bring about ecological justice, but in an eudaimonistic environmental virtue ethic it is an intrinsic part of human flourishing; that is, human flourishing requires practices of nature conservation.¹³ This implies that a hedonistic theory of human wellbeing sits uncomfortably with interspecies justice in particular, and an environmental virtue ethic more broadly. As a consequence a very materially demanding account of wellbeing is incompatible with the wider moral framework, in which a theory of ecological justice

is embedded, when linked to an account of environmental virtue ethics which understands an attitude of domination towards nature (Plumwood 2003 (1993)) and false modesty (Frasz 1993) – that is, an overly misanthropic attitude – as the corresponding vices to the virtue of humility. Linking ecological justice to such an account of virtue ethics means that it can no longer remain fully neutral between the different conceptions of the human good.

In the end, not only would my own account of interspecies justice benefit from a linkage with environmental virtue ethics, but potentially the latter would also benefit from such an alliance. As put by Robert Hull, ‘a review of the [environmental virtue ethics] literature leaves one with the impression that the moral force of EVE [environmental virtue ethics] does not reach that of an imperative to green states of character and corresponding actions’ (2005 p. 100 –1). A complementary account of duties of justice to nonhuman beings could provide such a moral imperative for green action that EVE might lack on its own.

This chapter has covered a lot of ground, so let me summarise the three main points to keep in mind before we move on to discuss the capabilities approach in Chapter 6. Firstly, despite that scarcity is not usually front and centre in discussions of distributive justice, it is precisely the scarcity of ecological space that drives our thinking about what constitutes the demands of environmental and interspecies justice. Depending on which circumstances of scarcity we find ourselves in – either moderate, significant or severe scarcity – different principles of justice apply. Limiting my discussion of ecological justice to the relationship between humans and wild nonhumans, I argued that, under conditions of significant scarcity, the ecological justice requirements translate into zero human-caused species extinctions, and that under conditions of severe scarcity, ecological justice requires the minimisation of the anthropogenic rate of species extinctions. Yet, in all more-than-moderate scarcity scenarios there is also a demand to reduce the levels of scarcity to more benign conditions for life on Earth. In essence, that is a duty to pursue sustainability. Secondly, duties and entitlements that follow from these different justice principles are conditional – depending on different circumstances of justice and so on – and pro tanto – depending on other demands of justice with which they have to be put into conversation. Thirdly, such an entitlement-based account that draws on a non-ranking account of biocentrism is not compatible with utilitarian sum-ranking decision-making but, arguably, it can and should be complemented with an appropriate environmental virtue ethic within a broader pluralist theory of environmental ethics.

Still, several relevant issues have been set aside of which I will only scratch the surface. For example, I have set aside the issue of who might hold responsibility for generating scarcity, and who is responsible for the shift from moderate to significant or severe scarcity. Such responsibilities for historical injustices – such as by also benefiting from past injustices that others have committed – will have an impact on the conclusions reached up until now regarding what would be a just distribution, in that the all-things-considered demands of justice might be even more demanding for (some) currently living humans than pictured here. Related to this, it should be noted that the group of humans is, of course, a simplification that needs considerable more thought, especially when it comes to which groups and institutions should be primarily responsible for discharging duties of ecological justice, which is an issue we will return to in the last two chapters. Another related but distinct question is the issue of reparation which, for example, might take the form of aiding nonhumans to adapt to changing habitats and environmental conditions. If due, that would potentially increase the demandingness of duties held by some currently living humans further.¹⁴

Notes

- ¹ Some examples of such exceptions are Eldar Sarajlic (2011) who wrote on the 2007/2008 global financial crisis, and Robert Goodin (2001) who provides a detailed analysis of the circumstance of moderate scarcity. Yet to put this lack of discussion of scarcity into perspective, the widely read entry on distributive justice in the *Stanford Encyclopaedia of Philosophy* does not even mention the word ‘scarcity’ in its 2017 version (see Lamont and Favor 2017). I will not provide an analysis of how scarcity has been employed in the literature about justice.
- ² This being a one-directional relationship in terms of duties does not imply that it is also a monological relationship in terms of communication.
- ³ Cases where nonhumans use human bodies without any harmful or even beneficial impact on their host do not fall into either of these categories. These cases do not have to concern us here, but they are relevant for generating awareness of being ecological space as argued in [Chapter 4](#).
- ⁴ This wording brings to mind Eco-Marxist perspectives that connect the environmental crises to capitalism’s origin in ‘primitive accumulation’ (see Lievens 2010). Thus, in such a framework the problem could be framed as capitalism’s *misuse* of ecological space by over-appropriation of nature, driven by its need to accumulate.
- ⁵ I use the phrase ‘flourishing in terms of X’ in order to leave open the question about what constitutes human flourishing. For now, I assume that every theory of human wellbeing which is able to distinguish between some kind of human flourishing and a more minimal account of human basic/fundamental needs is permissible. Moreover, in order to not fall into the universalist trap, the account of environmental justice has to be open for variation between different understandings of what constitutes wellbeing.

- ⁶ For a different argument that reaches a compatible conclusion see James Sterba's 'principle of disproportionality' (2005, p. 294).
- ⁷ See Sterba's (2005, p. 292) 'principle of human preservation' for a related point in the context of conflicts.
- ⁸ That raises the question of whether it is possible to cause the extinction of a species without undermining the flourishing and survival of its individual members. If that is an actual possibility, then not all anthropogenic species extinctions that are caused in circumstances that are less scarce than severe scarcity, or are not necessary extinctions in circumstances of severe scarcity, embody indicators of injustice. I am sceptical about whether such scenarios exist, but if they do then they are exceptions that – in practice – should not heavily impact on what can be deemed just or unjust practices. The possibility of this problem hinges on the question of what constitutes the flourishing of nonhuman beings (see [Chapter 2](#)).
- ⁹ See also Robert Garner's (2013) critique of utilitarianism's potential to constitute a theory of justice for animals.
- ¹⁰ These entitlements can be understood as a type of moral right. Rights have not featured much within the ecological justice literature (excluding sentientist focused accounts) so far, but Baxter's theory of justice is probably the best example of an account of ecological justice that embraces rights language in the justice context by attributing (justice) rights to sentient individuals and rights – sometimes referred to 'right-like claims' – to populations of 'merely living' organisms (2005, p. 129). Of course, moral rights are another contested concept. Yet on the other side, duties held towards nonhumans appear especially weak if nonhumans as recipients are not conceptualised as holding rights in terms of claims, privileges or entitlements and, according to Angie Pepper (2018), being a bearer of moral claim rights is what constitutes a recipient of justice. Generally speaking, an account of moral rights that includes nonhuman living beings as rights-holders necessitates a broader 'interest theory' or a similar promising alternative as opposed to a narrow 'will theory' of rights (see Feinberg 2007 (1974)). Without engaging in such debates about their nature, I assume for my purposes here that some version of an interest theory is a plausible conceptualisation of the notion of rights. To clearly differentiate between moral rights in general and what I consider to be a subcategory of rights of justice, I refer to the latter as entitlements rather than rights. This more clearly delineates them from other kinds of rights such as natural or legal rights. In any case, I take it for granted that the rights question will need more elaboration than I provide in this section.
- ¹¹ Assuming that the status quo has not been reached in a morally neutral manner, restitution is an *additional* requirement driven by the demands of compensatory or reparatory justice.
- ¹² See also John Dryzek and Jonathan Pickering's (2019) discussion of 'ecological reflexivity' as an important virtue on which justice rest on in the context of the Anthropocene.
- ¹³ For concise overviews about environmental virtue ethics see Hull, R. (2005) and Ronald Sandler (2016) and for a detailed discussion of 'humility' see Lisa Gerber (2002). In addition for a discussion on the link between the virtue of 'resourcefulness' with the literature on ecological citizenship which is central to [Chapter 10](#) see Hayward (2006b).
- ¹⁴ On the possibility of having duties of reparatory justice or 'reparation-like special obligations' to animals see Clare Palmer (2010, p. 96; 2012b).

Ecological Justice and the Capabilities Approach

Since Martha Nussbaum's (2006) influential inclusion of animals into her version of the capabilities approach (CA), the CA has developed as the most influential theoretical framework for thinking about the extension of justice to nonhumans (for example Schlosberg 2007, Armstrong 2012, Fulfer 2013, Kortetmäki 2017). Yet this discursive paradigm has moved the discussion away from questions of distribution which, as already mentioned, are especially salient in the environmental context. Because it has become so influential, I would like to explain why I do not frame my own account in terms of capabilities – in particular because the CA could provide us an account of wellbeing. Let us begin with a quick survey of the literature that extends justice to nonhumans within this framework (see for a more extensive overview Holland and Linch 2016).

Initially proposed by economist and philosopher Amartya Sen (1999, Nussbaum and Sen 1993), the CA has been extensively developed by Nussbaum (2000, 2006, 2011) and it was quickly adopted by a number of contributors – often referred to as capability theorists. Rather than focusing on the distribution of some material goods themselves, the focus of the CA lies on the functionings – that is, doings and beings – and the capabilities – that is, opportunities or freedoms to achieve these functionings – of humans. The provision of these capabilities, which require different inputs depending on the individual in question, are at the heart of its concern. In other words, capability theorists are concerned with the opportunities that individuals need to live fully functioning – or flourishing – lives. The main departure from Sen's less-specified initial framework was Nussbaum's proposal of a 'set of human capabilities'; each of which should be enabled for each person

to at least a minimum threshold as a matter of justice. She lists the following as what she considers ‘central human capabilities’:

- life
- bodily health
- bodily integrity
- senses, imagination, and thought
- emotions
- practical reason
- affiliation
- other species
- play
- control over one’s environment (politically and materially) (2006, pp. 76–7)

Moreover, central to Nussbaum’s version of the CA is that she understands it as a sufficientarian – that is, minimum threshold-based – account of justice within the Rawlsian understanding of political liberalism. Based on this theoretical framework, she extends justice to nonhuman animals. So far that sounds fairly compatible with what I am arguing. Yet, as we will see, there are some problems that the CA faces that make me question its feasibility to ground a theory of interspecies justice. But let us first continue with the overview.

Nussbaum justifies this extension by referring to the centrality of dignity and flourishing within her understanding of the CA. For example, she claims that the CA ‘wants to see each thing flourish as the sort of thing it is’ (2006, p. 349), and the focus of the CA lies on the ‘well-being and dignity of the individual creature’ (2006, p. 357). Surprisingly, she then limits the extension of justice to sentient animals by introducing an additional sentience criterion. Modelled on her list of central human capabilities, Nussbaum proposes an animal capabilities list that draws on the same capability categories. She claims, for example, regarding the first capability of ‘life’, that ‘all animals are entitled to continue their lives’ (2006, p. 393); or, regarding the capability to have ‘control over one’s environment’, she takes it to mean in the animal case to be (1) ‘part of a political conception that is framed so as to respect them’, (2) to be granted ‘respect for the territorial integrity of their habitat’, and (3) to have the ‘the right of labouring animals to dignified and respectful labour conditions’ (2006, p. 400).

Others – most notably David Schlosberg (2007, 2014) – have taken Nussbaum’s account as a starting point and argued for an even more extensive expansion of the community of justice as well as broadening

the ecological justice discourse beyond distributive justice. For example, Schlosberg gives an account of the community of justice that includes ecosystems in addition to living beings. Moreover, he inquires into how procedural justice regarding environmental decision-making (that is, participatory justice), justice as recognition in the sense of misrecognition of nature and the CA could extend to his broad justice community. It should be noted, though, that Schlosberg limits himself to pointing towards how the justice discourse should be expanded, instead of arguing ‘for a single, all-inclusive, holistic, theory of environmental and ecological justice’ (2007, p. 8). His main focus regarding interspecies justice lies on showing how concepts of justice employed by environmental justice movements could also be applicable in the nonhuman realm. Regarding the CA, Schlosberg expands upon and simultaneously heavily criticises Nussbaum’s extension of the CA to animals. Teea Kortetmäki, in turn, builds on Schlosberg’s analysis and proposes ecological and environmental justice to be understood as a ‘broad [discursive] framework’ (2017, p. 11) which ‘combines two different approaches to justice – the capabilities approach and the trivalent or three-dimensional conception of justice’ (2017, p. 12); the latter she understands as including considerations of distribution, recognition and representation.

On first examination, the CA (as framed by Nussbaum) has a lot of intuitive force in the domain of ecological justice, arguably because of its close connection to the concepts of needs and flourishing. However, accounts of interspecies justice based on the CA have been met with powerful criticism which leads me to conclude, in addition to the points I will raise now, that the project of expanding the CA into the nonhuman sphere will require considerable adjustments, and consequently the task of developing interspecies justice should rather be left to less anthropomorphist approaches. Instead of reiterating most of the criticism already brought against – mainly Nussbaum’s version of – the CA (see for example Ilea 2008, Cripps 2010, Wissenburg 2011, Hailwood 2012, Garner 2013, Kasperbauer 2013, Keulartz 2016, Melin and Kronlid 2016), my aim here is to add to the critique from the perspective of what I consider to be necessary features of a defensible account of interspecies justice to wild nonhumans. This does not imply that the CA is not appropriate for matters of social justice; only that it does not seem to provide the necessary conceptual framework for a theoretically robust and practically useful theory of interspecies justice. For example, I will omit the CA’s Rawlsian legacy embodied by the need for consensus – found in Nussbaum’s account and criticised by Ramona Ilea (2008), and return to [Chapter 2](#) for a

critical engagement with Schlosberg's definition of ecosystems which has also been discussed by Elizabeth Cripps (2010). In general, the reasons why I deem Schlosberg's extension of moral considerability to ecosystems problematic are also applicable to the account given by Adrian Armstrong (2012). Although Armstrong extends the CA even further than Schlosberg to include 'Gaia' or the 'whole Earth ecosystem', I do not find his argument convincing based on the grounds for excluding even more limited systems, such as ecosystems, from the realm of justice.

In the first section, I will elaborate on why the CA is problematic in the sphere of nonhuman nature due to, among other things, its focus on dignity, and then turn to its relationship with predation. Based on my defence of ecological space as an appropriate distribuendum of ecological justice (Chapter 4) and the important distinction between wild and domesticated nonhumans, I favour an account of distributive ecological justice which is more limited than what has been proposed by capabilities theorists so far. I will elaborate on these latter points in the second section.

Concerns

Because Nussbaum's and Schlosberg's accounts are the most influential extensionist accounts within the CA and have been drawn on by other theorists, I will primarily focus on these two theoretical frameworks. My first concern regards the notion of dignity within the CA.

Dignity and nonhumans

Angela Kallhoff (2014) claims that applying the concept of dignity to plants is a case of human anthropomorphism – it does not respect the otherness of plants. Be that as it may, worries like this one target positions like the CA which leans strongly on the concept of dignity. At least in its Kantian sense, dignity is a very human-specific concept because it is owed only to autonomous rational agents (Hill 1992). If we understand dignity in this way, it is indeed not a useful concept to apply to other organisms such as most nonhuman animals and plants in particular. Nevertheless, it is not accurate to accuse Nussbaum's extension of the CA of applying a Kantian conception of dignity to nonhuman beings. Nussbaum strongly criticises a Kantian approach to dignity that distinguishes 'between personhood and animality', and she claims that – on the contrary – it is a fact that human dignity is 'the animal sort of dignity' (2006, p. 132) which implies some kind

of neediness. She then goes on to claim that ‘nonhuman animals are capable of dignified existence’ and the denial of this by human acts ‘appears to be an issue of justice’ (2006, p. 326).

Despite this differentiation and the claim that the CA ‘wants to see each thing flourish as the sort of thing it is’ (2006, p. 349), Nussbaum reserves justice only for sentient beings in the end. It appears that even though Nussbaum argues that the concept of dignity is fundamental for her theory of justice, she weakens her own commitment to the importance of dignity in order to exclude non-sentient beings from the justice community. If dignity triggers considerations of justice, and nonhuman beings have dignity, then the question arises why the additional requirement of sentience for being part of the community of justice applies only in the nonhuman case, and not in the human case. This is especially puzzling because she not only attributes dignity to sentient beings but to all living beings – that is at least my interpretation of the following passage: ‘It is the animal sort of dignity, and that very sort of dignity could not be possessed by a being who was not mortal and vulnerable’ (Nussbaum 2006, p. 132). Jeremy Bendik-Keymer confirms this claim by clarifying that indeed ‘[h]aving dignity, for Nussbaum, is no longer sufficient to make one a subject of justice. The reason why is that all forms of life have some kind of dignity, but not all forms of life deserve justice’ (2014, p. 175). He further adds that ‘[t]here are many kinds of dignity, but not all of them deserve justice. [...] Nothing unfeeling or unmoving deserves justice’ (2014, p. 180). This is because, according to Nussbaum, only beings that *intend* to do certain movements have ‘a stake’ in their existence and only *sentient* beings ‘care about the damage done to them’ (Bendik-Keymer 2014, p. 182). Or as Nussbaum clarifies herself, in her view ‘[t]he notion of justice is conceptually bound up with the idea of experienced harm and thwarting’ (2011, pp. 158–9).

So somewhat similarly to my own account, Nussbaum distinguishes between moral standing in terms of dignity and ‘deserving’ justice. Yet, instead of making particular justice-related considerations trigger who or what is included in the community of justice, she makes sentience the criterion of being a recipient of justice. However, this is congruent to her understanding of justice itself – a concept highly interlinked with sentience (see Bendik-Keymer 2014) and in that sense a justice-related reason. Despite that this does not seem fully sufficient for grounding an account of justice *per se*, based my conceptualisation of justice at least (Chapter 3), I would also contest that ‘having a stake in one’s existence’ is only exhibited by sentient and moving beings (Chapter 2). Consequently, it remains unclear to me how this emphasis

on sentience allows for the exclusion of non-sentient beings from justice instead of starting with a (political) biocentric standpoint. Surprisingly, Bendik-Keymer goes as far as claiming – with Nussbaum’s approval – that Nussbaum is a ‘*biocentric individualist*’ (2014, p. 176, emphasis in original). If that is the case and there are indeed features of Nussbaum’s theory that suggest such a perspective, which generate in conjunction with sentientism the inconsistencies noted earlier, then it is even less understandable why she insists on excluding non-sentient nonhumans from the protection of justice, even though she grants these nonhumans ‘respect’ because, at least from my perspective, the political, in terms of justice, does not stop at sentientism but can reasonably extend to a wider set of wellbeing.

But not all forms of respect are equal. As put by Bendik-Keymer, ‘[r]espect-worthiness that generates claims is different from respect-worthiness that does not’ (2014, p. 183). Even though Nussbaum attributes ‘respect’ to all nonhumans it seems to be of a second-class variety. Consequently, even though non-sentient nonhumans are attributed dignity and are considered worthy of respect, both of which are important concepts in Nussbaum’s CA in the human context, dignity and respect turn out to be less relevant for determining which living beings are awarded the protection of justice. This locates Nussbaum’s extension of the CA firmly within sentientism (despite that her broader ethical commitments appear indeed biocentric) and illustrates that a conception of interspecies justice does not necessarily have to rely on an account of dignity. Yet this is problematic for Nussbaum insofar as her account of the CA relies on dignity as a grounding concept, which puts a strain on the relationship between her understandings of justice in the human and the nonhuman spheres.

A related position is Katy Fulfer’s (2013) ‘relational’ description of dignity that links to interdependence and neediness, and includes also non-sentient life in the community of justice. For that she draws on Nussbaum’s account while also simultaneously proposing a definition which is quite removed from Nussbaum’s own understanding of dignity. I will not analyse her position in detail here, but particularly interesting regarding justice is that her account does not appear to fully resolve the inconsistencies in Nussbaum’s account because for Fulfer too, the bestowing of dignity on nonhuman beings does not appear to really trigger considerations of justice. It rather appears that in her account it is the ability to flourish and the agency of non-sentient organisms which humans interact with which does the main conceptual work, as illustrated by the following passage: ‘Instead of framing a disjunctive standard that highlights sentience or cognitive capacity more generally,

Nussbaum could consistently (and should) define the standard for inclusion in the community of justice on the basis of flourishing' (2013, p. 27).

The question therefore arises whether the concept of dignity is required in the context of interspecies justice. In neither Nussbaum's nor Fulfer's work does dignity really aid their accounts of interspecies justice. Furthermore, the relational component of Fulfer's account does not need to be framed in terms of dignity. Interdependence could ground a relational account of justice between beings with the capacity to flourish independently of a conception of dignity. Maybe Schlosberg's version of the CA can help by providing a way of avoiding the issue of dignity. Instead of dignity, Schlosberg (2007, 2014) prefers the term 'integrity', because he claims that it is more appropriate in the context of ecosystems as well as applying to organisms. According to him, integrity 'requires us to think about the autonomy and unfolding of potential, and of the ethical issues of *interrupting* that life process. Integrity, in this sense, is a state where functioning remains; a violation of integrity undermines function and is the definition of injustice' (2014, p. 81, emphasis in original).

As noted by Kallhoff (2014) integrity is not necessarily valuable in itself, and it is not fully clear how Schlosberg's use of integrity does amount to more than flourishing; it is the flourishing of these ecosystems that his description of integrity seems to lead to in the end. For example, when explaining his understanding of integrity, Schlosberg refers to the following passages: 'every natural entity is entitled to enjoy the fullness of its own form of life' (Low and Gleeson 1998, p. 156 cited in Schlosberg 2007, p. 136) and '[n]eed understood in terms of conditions necessary for living well or flourishing is a concept applicable not only to all animal species, but to plant life as well' (Benton 1993, p. 212 paraphrased in Schlosberg 2007, p. 137). Neither of these two passages and the sections they originate from refers clearly to any concept of integrity, but both arguably refer to some notion of flourishing. Then, further into his discussion, Schlosberg criticises Nussbaum's use of dignity and claims that a 'conception of integrity or of flourishing [...] would be better choices than the term dignity' (2007, p. 146). Either this means that these two concepts are interchangeable to some degree to him, or that he is still open to the idea of flourishing playing a more central role in a theory of justice.

Overall then, the concept of dignity is quite central in Nussbaum's version of the CA, and both Fulfer and Schlosberg draw on Nussbaum's conceptual framework. When applied to nonhuman beings, however, each of these accounts runs into problems or

discharges the notion of dignity, which suggests that dignity might not be able to perform the same normative work in the nonhuman realm as it might with regard to social justice, and that its proposed alternative integrity – at least for now – does not necessarily constitute a conceptual addition to the debate that generates more normative pull than the notion of flourishing.

The predation problem

A second problem faced by the CA is its uneasy fit with the gruesome realities of prey-predator relations.¹ Justice to nonhuman beings is neither about policing nature nor about providing an authoritative external standard for the conduct for other species. As previously discussed, it determines how we as humans think we should conduct ourselves while being immersed in a multitude of relationships with other species. It is here, however, where the CA (on some accounts at least) runs into difficulties. On the one side, it would appear that a capabilities theorist would want to argue that it is part of a predatory wild animal's capabilities list to prey on other animals; hence we need to allow this behaviour to avoid non-flourishing lions or bears and so on. On the other side, however, being eaten by another animal is surely not part of the flourishing of an individual gazelle or salmon, which may justify considering the protection of these animals from predators.

Nussbaum tries to solve this problem by tentatively opening up the possibility of policing nature by suggesting that the 'conception of flourishing is thoroughly evaluative and ethical; it holds that the frustration of certain tendencies is not only compatible with flourishing, but actually required by it' (2006, p. 366). This is supposed to be true not only for humans but also for animals. Hence, she argues that '[r]espect for nature should not and cannot mean just leaving nature as it is, and must involve careful normative arguments about what plausible goals might be' (2006, p. 369). As a consequence Nussbaum argues 'for the gradual supplanting of the natural by the just' (2006, p. 400). She does not follow this argument to the extreme, however, by suggesting something along the lines of denying all predatory animals' 'harm-causing capabilities', because she acknowledges that predatory animals might suffer otherwise as 'there is no chance that education or acculturation would remove this pain' (2006, p. 370).² Her proposed solution is rather, for example, to give the predatory animal an appropriate toy to 'play' with instead of another animal to kill – at least when human control is present (Nussbaum 2006) – and

in more general terms her solution is one of ‘paternalism’ that also aids other species when they are in dire circumstances which are not of human origin.

Nonetheless, even though Nussbaum’s paternalistic attitude towards nonhumans might not be regarded problematic from all green perspectives, her insistence on improving nature is not what ecologists usually have in mind when lobbying for action (Wissenburg 2011). In addition, Nussbaum’s approach has been strongly criticised by some political theorists (such as Schlosberg 2007, Cripps 2010, Wissenburg 2011), mainly because applying justice in the sense of a duty of human interference into relations between wild animals appears nonsensical. What worries me in particular is that Nussbaum’s attitude towards improving nature appears highly anthropocentric by implying a sort of human exceptionalism which sits uncomfortably with the virtue of humility, as discussed in Chapter 5. Because of the implicit domination attitude in this perspective, it seems at odds with a commitment to ecological justice in terms of just biological conservation. Merely attributing respect to nonhumans (via dignity) is not necessarily enough to avoid this implication.

According to Simon Hailwood, the predation problem is actually not a problem intrinsic to Nussbaum’s CA. Rather, ‘[h]er predation problem is caused by an external assumption [the improving attitude] that is inconsistent with the capabilities approach’ (2012, p. 297). This is because Hailwood argues that this attitude is inconsistent with Nussbaum’s understanding of animal dignity. Hence, he claims that the CA can be rescued if it is detached from ‘an unqualified improving attitude towards nature’ (2012, p. 306). He proposes that either a restriction of scope – for example by ‘viewing wild predation as outside the circumstances of justice’ – or of content – by only accepting negative duties not to undermine flourishing and not positive duties to protect prey animals – can solve this problem (2012, p. 308).

I will return to Hailwood’s point about scope later, but I agree with Hailwood that restricting (at least) its *content* is one successful argumentative route for a non-contradictory account of ecological justice. In the previous chapters, I argued that regarding wild nonhumans, interspecies justice can only include negative duties not to inhibit the flourishing of nonhumans because of the issue of predation, among other things. But besides that the predation problem is not the only one faced by the CA, I maintain that it is more intrinsic to the CA than Hailwood acknowledges. To clarify my point, let us return to Schlosberg who makes an attempt to rid his work of the paternalism in Nussbaum’s CA. He claims that ‘[t]he point is not to lay out the ideal

form of protection of the capabilities of all; the goal is a framework of justice that can address the human undermining of the basic needs and functionings of the worlds in which we live' (2014, p. 83). He points here to an inherent problem within the CA; its inbuilt paternalistic tendency. There is a difference between enabling capabilities as far as human action as the moral agent is concerned, and *protecting* everyone's/ everything's capabilities which goes further than refraining from impeding on capabilities. In the context of interspecies justice it seems enough for humans not to 'stand in the way' of a being's flourishing – that is, restricting its 'content' on Hailwood's (2012) account. This is at least the case regarding wild nonhumans. However, by protecting flourishing via protecting capabilities, as is the aim of Nussbaum's CA, humans take a stronger interest in other beings' flourishing, and this leads to the prey-predator dilemma without necessarily being committed to solving this problem by improving nature.

The real world does not allow the protection of all capabilities of all beings at the same time. There are always conflicts, such as between prey and predator, at the individual level in which the predator wants (and needs) to eat the prey, and the prey wants to stay alive. It is not up to humans or justice to solve these unavoidable conflicts, and it is not a matter of justice how animals or plants conduct themselves. Nussbaum seems to disagree with this claim, however, due to her goal to make nature more just. But because it is impossible to ensure the flourishing of all beings, it seems that not only an 'improving attitude' towards nature, but also a related (but distinct) paternalism, which appears conceptually entangled with this version of the CA, leads to the prey-predator dilemma in Nussbaum's account.³ Hailwood seems to understand what I have termed paternalism as a feature of Nussbaum's improving attitude and therefore detachable from the CA as such. Still, it seems that Nussbaum's improving attitude which requires all 'natural' to become 'just' is distinct from a more general commitment to protecting capabilities found in the CA. Maybe this feature can also be detached from the CA when applied to wild nonhumans, and retained when applied to some domesticated nonhumans where protecting capabilities does not necessarily run into this particular problem in the same way (while generating a new set of issues to consider). I will return to this last point in a moment. In any case, Nussbaum's version of the CA can only be redeemed in this regard if it is altered accordingly. As argued by Cripps, Schlosberg's position – in his earlier writings – also entails the capability theory's focus on protecting capabilities; the resulting situation being 'one in which justice, understood as the positive

guarantee of some threshold level flourishing for all, is ruled out by the very nature of its subjects' (Cripps 2010, p. 15). The issue is with how the CA defines justice itself as more than merely non-harming negative duties. Thus, its definition of justice stands in tension with the actual existing relationships between living beings. Consequently, the problem is not merely based on an external assumption found in Nussbaum's account (which is supported by Clare Palmer's (2010) reading of Nussbaum's theory). If that is the case, then the predation problem might be intrinsic to the CA after all.

Even though Schlosberg tries to address this issue, he has not managed to satisfactorily resolve this inconsistency in his own theory. This is because he proposes that '[t]o be food for others is the essence of functioning for some beings' (2007, p. 151). From this perspective, it is part of the gazelle's flourishing to be eaten by the lion. This approach would clearly solve the issue of conflicting interests (*if* such functionings can be translated into interests) because for both – prey and predator – predation is essential to their flourishing. As Cripps (2010) points out, Schlosberg's argumentation makes sense when we consider lions and gazelles as species. Gazelles as a species might benefit from the population control that results from the lions' predation, and more generally, the ecosystem in which these species exist also benefits from the population control mechanisms that prey-predator relationships generate. However, it is unclear how an individual gazelle is supposed to flourish by being eaten – pain and premature death are usually not part of any being's interests (recall Chapter 2). Hence, on the individual level, the conflict of interest remains. Moreover, Schlosberg also generates, by the inclusion of species and ecosystems into his theory, conflicts between species, ecosystems and individuals (Cripps 2010). In reply, Schlosberg (2014) stresses the point again that eating a being does not necessarily undermine its functioning. This is indeed sometimes the case but still primarily a point that rather applies on a systems level. A being's life project *usually* includes a full lifecycle – that is, a normal lifecycle based on what kind of being it is. Premature death by predator appears clearly to undermine this project even if the being in question is not conscious.⁴ Consequently, the CA's uneasy fit with prey-predator relations appears to remain within these versions for now, which undermines its potential suitability as a theory of interspecies justice towards wild nonhumans.

Related to the predation problem is the question of self-defence. Because the CA oversteps the boundaries of how justice is usually understood, it imports problems into the sphere of justice which I am reluctant to include – at least with regards to distributive justice. For

example, discussing the ‘capability of life’ in Nussbaum’s account, Marcel Wissenburg notes that ‘[e]ven the choice between killing the tiger that attacks you or being killed by the tiger should at least be considered a moral dilemma’ on that account (2011, p. 394). If this reading of Nussbaum’s CA is correct then it demonstrates how ambitious this account is regarding the range of issues it applies to. For example, a question about self-defence becomes an issue of justice, rather than merely one of what would be morally right or at least permissible actions to take in such a situation. However, as we have already discussed in [Chapter 5](#), there are good reasons for excluding self-defence from the realm of questions that justice can address which goes back to the important distinction between ethics as a broader concept and justice as a more specific one. More specifically, my interest lies primarily in *distributive* ecological justice and I therefore consider questions around self-defence, whether against another human or nonhuman, to be outside of the realm in which accounts of distributive justice can provide guidance. Otherwise we would be committed to an account that would aim to distribute the bodies of the distributors. This narrows the range of questions which my account of interspecies justice can answer, but it also makes it more efficient in providing real world guidance on what constitutes a just distribution of ecological space instead of generating an array of moral dilemmas. In other words, Nussbaum’s version of the CA is too broad in that it is applicable to too many issues; it generates considerable problems at least in one interpretation of her account (what shall I do when I am attacked by a tiger?) and remains fairly vague on questions of distribution. A narrower account of distributive justice is, then, more apt to provide principled recommendations for just actions.

Benefits of a more limited account

Moving on from problems of extensionist accounts of the CA that could potentially be rectified, I would like to discuss two further points that illustrate the advantages of a narrower distributive justice approach for developing a framework of interspecies justice. These are the advantages that follow from (1) framing some problems in terms of ecological space rather than capabilities, and from (2) emphasising different justice relationships. As we have seen, in a wider context, the CA is part of the departure of political philosophy from considering justice as being synonymous with distributive justice. Even though the CA does have some distributive justice features on some accounts, it is arguably not a pure version of such a perspective. Because of this

particularity of the CA, its interpretation differs from author to author, either as an approach of distributive justice; as an approach including several considerations besides distribution, such as recognition; or as a fully distinct and novel approach towards justice. As argued previously, I focus on distributive justice because the materiality of environmental problems points towards issues of misdistribution and distributional-conflicts that cannot be ignored. In contrast, in a distributive justice context the CA is less effective in providing guidance regarding the distribution of scarce resources than an alternative approach that focuses on the distribution of limited material goods.

With that in mind, the problem with the CA concerns the *distribuendum* at its heart, if the CA is understood (roughly) as an account of distributive justice.⁵ In distributive terms the CA focuses on the just distribution of opportunities for engaging in activities or reaching certain states of being (that is, functionings). In contrast, I argue for an approach that focuses on the material means for – the potential of – wellbeing, and I have proposed ecological space as the appropriate *distribuendum* for theories of environmental and ecological justice (Chapter 4). Even though capability theorists have tried to incorporate considerations for sustainability into their theories (see for example Holland 2008), the CA cannot straightforwardly account for environmental limits in space, resources, benefits provided by ecosystems and so on. In contrast, engaging with issues of environmental limits and scarcity of necessary goods is more direct via theories of justice that are able to clearly distinguish between the limited material means that are distributed, and the ends of distribution, which is the flourishing of individuals. The actual material means such as ecological space are only of second order importance (*via* conversion factors that reflect the ability of individuals to turn material means into functionings) within accounts of the CA, because they are part of what creates capabilities instead of what gets distributed itself. That is not to say that the CA could not be adapted to address how scarcity of ecological space is constricting capabilities, but with regards to interspecies justice in particular, the distribution of actual resources, and access to ecosystem benefits in terms of ecological space seems more relevant than the distribution of opportunities. Thus, there is a conceptual difference between distributing material means for the purpose for allowing for flourishing opportunities and the opportunities themselves (Chapter 4).

In other words, I think that there is a relevant difference between the common intuition of ‘letting wild nature be’ – the so-called *laissez-faire* intuition (Palmer 2010) – that is reflected in my account of interspecies justice, and distributing freedoms and opportunities

to nonhuman beings (and ecosystems). It seems that capabilities do not hold the same value in the nonhuman context as in the social, where it matters to humans that they have certain opportunities conceptualised as certain freedoms even if they choose not to engage in the related actions. Sometimes the ‘laissez-faire intuition’ is conceptualised as not infringing on the freedom or autonomy of nonhumans, however such freedom and the related opportunities differ conceptually from the role they play in the human context. This seems especially true for versions of the CA that also include non-sentient beings and/or ecosystems in the group of recipients of justice (such as Schlosberg 2007, Fulfer 2013). For example, it might make sense to speak of the flourishing of an ecosystem, but what matters is that the ecosystem *is* ‘healthy’ and not that it has the opportunity in terms of freedom to reach that healthiness. Or with regards to plants, it matters for a tree to have access to soil, nutrients and water and so on – that is, ecological space – in order to be able to flourish, but the plant’s opportunity to flourish (in terms of not being constrained by anthropogenic factors) should not be construed as a liberty. Necessary ecological space – if available – is always converted into an improvement of wellbeing by nonhuman non-sentient beings, potentially hindered only by illness, interference by other organisms or natural disasters, among other things. The focus here lies on the availability of ecological space that opens a window of opportunity for flourishing and not the presence of alternative options. Thus, the conceptual framework around freedoms and choices of the CA that makes it intuitively powerful in the social justice context weakens its applicability to the nonhuman sphere.

Andres Melin and David Kronlid (2016) point out that Nussbaum herself is ambiguous in her use of the capabilities terminology in the nonhuman sphere, which hollows out the capability concept – for example by referring to mere ‘abilities’ to perform certain actions as capabilities – as well as being at odds with the usual emphasis on free choice; previously an important feature of capabilities in Nussbaum’s own account. Alternatively, in the nonhuman sphere, the CA could shift focus from a metric of capabilities to functioning (as proposed by Melin and Kronlid 2016); a start of which can, arguably, be found in a more recent remark by Schlosberg: ‘Harm, and so injustice, is the interruption of functioning, the thwarting of a living process. Such harms can be done to sentient animals, as well as nonsentient nonhumans and ecological systems’ (Schlosberg 2014, p. 81). Hence, a conceptual move to functioning might be useful to capability theorists expanding their framework beyond the human sphere, but

whether a CA that emphasises opportunities in the human sphere can be consistently combined with an account of ecological justice that focuses on functioning remains to be established.

Another point – that requires more differentiation but does not constitute a problem intrinsic to the CA applied to interspecies justice, but is predominantly a feature of Nussbaum’s version so far – is the question of which kind of nonhumans are covered by an account of ecological justice. A distinction that can be made between wild and domesticated nonhumans and their different relations to humans (often encountered in recent writings about animal ethics; see Palmer 2010, Donaldson and Kymlicka 2011) has not received much attention in the interspecies justice literature so far, although it seems highly relevant for meaningfully defining the scope of interspecies justice. Nussbaum (2006), for example, extends her list of capabilities to all kinds of sentient animals. Even though she acknowledges that, depending on the relationship these animals have with nonhumans, this has different implications for what could be considered just treatment, her inclusion of all these different human–nonhuman relationships under a single justice umbrella – that is, only one capabilities list applicable to all sentient nonhumans – seems problematic. As pointed out earlier, Hailwood (2012) has argued that the prey–predator dilemma in Nussbaum’s version of the CA could be rectified by limiting its ‘scope’ by excluding ‘wild predation’ – that is, in effect wild animals – from the circumstances of justice as an alternative to limiting its content. This implies that Nussbaum’s CA might end up as a justice approach only towards nonhuman animals which are ‘close to humans’. That might be a good account of what we owe domesticated animals but does not help us much to establish interspecies justice in terms of just biological conservation. More fruitful seems to me to be the distinction between different kinds of justice relationships, where justice to wild nonhumans has a different content *and* structure than justice to more domesticated nonhumans. Ecological justice then functions as an umbrella concept that has to be subdivided into several communities of justice such as the human–wild nonhuman justice relationship that I focus on here (Chapter 1).

Summing up, we have covered some of the problems that I consider challenging when the CA is extended to nonhumans. Note, however, that the literature discussing this topic is more extensive than what we have looked at here. Yet I think that this little detour was necessary because the CA has become a popular route to justify the extension of justice to nonhuman beings, and I have remained sceptical about this development. On the one side, the CA approach faces problems in the

nonhuman realm because of its focus on dignity and its problematic entanglement with prey–predator relations. On the other side, the CA’s broad focus imports problems into the realm of justice (such as the self-defence dilemma) and it is less efficient in answering distribution questions, in which I am primarily interested. As a result, I believe that an account of ecological justice is more likely to be consistent without the conceptual framework of the CA but I would welcome developments that would be able to show otherwise because my account shares many similarities with the CA as indicated earlier. Now, having laid the main foundations of our account of interspecies justice, we can turn to thinking about how biodiversity loss fits into this framework in [Chapter 7](#).

Notes

- ¹ The problem of predation is part of a larger debate in the animal ethics literature. For an overview see Jozef Keulartz (2016).
- ² See Wissenburg (2011) for an illustration of what extreme consequences would follow if Nussbaum’s claims would be brought to their extreme implications.
- ³ This is not to say that it would be impossible to theoretically circumvent the prey–predator dilemma, because all capabilities might be protected if all currently wild animals were put into humane zoos, but it becomes impossible if nonsentient beings are also included. In the end, eating – even if heavily controlled – and being eaten will always cut short the flourishing of some living being, even if they are ‘merely’ nonsentient.
- ⁴ Cripps (2010) also points out that the introduction of the notion of ‘risk’ might be helpful for salvaging Schlosberg’s account because only the risk of, for example, being eaten by a predator, leads to the use of certain capacities of individual prey animals such as speed. Yet, as I will discuss later, I do not think that this line of argument helps Schlosberg’s account much because it glosses over the difference between ‘capabilities’ and ‘abilities’. Put simply, I do not think that there is good reason to suggest that an individual animal that does not have to run fast (and, hence, never does) flourishes less than an individual animal that exercises its ability to run fast in order not to be eaten.
- ⁵ For example, on Schlosberg’s (2007) reading the CA is a separate sphere from the realm of distributive justice. However, because I am setting aside for now all complementary realms of justice and focusing exclusively on distribution, my interest lies in the potential of the CA in terms of distributive justice.

Biodiversity Loss: An Injustice?

The current mass extinction is a crisis in progress, and the window of opportunity to dampen its magnitude and consequences is closing (see Ceballos et al 2015). From a practical perspective this poses the question of what could be done about it; for example, what conservation practices (including changes to economic and social systems) might be most effective? We will return to this in [Chapter 9](#), but now, I would like to focus on an underlying theoretical question: is biodiversity loss *in itself* an injustice? And if so, to whom or what is it an injustice? That is a narrower question than asking whether the current extinction crisis constitutes an injustice as we will see. Yet, considering the severity of the current rate of species extinctions, it is surprising that this general route of enquiry has received little philosophical attention. Even though there is a fairly widely shared belief by conservation biologists and environmental ethicists that species extinctions are morally wrong (see for example Soulé 1985, Cafaro and Primack 2014), this intuition has usually not been framed in terms of justice. An exception to this is, for example, Philip Cafaro's account (2015) who calls the sixth mass extinction an injustice and an 'interspecies genocide' but without grounding this claim in a particular theory of justice. This means that I am after the possibility of framing the extinction of a species as a matter of justice which does not preclude, of course, that there are other additional non-justice based grounds for morally problematising the extinction of a species, such as in terms of collective responsibility for its loss (see for example Oksanen 2007). Accordingly, the wrongness or badness of anthropogenic extinctions does not hinge solely on whether it can be framed as an injustice.

In the context of climate change, a lot has been written so far about doing justice to future generations. Yet whether the impact of climate change on nonhuman life is an issue of interspecies or animal justice – or of ethics more generally – has mostly been excluded from the

discussion so far (with some notable exceptions, such as Attfield 2011, Nolt 2011, Palmer 2011, Cripps 2013). This comes as no surprise when considering that climate change has been described as the ‘perfect moral storm’ (Gardiner 2011); even when only considering humans. Whether justice is applicable to nonhumans is a highly controversial issue in its own right. Nevertheless, climate change will have considerable consequences for many individual nonhuman beings, populations and species, and thereby contributes to the problem of biodiversity loss. Of course, climate change alone is often not considered the main or only driver of biodiversity loss (see Noss et al 2012) and, accordingly, I will focus on land-use change in Chapter 9. Nevertheless, the non-anthropocentric climate change ethics literature can help us when thinking about whether biodiversity loss – whether caused by climate change or otherwise – is a form of injustice. Particularly because the biodiversity loss question involves a time-dimension as it might involve injustices that requires us to look back or into the future.

Drawing on the climate justice literature reveals that there are several angles from which one can consider whether justice can be done in the sense that it is applicable to future and present generations of humans and nonhuman living beings. From a harm avoidance perspective there appear to be four different lines of enquiry that are most obvious. For a start, we can consider whether the concept of justice is applicable to our relationship with *future* nonhuman individual beings. Next, however, it might also be the case that any relevant harm from a justice point of view is actually located in our relationship with *currently* living nonhumans. Thirdly, we can inquire whether harm to future nonhumans in terms of biodiversity loss should instead be considered at the *species level* in the sense of potentially doing an injustice to species themselves. And fourthly, harm to future nonhumans might only indirectly be a matter of interspecies justice as the injustice might partly or mainly lie in our relationship with *future human generations*, thereby excluding nonhuman interests from the relevant considerations.

Especially in the specific context of climate change, one could also inquire whether a duty to aid adaptation is applicable to the human-nonhuman relationship. Besides adaptation and harm avoidance, the issue of burden sharing is also extensively debated in the climate justice literature. When considering nonhumans, the question of burden sharing appears to be mainly an issue regarding justice to future beings, with a focus on rectification or reparation justice and how the consequences of human environmental change and destruction are supposed to be shared by the biotic community as a whole. For example, here a question would be whether compensation for

nonhuman beings is appropriate due to the negative consequences of anthropogenic climate change and other human activities that have caused, among other issues, habitat loss, which has led to more difficult living conditions and species extinctions (some of these issues are discussed in Palmer 2010).

Instead of discussing all of these problems, I will focus on one particular case – biodiversity loss from the harm avoidance perspective – and thereby explore whether the harm of human-caused species extinctions can be considered an injustice (if it constitutes a harm at all) and not merely something that is morally lamentable or even morally neutral. Let us consider several possibilities in turn. First in section one, we will examine whether such an injustice might be part of our relationship with future or current nonhumans as well as future human generations. Yet, maybe such an individual focus is too narrow, and maybe – in contrast to what I have argued so far (in Chapters 2 and 3) – an injustice can rather be found at the species level. We will see that from both perspectives it is difficult to consider biodiversity loss an injustice rather than considering it a moral wrong more broadly. However, in section two, we will see that biodiversity loss should be considered as the outcome of injustice rather than an injustice in itself. For simplicity I use biodiversity loss and species extinctions interchangeably indicating the final extinction of one or several species (thus, not necessarily amounting to a mass extinction event), even though I am aware that both are contested concepts with distinct meanings which are not fully synonymous. Because of that, in section three, we will look briefly at one particular critique of biodiversity as a concept central to biological conservation and begin to think about the normative implications of my position sketched so far for population sizes – another very contested area of debate.

The recipients of justice

As we have seen, it is possible to extend the scope of justice to include non-sentient living organisms at least in terms of distributive justice towards wild nonhumans. From a starting point that justice is a context-specific concept that applies as a solution to certain problems/circumstances, living beings need to *share* the Earth in order not only to *live*, but also to live a *good life*. However, my argument appears to only hold for currently living organisms and hence it does not provide much insight into whether future nonhuman generations could be included, or whether the future extinction of species is an issue of justice. Furthermore, even if we would assume that justice is

an appropriate concept in these cases there are two major issues that come up when we consider applying justice to future nonhuman generations. The first is the issue of harms versus benefits, and the second is the non-existence problem.

As in the general literature on climate change justice, there are cases of countries potentially benefiting from global warming (such as Russia or Finland); we can also find in the nonhuman case that some organisms will be harmed by climate change and that others will potentially benefit from altered climatic conditions. The discrepancy of potential impacts on different individuals undermines the validity of merely focusing on clear cases of harm (such as polar bears) and ignoring cases where beings are benefiting or will likely benefit from climate change (such as mosquitoes) (see Palmer 2011, Cripps 2013). For example, are we going to weigh the numbers of beings that benefit against the numbers that will suffer, or are we prioritising different kinds of beings according to their importance for ecosystems, human interests and the like in order to decide whether climate change embodies an injustice? If we would choose such a ranking system, how would we take into account scientific uncertainty? As argued previously in [Chapter 2](#), such a prioritisation should not be based, however, on a ranking of moral significance based on, for example, a ranking of cognitive complexity. Yet, even without drawing on the claim that the wellbeing of some entities matters more than the wellbeing of others, we could draw on other further morally relevant factors such as the instrumental importance of some living being for enabling the wellbeing of others in order to make prioritisation decisions.

However, these questions seem to be beside the point in the context of justice. When considering the harms versus benefits problem, it seems to matter that in the case of climate change or biodiversity loss more generally, the harming actions might not be fully intentional but could potentially be avoided (even if only at great cost), and that following from these harming actions the benefits received by other living beings are merely accidental. As we have conceptualised ecological justice to wild nonhumans, it is primarily a matter of not inhibiting the flourishing of nonhumans rather than actively aiding and thereby benefiting their wellbeing. Consequently, the benefits incurred are not of primary interest. And thus, it seems warranted to focus on the harm done – which might be a potential injustice – and exclude the potential benefits that might occur from anthropogenic climate change. Moreover, considering that climate change is only one of many human-induced changes on nonhuman habitats, it seems that most of these changes have very low numbers of benefiteres – at least

on a relevant time scale (Nolt 2011) – in contrast to the number of living beings harmed, such as via clearances of forests for agriculture. Similarly, anthropogenic-induced species extinctions can also create winner species that can populate ‘vacant’ or ‘newly created’ ecological niches, but it seems odd – from a non-utilitarian perspective – to overstretch this beneficial side effect in light of the antecedent harm to other living beings.

Regarding the different kinds of organisms that are affected by climate change, Clare Palmer (2011, p. 285) considers the ‘simplification worry’ while assuming that the number of living beings is going to be stable over time, which she regards to be a likely outcome. That total numbers of living beings will be stable over time makes sense in the context of a long time frame, but short-run fluctuations including large decreases in numbers can and should nevertheless be a worry.¹ Similarly, what also seems problematic is the loss of *species disparity* which measures the ‘morphological variance’ of the body of species (Powell 2011). But returning to Palmer’s worry according to which more complex (that is, conscious) organisms matter more than less complex ones; climate change will likely decrease the numbers of the former and potentially benefit the latter, thereby leading to an overall ‘simplification’ of organisms. This implies that climate change would lead to an overall ‘devaluing’ because there will be fewer polar bears but more mosquitoes, for example. Again, there is scientific uncertainty about whether climate change will really lead to such a simplification (while keeping all other human impacts constant). However, more importantly from a non-ranking biocentric position, this does not worry us much if moral significance is reflected by intrinsic value. If that is the case, then how complex an organism is does not affect its value and thus a simplification is not reflected by a devaluing. And because non-ranking biocentrism grounds my account of ecological justice, the simplification worry is not relevant in this context. After all, from this perspective a polar bear and a mosquito are quite distinct beings, but both are living beings that can flourish in their own way. Even if it would be the case that, on average, simpler organisms like mosquitoes will benefit from climate change and more complex beings such as polar bears will lose out, this is not the issue at heart of the injustice that we are looking for.²

Even if we assume that most currently existing species will most likely decline in population numbers or become extinct, what would this mean on the individual level? Meaning that in what sense are individual beings harmed *via* causes such as climate change that lead to the extinction of a species? We need to distinguish here between

individuals that have been born into fairly stable conditions and then suffer from the changing climate while alive (for example because their habitat is changing); individuals that have come into existence after considerable climatic changes which have likely causally affected their coming into existence in the first place, but which nevertheless suffer from its consequences; and individuals that will never be born due to climate change or other anthropogenic causes.

It seems that the first group can be covered by an account of present justice such as the one developed so far. Regarding the second group, the problem is that climate change (or other human causes) will affect which beings will come into existence – a *nonhuman nonidentity problem* (Palmer 2011) – and based on this the issue is whether a being can be harmed by something that causally affected its coming into existence. For example, climate change will force many species to migrate into different territories. The offspring of individuals that meet in these new territories will be composed of individuals that exist because of the forced migration which makes it more difficult to claim that these individuals are harmed by climate change, even though they likely suffer under its consequences. Palmer considers this a challenge for a non-consequentialist perspective that is interested in the harm done to specific individuals because climate change constitutes a necessary condition for the existence of exactly these specific individuals. The non-identity problem is, however, only a major problem if one assumes a counterfactual conception of harm because, for example, a conception of harm that is based on thresholds would circumvent this discussion and focus instead on whether the harm-threshold for these individuals has been exceeded (see O'Neill, J. 2010). As indicated in [Chapter 3](#), such a conceptualisation of harm might be too limited but could be recast in terms of a flourishing threshold. Nevertheless, even more intriguing and relevant for the issue of biodiversity loss is the last group which is constituted by individuals that will never be born due to climate change; more specifically individuals that have not been born because they belong to a species that has become extinct due to climate change or other anthropogenic factors. That is the *non-existence problem*.

The non-existence problem

To reiterate, when considering the specific issue of whether biodiversity loss is a form of injustice to individual beings, the initial question that arises is whether undermining the opportunity of many potential individual living beings to come into existence constitutes harm in

the relevant sense and therefore embodies an injustice. That is the non-existence problem of harming beings that will never exist – the harm therefore never becoming fully actualised. Facing this problem, any account of justice to never-existing nonhuman beings would have to be based on some controversial premises (more controversial than the ones that we are relying on already) and, thus, does not appear to be an ideal route for making a plausible case for the injustice involved in biodiversity loss.³ Regarding the justice relationship, for example, it would have to be shown that preventing a particular version of the present human–future nonhuman justice relationship to come into being would constitute an injustice by removing the possibility of some nonhuman individuals (instead of others) to come into being. Avoiding this problem for which I have not found a satisfactory solution so far, one possible line of argument is to frame the issue of biodiversity loss as an injustice towards currently living organisms.

For example, it might be useful to think of species as genetic (and in the case of humanity as several cultural) narratives that extend over time and space, and evolve (see for a similar point Rolston III 1985). It might be not too much of a stretch to think of the flourishing of individual species' members in reference to this overall narrative. If we consider that it is part of many individual organisms' life projects, or rather a condition of their flourishing, to have an opportunity to pass on their genes to the next generation, then this goal makes most sense in the context of a species. A species provides the framework in which genes evolve and get passed on from generation to generation and thereby tie together individual beings loosely under the roof of a species. Accordingly, it seems that the existence of an overall species matters to the (current) individual's flourishing to some extent and this provides the species (and its future members) with some derivative protection of justice. Put differently, the passing on of genes in the nonhuman sphere seems to provide a relational connection between current and future beings. That is somewhat analogous to the human context where the life-projects of current humans provide a reason to take into account future human generations (on intergenerational justice see O'Neill, J. 1993a). However, this line of argument that regards species as narratives relevant for justice faces several problems. For example, even though from a big picture perspective it makes more sense to pass on genes in the context of an ever-evolving species, rather than without the species contextualisation, it is not clear why this should really matter to the flourishing of an individual (and potentially unconscious) being. Recall [Chapter 2](#) in which we saw that it is not straightforward to determine what constitutes the flourishing of an

individual. Especially because this would imply that, for example, a neutered cat would never be able to flourish fully even though it might live a happy life in consideration of all its other needs.

A second line of argument that keeps the focus on the wellbeing of currently living organisms is to focus on the need of an individual being to be immersed in a healthy population with which it can interact. As each population consists usually of several generations living simultaneously, with each generation often performing different social functions, this multi-generational feature of populations might generate a derivative protection of future beings via the importance of populations for the wellbeing of their currently living members. Yet while this argument might appear convincing at first glance, it also comes with its own set of problems. For example, some individual organisms are able to flourish without having to interact with other members of its species. Moreover, even if we would grant that the passing on of genes is necessary for the flourishing of individuals, there are types of plants and animals that are able to reproduce (without human interference) via asexual vegetative reproduction which means that the offspring of such an organism has the same set of genes as its parent. Potato plants and sea anemones are examples of organisms that are able to reproduce in this manner. If such organisms do not need to interact with other species-members in order to reproduce, nor are they the kinds of organisms that display social group behaviour, it appears that an individual being of such a species is able to flourish independently of any population. Therefore, this line of argument seems to only apply to some beings – mainly animals that live in more complex social structures – and hence it is also not able to support the blanket claim that a species extinction caused by humans is generally an injustice.

Given the absence of a satisfactory solution to the non-existence problem that allows future nonhumans that will never exist to become admitted into the community of justice, it might alternatively be the case that biodiversity loss as an injustice to future individual beings can only be part of a human-focused theory of intergenerational justice. As for example in Martha Nussbaum's (2006) version of the capabilities approach, one dimension of a flourishing human life is the interaction with and immersion in a rich natural environment. The biodiversity loss that is likely to follow from climate change and other anthropogenic factors is going to undermine this capability. Similarly, Joel Feinberg notes that '[w]e do have duties to protect threatened species, not duties to the species themselves as such, but rather duties to future human beings, duties derived from our housekeeping role as

temporary inhabitants of this planet' (Feinberg 1974 (2007), p. 413). Additionally, besides the deprivation of important interactions or richness of future human life, thereby generating an 'age of loneliness' (Wilson 2016, p. 20) which might be quite a low consideration on the list of priorities regarding human wellbeing, it has also been argued that the continued existence of most species is needed for ecological stability, which in turn is important for human survival and general wellbeing – for example in order to prevent the possibility of humanity's 'autodestruction' (Bendik-Keymer and Haufe 2016). Moreover, many species also have known or as-yet-unknown medical or agricultural benefits. Because of these reasons, a precautionary principle seems to be a reasonable approach towards species conservation even from a purely anthropocentric perspective, especially given the high scientific uncertainty regarding ecosystem interactions, and the large estimated number of still unknown species (see Wilson 2016).⁴

Nevertheless, not all species have the same instrumental importance for human wellbeing. Some might be only protected because they enrich human life (mainly large mammals that are perceived to be charismatic) and some might only be protected because they are key species in certain ecosystems (often plants, bacteria and less cuddly animals). Furthermore, some species might even be fully dispensable. In their case, their potential protection via justice merely hinges on the scientific uncertainty that surrounds the ecological systems that support human life. Unfortunately, this then leads to the conclusion that the consideration of biodiversity loss in general as an injustice does not piggyback very robustly onto doing justice to future human generations because it hinges strongly on scientific uncertainty, which does not seem to be a robust enough reason to ground claims of justice. The important distinction in this context seems to be between biodiversity loss in *the general* sense which could involve the extinction of a few species only, and biodiversity loss in terms of *a mass extinction*. The problem is that the reasons cited in the previous paragraph indicate that biodiversity loss constitutes an injustice to future humans if it takes the shape of a mass extinction which would have a considerable impact on the ability of future humans to live their lives. So, causing a mass extinction event can be conceived as injustice towards future human generations. Yet, that does not ground the blanket claim that anthropogenic species extinctions are unjust because it does not cover biodiversity loss of less magnitude and impact on human lives. In consequence, it seems that focusing on individual beings, either human or nonhuman, and either currently living or yet to live, is not very helpful for grounding a robust conception of biodiversity loss as injustice. Therefore, the

focus may need to lie instead on species themselves in order to frame anthropogenic biodiversity loss as an injustice.

Accordingly, an alternative to considering biodiversity loss as injustice towards future individual beings is to consider it as an injustice towards species themselves. It might seem intuitively plausible – at first – that causing species extinctions while being able to do otherwise constitutes an injustice. In contrast, however, justice is not an adequate concept to be applied to species, as already noted in [Chapter 2](#). For one thing, species are not necessarily the delineated entities as which we often think of them. They evolve into new species and their borders are not always clear – neither through time nor their classification into different species, races and so on. That is not necessarily a major problem, but an additional issue is that, most plausibly, a species should be understood as an abstract entity; a ‘class’ (Delord 2007). Hence, doing justice to a species would mean including a non-material entity into the community of justice (which contrasts with the materiality of individuals and ecosystems for example).⁵

Moreover, a species is clearly not the kind of entity that is alive even if we treat it as an ‘individual’ (Powell 2011). Being alive is even less applicable to species than to ecosystems and, accordingly, nothing is due to species *directly* under my framework because they cannot be attributed the kind of moral considerability that follows from having a wellbeing. Not considering species to be alive (and to not attribute them moral considerability or inherent worth as ends in themselves) is not particularly controversial despite being subject of debate. For example, many environmental ethicists would agree with Ronald Sandler (2012) that they lack interests because species are not goal-driven entities and therefore lack the ‘etiological’ basis to have their own good. A comparable argument could also be based on organisational accounts of life (recall [Chapter 2](#)).

Of course, that does not preclude species from having moral value (for an overview of the different values that species might hold see Sandler 2012), such as – most famously – some form of ‘natural historical value’ (Rolston III 2001). On Holmes Rolston III’s account of natural historical value, the extinction of species ‘shuts down the generative processes, a kind of superkilling’ and ‘to superkill a particular species is to shut down a story of many millennia and leave no future possibilities’ (1995, p. 523), because ‘a biological species is not just a class. A species is a living historical form [...] propagated in individual organisms, that flows dynamically over generations’ (1985, p. 721). This notion of a ‘superkilling’ might be what we are after when intuitively judging the extinction of a species morally problematic, but the killing analogy

does not do the same argumentative work if we understand a species as a non-living class. In any case, without moral considerability such claims about the value of species are neither sufficient nor necessary to generate justice entitlements more specifically.

The relevance of anthropogenic causation

So far, we have not reached any satisfactory solution to how biodiversity loss relates to justice, but before moving on to a more promising framing, I briefly want to consider whether it actually matters, morally speaking, that the extinction of a species is caused by humans. It might not make a difference that humans cause extinctions via climate change, habitat destruction and so on, instead of these just being a natural occurrence (for example, due to an asteroid impact or a volcano eruption) as has been the case for previous mass extinction events on Earth. Even though it might appear intuitive to many people that causing the extinction of a species has a different moral standing than extinctions independent of any human cause have, it has been argued by Russell Powell that ‘the degree of “badness” that is added to some state of affairs because of its “wrongness” that is, because it implicates a culpable moral agent, seems minimal and should not significantly affect our conservation priorities’ (2011, pp. 620–1). According to Powell, this is because ‘[i]f a species is extrinsically valuable, then (*ceteris paribus*) its extinction is morally undesirable, regardless of whether it is caused directly, indirectly, or not at all by human action’ (2011, p. 621).

In other words, Powell’s main point is that it does not matter very much to humans how a species becomes extinct, but it does matter that they have become extinct. Regarding its practical implications that might well be the case, yet it seems to matter nevertheless with regard to a species and the individuals it comprises that it has become extinct because a group of moral agents has acted in a certain way even though they had the possibility to do otherwise, particularly in the context of justice. The insertion of having the ‘possibility to do otherwise’ needs some qualification. Similarly to the issue of climate change more broadly, the actions of an individual have little effect on the worsening or amelioration of the mass extinction crisis or the extinction of any particular species more specifically. On climate change, a lot of thought has already been dedicated to this individual agency problem but I will exclude this line of enquiry here. What is important is whether humans acting collectively could do otherwise. Some evidence suggests that we cannot. Then humanity – instead of committing an injustice – would be merely a ‘cancer’ on the biosphere

(Cafaro 2015). As Philip Cafaro claims – and I think he is correct – this understanding of human agency should be rejected and is usually rejected by people who, at large, ‘want and need to believe that people are capable of freely choosing a better future for ourselves and our children’ (2015, p. 391). Relatedly, and highly simplified, humanity might actually be able to act on this problem but we just choose collectively to do otherwise. As John Nolt (2011, p. 706) points out, how to mitigate climate change is fairly clear, what is only missing is ‘moral and political will’ which does not constitute a sufficient justification for avoiding moral responsibility. The action-gridlock is, of course, more complex than that but that does not rule out the possibility of, to a degree, free agency that has led to and upholds the detrimental status quo.

We also have other reasons for distinguishing between anthropogenic and non-anthropogenic extinctions. For example, even if the killing analogy does not hold, we can still consider species extinctions to be potentially lamentable in all cases as analogically would be the death of any living being in the sense that some value appears to be lost, but as death appears inevitable for all life, also extinction appears the inevitable destiny of all species at some point in time. So, the causation of that end does the relevant normative work. Particularly, the distinction between positive and negative duties appears to do some important work here, because there might be a negative duty not to cause extinctions, but the corresponding positive duty does not make much sense in this context. If the extinction of a species is inevitable, and therefore it is also inevitable that the value it embodies will be lost as well at some undetermined point in time, then it would appear nonsensical to assign a positive duty to protect that value indefinitely – analogous to keeping an individual alive forever. The example Powell employs to show that human action does not make much of a difference for our duties obscures this distinction. He claims that ‘[o]ur duty to contain a preventable outbreak of infectious disease is equally weighty whether it is caused by bioterrorism or “natural” microbiological evolution. To conclude otherwise would be to confuse the culpability of the actor with the badness of the consequences that he or she brings about’ (2011, p. 621). For a consequentialist the cause might indeed not be important if that infectious disease sickens humans, and a deontologist would agree that there are duties at the institutional level to protect people from disease of whatever origin if possible. However, as argued in [Chapter 3](#), the distinction between harming and letting harm happen is highly important regarding the human justice relationship with the rest of wild nature where a form of culpability is necessary

for generating the badness of injustice. If ecological justice is about not inhibiting the flourishing of other living beings, then the conclusion follows that what matters in the context of anthropogenic extinctions of species is that they are caused by humans, rather than how much value is lost from a human perspective.

Even if it is the anthropogenic element of species extinctions that makes them interesting in terms of interspecies justice, we have not established so far whether biodiversity loss can be framed as an injustice at all besides constituting a good candidate of injustice to future human generations when it reaches the magnitude of a mass extinction crisis. Until now, it seems that neither considering individuals (human or nonhuman) nor species themselves brings any results regarding less dramatic levels of biodiversity loss besides implying that biodiversity loss cannot be easily included into an ecological justice framework. However, maybe the intuition that there is something unjust about species extinctions is not based on biodiversity loss being an injustice per se but rather that it is an *indicator* for injustices that have occurred in the past (that is, prior to the extinction of the species in question). Species extinctions do usually not happen by killing some currently non-existing future beings, but by impeding on the flourishing and survival abilities of currently living organisms which then accumulate to the consequence that no future beings of their kind will exist (putting aside the possibility of ‘de-extinctions’ with biotechnology and the previously mentioned hypothetical case of causing an extinction without harming any individual beings, for example). Hence, biodiversity loss is *foreshadowed by present (and past) injustice*. In other words, biodiversity loss is an outcome of injustice rather than an injustice itself.⁶

Because the extinction of a species is usually not caused by single actions of individuals but is the outcome of an accumulation of unjust actions and practices, the anthropogenic extinction of a species indicates – although it does not prove by itself – that severe injustice has been done to a particular group of nonhumans by heavily and repeatedly impeding their flourishing and ability of survival. This shows that anthropogenic biodiversity loss does not merely indicate that some injustice has been done but that *severe* injustice has been done to a particular group of nonhumans, in the sense that repeated actions and practices have undermined the flourishing of a whole kind of life in such a way that even their ability to survive has been undermined. Put differently, human-caused extinctions are markers of injustice, but by themselves not enough to be robust indicators that this amounts to an all-things-considered injustice as we saw in [Chapter 5](#), and as

will be illustrated further in [Chapter 9](#), because an extinction is not always an indicator of injustice under all circumstances. Nevertheless, the anthropogenic extinction of a species is at least morally tragic in all circumstances.

In light of these considerations, the intuition that there is something unjust about species extinctions can be salvaged because it reflects that species extinctions caused by humans are the outcome of injustice, even though the injustice is not located in biodiversity loss itself. In practice, this means that avoiding anthropogenic biodiversity loss is a prerogative of justice and corresponding conservation policies are a potential tool for mitigating and avoiding severely unjust practices – as long as these conservation practices do not themselves constitute unwarranted intrusions into the flourishing of individuals.

Biodiversity versus bio-proportionality

So far, I have used the terms biodiversity loss and species extinctions synonymously. Yet there is a sizeable body of literature that analyses the notion of biodiversity and its normative implications. Especially because biodiversity loss is of central concern to advocates of the Half-Earth proposal which aims to ‘set aside’ half of the Earth for nonhumans (Wilson 2016) which we will analyse in [Chapter 9](#), it seems necessary to engage more deeply with its relevance. Especially interesting in this context is the contribution of Freya Mathews (2016) who argues that ‘*we owe the earth, we are morally in biological and hence territorial deficit to the earth and other species*’ (2016, p. 147, emphasis in original) which implies, according to her, that certain areas need to be protected due to our moral duties towards nonhumans. Mathews does not explicitly sign up to the Half-Earth proposal but refers to E.O. Wilson’s 2016 book on the issue. However, although Mathews approves of the distributive implications, she is critical of the concept of biodiversity being central to the current discourse surrounding biological conservation. She sees an underlying anthropocentric bias in the discourse surrounding biodiversity-based conservation which allows for setting only minimal conservation targets, which in turn has implications for conservation practices and campaign messages. As she observes:

There seems to be a missing argument at the heart of such campaigns, an argument simply for the entitlement of existing terrains of life to their continued existence.

Campaigners instead resort almost exclusively to arguments framed in terms of extinctions, endangerment and the necessity to maintain viable populations of species and samples of vegetation communities. (Mathews 2016, p. 141)

In order to remedy this discursive weakness of conservationists, Mathews proposes an ‘ethic of bio-proportionality’ as a basis for biological conservation, instead of the current focus on biodiversity. According to Mathews, this would provide conservation efforts with a non-anthropocentric base that could aim to set more than merely minimal targets. As previously discussed in [Chapter 1](#), the discursive repertoire of conservation activists is in dire need of supplementing with stronger ethical concepts than are currently used or available. Mathews’ proposal goes exactly in that direction, but is substituting the centrality of biodiversity with ‘bio-proportionality’ the most effective solution? I agree with many of Mathews’ claims, even though she does not use a justice framework, but I am sceptical regarding whether it is really necessary to throw out the biodiversity concept with the anthropocentric bathwater.

For example, Mathews states that ‘[b]iodiversity conservation tends to be understood, at its core, as the preservation of viable populations of species in their natural surroundings. But *viable* here implies a *minimum*’ (2016, p. 141, emphasis in original). The focus on *viable* populations indeed points towards minimum baselines that are aimed at by conservation practices and rhetoric, but these minimal standards are not ethically problematic under all circumstances. In [Chapter 5](#), I argued for sufficientarian principles of ecological and environmental justice – that is, justice focused on what is minimally required – based on, among other things, a hands-off non-harming approach regarding the treatment of nonhuman wild beings. Depending on what circumstances of scarcity we find ourselves in, the minimal baseline for what can be considered a just distribution shifts. Accordingly, setting minimal standards is not anthropocentric in itself:

- *if* it constitutes what could maximally be asked for in terms of justice in circumstances that present a set of limitations on what can be achieved;
- and *if* sufficientarian ecological justice principles are developed in conjunction with non-anthropocentrically adjusted environmental justice goals that, for example, do not start from the hubristic claim that humans have an original ownership or occupation rights to the Earth (see [Chapter 8](#)).

Based on these considerations, a focus on viable populations is not, in all circumstances, a sign of an anthropocentric bias. Under conditions that are less abundant than moderate scarcity, it is not just allowed but also prudent to focus conservation efforts to protect viable populations of endangered species, thereby focusing on biodiversity.⁷ Especially under conditions of severe scarcity, conservation efforts should aim to minimise anthropogenic species extinctions, which seems more adequately captured by a focus on viable populations than Mathews' 'relative abundance' (2016, p. 146). Hence, the main issue does not seem to be minimal baselines – if they fulfil certain criteria – but the lack of accepted entitlement of nonhumans that Mathews also highlights.

Population sizes

Still, what Mathews seems to have in mind regarding her ethic of bio-proportionality appears to be in many ways compatible with my justice framework. When Mathews argues for optimising population numbers of all species, she understands this as a 'supplementary principle' to a 'hands-off attitude to nature' (2016, p. 146). Thereby she aims to 'optimise' populations in two ways. Firstly, her focus for *nonhuman populations* lies primarily on increasing their population sizes. Despite that this is on the first view compatible with my account, it goes beyond what I have sketched as distributive justice to present wild living beings. Within my framework, this 'supplementary principle' could either be seen outside of the realm of justice as constituting a different kind of moral demand, or it could be framed primarily as a matter of restitutive or reparative justice for past harm. Moreover, in any case, not just 'ecological stability and health' (2016, p. 146) should be taken into account in this regard, but also the overall situation of scarcity, which limits how much a certain population can be increased. Let us sketch some preliminary thoughts on this matter by looking at two examples.

Firstly, does ecological justice require that humans actively *increase* the population of wild living rhinos, which initially decreased due to anthropogenic factors, such as poaching and habitat loss? In particular, the two Sumatran and Javan rhino species only counted around 162 individual animals in total at the end of 2015 (Save the Rhino International 2017). At first glance, the declining population numbers of these species appear to be an indicator of injustice. As argued regarding species extinctions in general, the human-caused decline of a certain population is preceded by an undermining of the ability of individual members of that population to flourish and survive, which

results in a lower ability of that population to keep on reproducing. Thus, declining population numbers precede the extinction of a species and thereby also embody a potential marker of injustice. Based on this, from an interspecies justice perspective there is a primary duty to stop causing the deterioration of population numbers if it is possible to do otherwise. However, this might not be sufficient. Besides questions about reparations for historic injustice, not to inhibit the flourishing or survival of nonhumans *might* also require, as a more immediate compensation, the active support of populations that have suffered under anthropogenic causes. The purpose of this support would be to bring these back to population numbers that are minimally sufficient for the maintenance of a stable population to counteract other simultaneous anthropogenic harming influences (by reducing the overall cumulative anthropogenic harming influence), assuming that these are matters of ecological space distribution. That would, at least, open the window of opportunity for currently living individuals in these populations to survive and potentially flourish if individuals of the species in question need to be immersed in a fairly stable population in order to even have the potential to flourish or at least survive. Besides other potentially opposing considerations of justice, this also will often not be the case and, accordingly, distributive ecological justice to presently living beings on its own will not be enough to generate stringent and clear duties to engage in conservation projects to increase already diminished populations. At this point, distributive ecological justice needs to be supplemented with, among other things, an account of reparative justice (regarding ecological space use and degradation), potentially also accounts of the (intrinsic, instrumental and relational) value of the existence of such populations and their species, and additional perspectives such as environmental virtue ethics.

The second example is the mosquito case which generates a very different set of questions if we focus on the few cases of mosquito species that are highly anthropophilic (that is, have a preference for human blood). Can there be a duty of ecological justice – or would it at least allow – to *decrease* the mosquito population numbers that have increased due to anthropogenic causes such as growing human populations over the last decades (see Rochlin et al 2016)? Prima facie there is nothing problematic about such a case of very high population numbers of a certain species. If the increase in population numbers has anthropogenic causes, then the question becomes whether there are knock-on effects that inhibit the flourishing or survival of other beings. If it is true that the steep population increase of mosquitoes is linked to the increase of the human population – that is, an increase of

ecological space used by mosquitoes – then it might be framed as an issue of ecological justice. From such a perspective, the wellbeing of beings that suffer from this rise (such as humans and other mammals) is confronted with the wellbeing of beings that gain from this rise (mosquitoes and their predators) in front of the background issue that humans hold some kind of causal responsibility. However, the mosquito case should be rather understood as an issue falling into the humans as prey category in terms of self-defence – as argued in [Chapter 5](#) – which is a separate set of considerations from cases falling under interspecies justice. Furthermore, this also indicates that such mosquitoes that have co-evolved with humans in a particular way do fall into a different category of human-nonhuman relationships – potentially some version of ‘liminal’ nonhumans when borrowing Donaldson and Kymlicka’s (2011) terminology. Maybe more interesting from an interspecies justice angle are questions about whether it would be acceptable if there is human causation at play to kill certain groups of nonhumans in order to protect a different group of nonhumans – for example controlling population numbers of deer in Britain or killing all rats in New Zealand. But these again appear to be cases where the issue is one of reparation and not (primarily) of distribution in the sense of non-interference, while at the same time introducing considerations about human-nonhuman relationships that go beyond focusing on nonhumans that are (more or less) wild.

Returning to Mathews and her second claim regarding *human* population numbers, ‘optimisation’ means for Mathews to advocate ‘dramatic (though of course consensual) reduction’ (2016, p. 146). This demand is reflected by the overarching demand of green distributive justice operating in the background that I introduced in [Chapter 5](#). A reduction of global human population numbers as part of sensible, long-term sustainability policies would be one (partial) strategy to contribute to the goal of moving up on the scarcity scale to circumstances of more benign abundance. Yet, because of the controversial and problematic nature of population ethics broadly (as well as, more pragmatically, the debates about its empirical effectiveness and desirability), more needs to be said about what that would imply. Of course, as pointed out by Elizabeth Cripps, it seems that instating any kind of population policies ‘will involve acting against some moral presumption’ (2015, p. 22). Moreover, it is also important to note that the moral burden for reducing population numbers should not contribute to the ‘feminisation of environmental responsibility’ (Weller 2017) that can be found in the sustainable consumption discourse and is criticised by feminist scholars. For example, Jade Sasser (2017) terms

the dual empowerment and moral burdening of women to control population growth as ‘sexual stewardship’. Thus, population reduction proposals should not be romanticised as a ‘beautiful and compassionate mandate’ for ‘today’s fertile women’ (Crist 2014, p. 8), but as a measure of last resort that needs to be sensitive to these gender-related problems to avoid morally worse consequences.

Apart from perspectives that do not do justice to the gender dimension, some arguments in favour of population control are also highly problematic from a global justice perspective. There is an interesting sub-debate within environmental ethics that was sparked by Rolston III in 1996 with an article in which he asks whether, morally speaking, there are cases where ‘saving’ nature should be prioritised before ‘feeding people’. He then comes to the conclusion that ‘[r]egrettably, sometimes, the answer is yes’ (Rolston III 2003 (1996), p. 459). Criticism and responses followed (see Attfield 1998, Brennan 1998, Rolston III 1998, Siurua 2006, Davion 2007) and I will not provide an overview of the debate. Yet importantly, the misanthropic conclusion of letting people starve for reasons of environmental protection is not and cannot be the outcome of thinking about distributive justice in a scarce world, because bringing biocentric ecological justice into the equation does not devalue claims of environmental justice. This position has three implications which we will return to in Chapter 9. For a start, demands of ecological justice are held against humans as a whole and not merely against some less wealthy groups who happen to live in areas that still have high levels of biological diversity. Next, if human settlements in certain areas are problematic for reasons of ecological justice, then environmental justice demands that the cost of protecting these areas is shared justly, and not primarily borne by groups that use very small shares of ecological space (for a related point see Sterba 2005). These two implications point towards very important questions about burden sharing, responsibility and just implementation (see Chapters 9 and 10). And thirdly, the demands of justice change depending on the overall level of scarcity of ecological space. But if scarcity is brought to the extreme where it would be impossible to fulfil the most minimal demands of environmental and ecological justice, it seems that we find ourselves outside the circumstances of justice. In my account, in the realm where justice is still useful to aid us to make normative decisions, the most minimal demand of environmental justice would require that fundamental human needs of *all* humans could be fulfilled as part of a broader *just compromise* between human and nonhuman needs.

Of course, it has to be granted that high human population numbers put a strain on conservation *and* social justice efforts. Already John Stuart Mill raised related concerns about the welfare of future humans. This is how he envisioned a bleak future with high human population levels:

Nor is there much satisfaction in contemplating the world with nothing left to the spontaneous activity of nature; with every rood of land brought into cultivation, which is capable of growing food for human beings; every flowery waste or natural pasture ploughed up, all quadrupeds or birds which are not domesticated for man's use exterminated as his rivals for food, every hedgerow or superfluous tree rooted out, and scarcely a place left where a wild shrub or flower could grow without being eradicated as a weed in the name of improved agriculture. (Mill 1909 (1848), Book 4, Chapter 6.8)

Hence, population policies and ethics retain relevance for debates on sustainability more generally, and for distributive justice in particular, because population growth is one of the mechanisms that can aggravate scarcity. However, even though population ethics is relevant for questions of intergenerational justice (see Cripps 2015), it cannot provide an answer regarding how to deal justly with existing levels of scarcity, and the debate is therefore not very helpful for finding an answer to this particular problem.

Overall, returning to Mathews (2016), our proposals have a lot of commonalities, but I maintain for pragmatic reasons, which Mathews also has in mind, that a biocentric theory of justice able to point towards injustices is a more effective rhetorical tool than a more general biocentric ethic. Thus, if Mathews' proposal is supplemented with my understanding of ecological justice it gets – figuratively speaking – more teeth to defend its stance in the ethical discourse surrounding questions of conservation. Furthermore, it seems that from a justice perspective it is not necessary to fully overturn the centrality of biodiversity within conservation practice and discourse but to merely re-align it, so that it is seen as a concept promoting ecological justice under circumstances of scarcity, rather than as an end in itself.

In summary, an anthropogenic species extinction might not be an injustice towards certain (future or current, human or nonhuman) individuals or species per se, but it is the outcome of injustices towards individual nonhumans. Accordingly, the extinction of a species is an

indicator for injustices that have been committed towards a group of nonhumans in the past. In the end, a biocentric account of interspecies justice helps to decide what practices are more acceptable than others by considering how much injustice is done or can be avoided by a specific conservation scheme. Moreover, its more general contribution to the issue is that it provides one more pressing reason why preventing species extinction via environmental conservation and other means is important and should therefore be high on the political agenda. It does so by showing that each anthropogenic extinction is a *memorial for past injustices*.

Notes

- ¹ Yet, the conceptual difference between the current anthropogenic mass extinction to previous mass extinction events (Aitken 1998) at least questions whether we can rely on the assumption of such a long-term stability.
- ² In contrast, as pointed out by Palmer (2011), the simplification worry would be a problem for biocentric accounts that are non-egalitarian and allow for different degrees of ‘moral significance’. Recall for this the difference between moral considerability and moral significance (Goodpaster 1978) discussed in Chapter 2.
- ³ See Robin Attfield (1995) for a consequentialist position that indicates otherwise.
- ⁴ For an argument against this understanding of stability and the precautionary approach see Powell (2011).
- ⁵ It should be noted that this is a contested claim and that, in contrast to this understanding of species, there are positions that consider species as historical entities akin to individuals (for example Hull, D. 1978) and that some environmental ethicists argue that species are morally considerable as ends in themselves (as Rolston III 1985, 2001). See Ronald Sandler and Judith Crane (2006) for a critical assessment of the possibility of considering a species a living being, and of the species’ moral considerability.
- ⁶ This view seems to be also shared by Nussbaum (2011).
- ⁷ Whether the concept of viable populations is useful in practice is a different matter. Mathews (2016) points to several issues regarding its empirical effectiveness.

Who Owns the Earth?

In which ways is nonhuman life excluded from deliberations about justice by not being considered relevant, if considered at all? As we have seen, a recent development in political philosophy has been an extension of theorising to include acknowledging the existence of nonhuman beings and considering their wellbeing – usually with a focus on animals. However, generally speaking, the environment is still predominantly considered only as property in liberal theorising about justice (Bell 2015). Here I would like to consider a sub-question to this broader area of enquiry and focus on the problematic notion of humanity's original ownership of the Earth, which surfaces throughout the history of political thought since the 17th century.

As mentioned earlier, this is an important question for my argument insofar as not all accounts of environmental justice are compatible with my framework of interspecies justice. One implication of aiming for compatibility is to refrain from grounding an account of global environmental justice on some notion of humanity's original ownership of the Earth. Situated in posthumanist philosophical developments, I see the critique of this notion as an extension of the critical investigation of some environmental ethicists on the relationship between ownership and animals (see Cochrane 2009), as well as contributing to a necessary 'denaturalisation' of assumptions within political thought that 'Otherise' the nonhuman (see Plumwood 2002). Attributing original ownership of the Earth to humans only creates a similar problematic power asymmetry between agents that matter and objects that cannot own and can potentially even be owned. In other words, the notion of humanity's original ownership opens the door to a form of methodological misrecognition. Such philosophical theories exhibit a form of theoretical exclusion of an Other, which is nonhuman living beings in this case. The problem

is that such perspectives exclude nonhumans from mattering in theory which can then translate into not mattering in practice. In a similar vein, but without referring to the notion of ecological justice, Marcel Wissenburg has argued that ‘if one is interested in protecting nature against human (over-)exploitation, then the best way to think of original ownership is in terms of the orthodox notion of non-ownership’ (2017, p. 67).

In the common usage, asserting that a person A owns an entity X means that person A *legally* owns entity X in the context of some property regime usually enforced by state power. A owns X which makes X the property of A and gives A a set of property rights over X. However, this is *not* what I am focusing on. My aim is not to deny people ownership of parts of the Earth under positive law.¹ Rather, what I am interested in is whether it can be justified that humans have ownership claims to the Earth understood as natural rights or original ownership prior to any actual legal property arrangements. In the first section I will provide a short background to the history and meaning of the original ownership of the Earth idea. Then in section two we will turn to two reasons for rejecting the idea because it is incompatible with a commitment to interspecies justice as it involves a problematic exclusion *prior* to original acquisition, and because it is conceptually able to also extend to the ownership of living beings. In the final section we will look at why I deem the solution of an originally unowned Earth more fruitful than the alternative of attributing ownership rights to nonhumans.

Historical and conceptual background

Different versions of the idea that humanity owns the Earth have been around for a while. For example, in the Christian Bible we can find the claim that ‘[t]he heaven, even the heavens, are the Lord’s: but the earth hath he given to the children of men’ (Bible, King James Version, Psalm 115:16). The notion of human ownership of the Earth is also not new in Western political philosophy literature. Among many others, Immanuel Kant claimed in *Toward Perpetual Peace* that a ‘stranger’ has the right to ‘visit’ foreign territories due to ‘the right of possession in common of the earth’s surface’ (Kant 1996 (1795), p. 329). John Locke also discussed the issue of Earth ownership in his *Second Treatise of Government* in which he provided his famous justification for private property from a Christian starting point that ‘God gave the Earth to men in common’ (Locke, J. 2002 (1689), p. 15). Locke states the following:

The earth and all that is therein is given to men for the support and comfort of their being. And though all the fruits it naturally produces, and beasts it feeds, belong to mankind in common, as they are produced by the spontaneous hand of nature; and nobody has originally a private dominion exclusive of the rest of mankind in any of them as they are thus in their natural state; yet being given for the use of men, there must of necessity be a means to appropriate them some way or other before they can be of any use or at all beneficial to any particular man. (Locke, J. 2002 (1689), p. 12)

This ‘state of nature’ where the Earth is commonly owned by all ‘men’ can be left by creating private property, according to Locke.² It is because a person owns herself that she can appropriate commonly owned natural goods by ‘mixing her labour’ with them and thereby exclude other people from the use of these goods, as long as such appropriations fulfil Locke’s ‘provisos’ that regulate just acquisitions (one of which we analysed in [Chapter 5](#)).

Like Locke, Hugo Grotius provides an account of collective ownership of the Earth by grounding it in the religious belief that God gave the Earth to all humans in common. He reaches a slightly different conclusion, however, which is that ‘the first one taking possession would have the right to use things not claimed and to consume them up to the limit of his needs; and any one depriving him of that right would commit an unjust act’ (Grotius 2012 (1625), p. 36; for a discussion of Grotius see Salter 2001). These are not the only historical discussions of Earth ownership but they are contributions of some of the most well-known theorists to cover the issue. During the last decades, the idea of ownership of the Earth has resurfaced reinvigorated and – outside of libertarian circles where the idea is often discussed as ‘world ownership’ as separate from self-ownership (for example Fisher 2015) – Mathias Risse (2012) is one of its most well-known advocates.³

The idea of humanity’s original ownership of the Earth does not by itself specify the type of its ownership status, but it is usually considered as a common or collective kind of ownership held by all humans together prior to any actual ownership backed by laws, that is, in a state of nature. Most commonly, three different types of ownership (that is, property arrangements) are identified – even though their labelling can differ from author to author. These are common, collective, and private property, and all of these can potentially be how the Earth is understood

by a particular original ownership view. Note that it is usually not the Earth per se which is considered to be the owned entity but the resources, spaces and benefits provided by its ecosystems – even though the ownership status of ecosystem benefits is usually not discussed but merely implied.⁴ Moreover, with regard to the original ownership of these resources, spaces and benefits, property rights seem to be often understood in terms of usage rights – that is, not necessarily as full ownership but rather as weak ownership, or as having an incomplete set of property rights only. As will become clearer, it matters how these natural property rights are understood.

Common property or common ownership is held by several people, all of whom have a claim to use what is held in common. Therefore, co-owners cannot be excluded from its use. But this also implies that rules are necessary to enable all co-owners to use their property to a fair extent. However, this type of ownership does not require the explicit consent of all co-owners in order to allow the usage of the owned property by one of its members. In contrast, collective property or ownership requires some kind of joint decision-making by its co-owners. Lastly, there is the option of private property where an individual owner holds all the decision-making authority (within boundaries) over the owned entity (see for a more extensive explanation Waldron 1988, 2004). In the case of original Earth ownership this would mean that in the first two cases all humans own the Earth together and that in the last case each human would privately own one piece of the Earth: if all humans have the same claim then everyone would probably own an equal amount of land, resources and ecosystem benefits in the private ownership case (for the latter see Steiner 1994). The alternative to these ownership types is that there is no original ownership relationship at all – meaning that humans do not own the Earth in any natural law sense. We will now see why this alternative seems persuasive.

Against original ownership: a green critique

Despite its rich history and potential theoretical usefulness for making claims about global justice (for example Steiner 2011, Fisher 2015), I maintain that rejection of any view of humanity's original ownership of the Earth is the correct position to take in order to avoid problematic implications for nonhumans. This holds for all positions that take ecological justice (or justice to nonhumans in one form or another) seriously, irrespective of whether they only argue for the inclusion of some sentient animals or all living beings into the community of justice.

Accordingly, my claims here do not hinge on the specific account of interspecies justice that I am defending. Because our specific target of critique is a (1) common human (2) natural (3) property right to the Earth, I would like to start with some further clarifications on each of the three elements of this position. Firstly, the property right is held by all humans, which – for the purpose of this argument – includes all three types of property arrangements mentioned earlier: common, collective and private ownership. Meaning that the target here is all kinds of property arrangements as long as *all* humans and only humans are attributed ownership status. However, some arguments only hold against the common and collective kind of ownership claims, and I will also address the possibility of partial ownership where nonhumans are also attributed ownership claims.

Secondly, the right in question is a *natural* or *original* property right, which means that it exists prior to any legal rights (as for example in a state of nature) and also prior to any original acquisition which then generates property rights. How these second stage property rights can legitimately be generated (for example by satisfying the Lockean provisos) and what form they take (that is, the thicknesses of the ownership) varies from theory to theory. It is important, however, that these rights are distinct from the original property rights that are supposed to precede their coming into existence.

Thirdly, the natural right in question is a *property* right. Hence, this is not an argument against natural rights per se but against one specific kind – original property rights. To make matters difficult, property rights have been understood in a multitude of ways. Therefore, I hope that the following account of an original property right to the Earth is both sufficiently general, and sufficiently specific. Following Wesley Hohfeld's (1919) analysis of rights, they are, in general, understood to be composed of four incidents – a privilege, a claim, a power and an immunity. The same applies to property rights and, hence, humanity's natural property right to the Earth can be analysed based on this understanding of the structure of rights. As we will see, the original ownership view is also problematic if it does not include a full property right where all four Hohfeldian incidents can be identified. Accounts of weak property rights on which theories of original ownership are usually based, or where ownership is merely used in a rhetorical sense rather than to constitute an actual ownership right, are also problematic because, in practice, they further the human versus nature dualism discourse that undermines ecological justice (regarding the latter recall [Chapter 2](#)).

Original acquisition

From a non-anthropocentric perspective, the first problem arises regarding all types of original ownership views, whether common, collective or private property, and independent of whether original ownership claims are genuine (full or weak) or rather rhetorical ownership rights. The issue is that it seems counterintuitive that natural property rights are understood as existing prior to any original acquisition, because original acquisition implies that it is the first/earliest acquisition that takes place. However, natural property rights are supposed to already exist before such an original acquisition that generates property. Thus, a (metaphorical) pre-original *normative* acquisition must have taken place that legitimised humanity's natural property rights. Political theories that justify such a pre-original acquisition of the whole Earth by humanity (based on a gift from God, human self-ownership or the like) are highly anthropocentric by either discounting or not considering nonhuman claims in the most fundamental layer of their argument. Especially from an ecological justice perspective this theoretical starting point is highly problematic because interspecies justice itself requires a different (non-anthropocentric) understanding of the world and how ownership of it can come into existence.

As Ned Hettinger (1998) puts it, 'Earthen nature is a common heritage of all the earth's communities of life. No individual, nation, or species has lordship over the nature in its possession and under its control'. A theory that allows space for considerations of ecological justice needs to allow nonhumans to legitimately originally acquire parts of the Earth (in the sense of usage at least), but a theory where humans have 'called dibs' on the Earth even before original acquisition is not able to accommodate fully any interests other than humanity's. This is because in any such theory nonhumans are left to the mercy of the human original owners of the Earth, and nonhuman claims are relegated to the realm of charity – where they have often been located by theories of social justice – and denied access to justice. This normative dibs calling embodied by theories attributing ownership rights pre-original acquisition adds up to a *naturalisation* of the exclusion of nonhumans in many theories of justice. Similarly, Val Plumwood argues that '[d]istributive injustices to non-humans fostered by the Othering framework include the use of so much of the earth for exclusively human purposes that non-humans cannot survive or reproduce their kind' (2002, p. 117).

One might want to reply to this point by arguing that, in contrast, it might be possible to construct an original ownership of the Earth view that is compatible with ecological justice. It might be that not all views of humanity's ownership of the Earth are incompatible with ecological justice, but that a view that claims that humans only own their fair share of the Earth would be consistent with doing justice to nonhumans. In other words, a reasonable alternative might be to defend that humans only have *partial* original ownership of the Earth. Indeed, such an alternative original ownership view that merely considers the natural ownership rights to parts and not the whole Earth might be theoretically possible, but at least the following two points give reason to reject it nevertheless. First, partial ownership does not seem compatible with the underlying anthropocentric intuition that appears to ground all other original ownership positions (for example, in the strongest sense some version of humans as the masters of the Earth). If one substitutes this anthropocentric starting point with a grounding that breaks up the human versus nature dualism, such as non-ranking biocentrism (Chapter 2), then it becomes even more difficult to conceive why the language of ownership is supposed to be the appropriate framework for the relationship between humans and the environmental goods that support their lives. Hence, a good argument is needed to explain the need to talk about ownership in the first place – an issue we will return to in a moment.

The second reason for rejecting partial ownership is that if one wants to defend a position of partial ownership of the Earth then one needs a theory of ecological justice that determines which part or parts *cannot* be owned (and hence used) by humans, because even the weakest conception of original ownership also includes usage rights. Partial ownership would then imply that there are parts of the Earth towards which humans hold no usage claims. Such a theory would also need to have an answer to the situation where not all (basic) human needs can be satisfied with the parts of the Earth owned by humans, for example because there are too many people in proportion to the owned resources. Would it not be the case that humans would also be able to make reasonable claims to goods they do not own based on the point that each individual human's fundamental needs are morally relevant? This would then in turn undermine the claim that there are resources, spaces and ecosystem benefits on the Earth that are shielded in all circumstances from human usage. If that is the case then once again it does not seem to make much sense to frame it as an issue of ownership – even if it is only partial, usage-focused ownership – if usage can potentially spill over into what is unowned.

Here partial ownership of the Earth by humans can imply either that the other not human-owned part remains unowned, or that it is owned by nonhumans. In the former case, the point stands that if owning and using are strongly connected, and it is possible to use what is unowned, then the question arises about what purpose ownership fulfils. The latter case constitutes an example of a non-anthropocentric partial ownership view which would not leave these parts of the Earth unowned but ascribe their ownership to nonhumans. Regarding this scenario, a property theorist might argue that in the case of dire human need the property right of the nonhumans might be weakened. Yet this weakens the concept of ownership – too much, especially if one understands the notion of original ownership as an inherently weak version of property rights. Moreover, in such a case, nonhumans probably also have fundamental needs at stake. If nonhumans are in dire need as well, then there might be little non-biased reason (from within the ownership account) to suggest that humans could be prioritised nonetheless if one starts with such an account of ownership. That is because the identified owner should at least have a ‘certain *priority* when it comes to’ the ownership incident(s) at stake (Cochrane 2009, p. 427, emphasis in original). We will return to this question of why attributing original ownership rights to nonhumans is not a satisfying solution.

Owning living beings

A second additional problem of bestowing humanity natural (common, collective or private) ownership over the Earth is that it enhances the power asymmetry between humans and nonhumans, as nonhumans are left to the mercy of the human owners of the Earth. Even though this is compatible with the notion of human stewardship of the Earth, it seems to sit less comfortably with positions in environmental ethics that put more emphasis on the intrinsic value or moral considerability of nonhumans as ends in themselves or reject ‘any way of thinking about or acting toward nonhuman nature that reflects a logic, values, or attitude of domination’ (Warren 2014 (1990), p. 66).⁵ This suspicion is strengthened when one considers that original ownership of the Earth claims might be extended to include not only resources, ecosystem benefits and spaces but also the ownership of the creatures that inhabit it. Ownership of non-sentient beings such as plants might be already implied in original ownership accounts. Moreover, when developing his version of original ownership of the Earth, Risse explicitly states that in his theory ‘wildlife’ is excluded ‘from collectively owned resources, but including it would be conceptually unproblematic’

(Risse 2012, p. 109). It seems that if one argues for the former then the latter would be the logical next step. From a human ownership of the Earth standpoint the case could be made especially strongly for including the group of beings that contribute substantially to the workings of ecosystems – that is, certain plants, animals, bacteria, fungi and so on – into the body of naturally owned property. To consider a living being as property at least in the natural (*pre*-positive) law sense, however, seems to stand in opposition to all perspectives that take some version of the idea of having respect for nature seriously.⁶ Hence, from a more general environmental ethics point of view rather than just an ecological justice perspective, it seems difficult to accept humanity's ownership of the Earth if one simultaneously accepts the idea that nonhuman beings have moral standing, or takes a stance against the domination of vulnerable nonhuman beings.

That a case for naturally owning nonhumans can be made from an original ownership of the Earth perspective illustrates the link between this kind of methodological misrecognition and the misrecognition that excludes nonhumans from the realm of moral considerability. As Plumwood puts it, these different kinds of moral exclusions add up to:

a broad and deep gulf between those who can own and those who can be owned and exchanged as property, a division of the world in to human and non-human, subject and object, consciousness and mechanism, intrinsic and instrumental value, respect and use, those to whom the protection of justice can be accorded and those from whom it is withheld. (2002, p. 146)

Accordingly, from a non-anthropocentric perspective there is good reason to reject theories that are conceptually compatible with assigning natural property rights to humans over other living beings. Holding legal ownership over a stretch of forest or a flock of pigeons might be beneficial for these individual living beings, and might be compatible with treating them 'justly' (Cochrane 2009), but such property arrangements under positive law should not be confused with the normative domination implied in an original ownership account where living beings are degraded to property. Such legal ownership over nonhuman beings might also ultimately amount to a form of (benevolent) domination that is problematic and can amount to a kind of 'coverture' like a husband historically would have had dominion over his wife (see Plumwood 2002).

An unowned earth

It seems reasonable to suggest that claim rights are at the core of a Hohfeldian constructed property right. If that is the case, then the *normative* (not necessarily practical) ability to exclude others from usage of one's own property is a distinctive feature of a property right (see Nozick 1974, Becker 1977). Based on this reasoning, one might conclude that humanity's common or collective ownership of the Earth, if interpreted as a property right, implies that all humans have (in common) a *privilege to use* the Earth (for example occupy, reap its benefits and so on) and a *claim against nonhumans* using the Earth. In addition, this right also includes a *power to waive* their claim against nonhumans and *immunity against others* altering their claim against nonhumans. Note that I am focusing here on the collective and common versions of original ownership, because in the case of private ownership it is possible to identify human agents that would have a duty to refrain from using a certain part of the Earth. However, when considering common/collective property rights, usually only humans are taken into account as those against whom the property right is held, and consequently, theorists arguing for a human common/collective ownership of the Earth do not claim that their ownership right includes a claim against nonhumans. How can common or collective ownership of the Earth claims therefore be understood as a *property* right?

One possibility is that humanity's common/collective ownership of the Earth is understood to imply only or primarily a claim against other humans insofar as it generates a duty for each human to acknowledge everyone else's status as an owner. However, in this case the exclusionary feature of ownership would have no force because there would be no duty holders that are not simultaneously also claim right holders. If all people have a claim right *and* simultaneously the correlative duty, then there is no one left who would have a duty to refrain from using the property in question – that is, the Earth – and, hence, no one would have the correlative right to exclude anybody from the property either. Using ownership language to merely express humans' common and equal standing seems odd. The use of ownership vocabulary – especially if associated with the notion of property – asks for the identification of non-owners that have duties that match the owner's claim right. Nonhumans, however, are rightly not identified as duty bearers because most (but arguably not all) nonhumans lack moral agency. In other words, if common ownership is understood as a property right then it raises the question of who is the duty bearer that links to the property holder's claim right. If all humans are simultaneously claim right holders

and duty bearers then it raises the question of whether it is a proper instance of ownership, because the claim right to exclude others is usually an important identifier of a property right. Consequently, common or collective original ownership claims cannot be considered to entail a full property right. This limitation seems to be reflected in early common or collective original ownership accounts – such as Locke’s (2002 (1689)) and Grotius’ (2012 (1625)) versions – where the focus lies on the privilege to use the Earth. These are *weak* original ownership accounts, because they do not fit neatly into a Hohfeldian constructed property right.

Due to this thin conception of ownership, the common human original ownership of the Earth might not be understood as a genuine instance of ownership but rather as a common access right. This is how Arabella Fisher (2015) seems to read Risse’s contemporary account of common ownership in his *On Global Justice* (2012).⁷ According to Fisher, it is necessary to distinguish between common use and common property, and it is the former that Risse’s discussion of common ownership of the Earth seems to amount to according to her.⁸ The former is:

common *use* under which it is not permitted to privately appropriate anything at all, but it is permissible to *use* the common resources without seeking the consent of others [...] as long as one does not prevent others from using them. (Fisher 2015, pp. 602–3)

And the latter is common ownership under which:

resources continue to be the property of all, where private appropriation is permissible but does not create full property rights in the appropriated resource. This is because the only thing which can generate full private property rights is the act of production. (Fisher 2015, p. 603)

If Fisher is right, then it seems that the language of ownership merely becomes a matter of rhetoric if understood in terms of *common use* instead of presenting a genuine natural property right claim. Using ownership language does not seem very useful in this context, especially when considering its uneasy relationship with green perspectives.

Related to this point, Jack Winter argues about the common property concept more generally – as discussed by Jeremy Waldron – that it does not seem ‘helpful to describe this system as a form of property’ because

it either refers to common access rights or ‘common stewardship’ (2015, p. 156). According to Winter, common access rights do not fall into the property rights category because they do not entail ‘the capacity to exclude non-owners from accessing a resource’ (2015, p. 156), which is exactly why I think that such a weak common ownership account does not actually entail any ownership claim. Furthermore, according to Winter (2015), the common stewardship version of common property is a form of collective rather than common property. This distinction implies that collective property retains the potential to be a genuine property right. However, all humans being collective property holders appears to lead again to the claim-duty problem described earlier. Regarding Risse’s conception of common ownership, it seems that his account is one of common access rights, since he insists that his account is one of common and not collective property (Risse 2012), which translates only into a common access right based on Winter’s distinction. What I have tried to briefly illustrate here is that what the concept of original ownership entails is not straightforward or obvious. It either seems to indicate a rather weak natural property right, or it can be understood as a common use or access right which adopts the language of ownership rather as a rhetorical tool. Besides the two reasons against such ownership accounts discussed previously, I would like to now further illustrate why both options are less preferable than a no ownership account.

The alternative to attributing natural ownership rights to humanity is to claim that the Earth is unowned before initial acquisition and, as claimed earlier, that this should be the starting point of considerations of global environmental justice that are sensitive to the material needs of nonhuman life. Moreover, a conception of humanity’s original ownership of the Earth is also not necessary for the consideration of issues of environmental distributive justice. Instead, it seems that considering ownership is an argumentative detour from considering that all humans have needs that refer to a specific and limited set of resources and ecosystem benefits that are (so far) only available on Earth. Yet, it does not necessarily follow, in contrast to Fisher’s claim, that ‘the “no ownership” status is the position of right-wing libertarians that permits unlimited first-grabbing’ of natural resources (Fisher 2015, p. 602).⁹ Put differently, a right-wing libertarian might understand the originally unowned status of some resource as a justification for an individual to take as much as she likes. My point is that something being unowned (that is, no one has an original ownership claim towards certain resources, spaces and benefits) is not a justification to appropriate in itself but rather a state that *requires* justification for all

appropriation because of the absence of ownership claims. This would require, for example, a theory of appropriation that invokes a Lockean style proviso to regulate what is just appropriation (Chapter 5). Such a theory differs from Locke's own account, however, because it is about the just appropriation of originally unowned goods, and not about how originally commonly owned goods can be privatised. My position therefore differs, for example, from left-libertarians, who invoke a Lockean proviso to 'leave enough and as good' in order to argue for entitlements to equal shares of environmental resources based on 'equal original property rights' (see Steiner 1994, pp. 235–6). The main point is that to understand the Earth as unowned and existing for all life is not the same as understanding it as a heap of resources that is waiting for someone to come along and appropriate without consideration of anybody or anything else. In this context, Wissenburg (2017) makes the distinction between something for all and something up for grabs to which no rules apply. Therefore, the starting point of an originally unowned Earth towards which Lockean style provisos apply that are sensitive to all forms of life disposes itself of the 'inbuilt assumption of coverture of nature' (Plumwood 2002, p. 214) found in Lockean accounts of property.

An objection to this point might be to ask why nonhumans are not included in the community of owners – for example part of an account of common original ownership of the Earth by all life – instead of fully dismissing the idea of original ownership. This brings us back to question of partial ownership. To some degree this would indeed solve the problem of methodological misrecognition, as the main problem with the human original ownership of the Earth claims lies in their *human* focus. John Hadley (2015) makes a proposal in such a spirit by attributing property rights to (wild) sentient animals which he understands as 'rights to habitat'. More specifically he argues that these wild animals 'have an interest in using natural "goods" (trees, vegetation, grasses, rocks, waterways, soils and so on) to meet their basic needs' which grounds their property rights (2015, p. 1). In turn, he understands these property rights as 'rights to habitat' which entail access and usage rights of the 'natural goods' in the animals' territory as well as 'a right to exclude means preventing deleterious *human* intervention into animal habitat' (2015, p. 9, emphasis in original). However, Hadley especially emphasises the right to use in his theory. Similarly, also Steve Cooke (2017) develops a related argument in favour of attributing collectives of animals' usage-focused property rights to their habitat including a remedial right to secession. And even Martha Nussbaum touches on this issue when expanding her

capability approach to include nonhuman animals. She has argued that the analogue to property rights in the human realm would be the ‘respect for the territorial integrity of their habitat’ (2006, p. 400) in the case of animals in order to enable their capability to be able to control their environment.

Regarding Hadley’s theory, Josh Milburn worries that ‘perhaps Hadley isn’t *really* proposing property rights at all; perhaps he is proposing a system for recognising and protecting animals’ legitimate interest in access to their habitat/territory and the free use of the natural goods contained therein. Perhaps “property” is shorthand’ (2017, p. 151, emphasis in original). Milburn appears to be right with his analysis, but that need not trouble us here; nor should it worry us at this point that Hadley considers only sentient animals. That is because Hadley’s account of property rights is not an account of original ownership. In Hadley’s words ‘[t]he theory of property rights developed in [his] book is set against the background of the contemporary institution of property’ (2015, p. 3). Hence, his focus lies on property rights *post*-original acquisition, which makes his account in principle compatible with acknowledging that the Earth is originally unowned.

In contrast, common original ownership of the Earth by all life would imply that a theory of ecological justice would have to be grounded in natural ownership rights, and I am reluctant to accept this implication for two reasons. First, when considering how to justly distribute the Earth’s goods and benefits provided by its life-supporting systems, such an ownership view would provide the same amount of insight as conceiving the Earth as originally unowned. In other words, claiming that all living beings own the Earth together, and therefore need to be taken into account when considering how to distribute the Earth’s goods and benefits, does not seem to give more information on how to distribute these shares other than merely claiming that when considering how to justly distribute access to these goods and benefits one needs to consider all beings that *need* the Earth’s goods and benefits in order to survive and flourish. From an interspecies justice perspective, what would be the benefit of choosing the more complex ownership starting point? The benefits of an account that attributes legal property rights to wild nonhumans do not carry over to accounts of natural property rights.

Second, the aforementioned partial ownership problem resurfaces: if all living beings on Earth own the Earth together, does that mean that every individual being or group gets assigned a fixed fair share of the Earth? If, for example, the human species is deemed to exceed its share – which seems a reasonable suggestion – this could justify draconic

consequences for human individuals. Hence, one might be reluctant to accept that humans in total can be assigned a fixed share. Then again, if shares are not assigned to groups in terms of species but to individual beings then the information issue arises again; if one is interested in determining how to distribute the limited earthly goods and benefits to a range of different individual living beings, each with specific needs, then a blanket claim that all these living beings are owners of these goods and benefits does not provide much insight on how to weigh all these different needs and ownership claims. For that purpose, we still need complementary accounts of environmental and ecological justice, and the idea of ownership does not appear to do any conceptual work. Based on this reasoning, a *common usage right* as a shorthand for the nexus of interspecies and environmental justice entitlements held by all life is conceptually more parsimonious than a common ownership right. That is because a common usage right is more straightforwardly linked to why one would want to argue for rights in this context in the first place. Usage rights can be grounded in needs and interests – as using what is needed – which is one less argumentative step than to argue for owning what is needed. Ultimately, a distinction remains between common *ownership* of the Earth by all life and common *usage* by all life, even if they amount to the same outcome in practice. If stepping over this theoretical divide from using to owning means taking on the theoretical baggage of property rights without much theoretical benefit (even if original ownership accounts only constitute very weak property rights or do not refer to property rights at all), then such an argumentative move should be avoided.

Common use could be understood as usage of unowned goods that are appropriated in parts by the user during use, thereby excluding others from using those particular parts of the goods, but without implying that such a usage process necessarily generates private property, nor implying that these goods were held in common in any sense of ownership. Recall here Tim Hayward's (2015) distinction between using, commanding and occupying ecological space which embodies how I understand the Earth's goods, spaces and ecosystem benefits. In the context of commonly using the Earth, it could mean that all human and nonhuman beings with needs that require the usage of some ecological space commonly use the Earth. In this case, common use does not indicate an ownership relationship but merely the (initial) non-excludability of others' use of these goods for which they have similar needs.¹⁰ In the end, this appears to be very similar to the intuition of many modern theorists expressing common ownership views. The only fundamental difference is that

nonhumans are not excluded from the start which is important in order to avoid the methodological misrecognition implied in human original ownership views.

Such an ownership-free version of common use could then ground a theory of environmental justice that does not refer to a conception of natural collective/common Earth ownership but merely to the strong link between human needs and ecological space. Based on such an understanding of common use, a conception of legitimate original appropriation – that is, legitimate use and exclusion of others – can be grounded. Such a resulting theory would then be compatible with acknowledging the needs of nonhuman beings that refer to ecological space, and consequently be compatible with acknowledging distributive duties of ecological justice. This is in line with Derek Bell's (2015, p. 11) position who points out that an 'ecologically aware theory of justice [...] seems likely to endorse limited and carefully specified use rights'. Moreover, this version of common use interprets the discourse surrounding the 'global commons' not as humanity's common natural heritage but rather as the basis for *life in common*.

Overall therefore, all four possible accounts of original ownership should be rejected in favour of a no ownership account to describe the relationship between humanity and the Earth before the advent of property rights under positive law. Meaning that human original ownership in terms of full property rights, weak property rights, common use rights or as partial ownership are conceptually and/or normatively problematic, if one is committed to doing justice to nonhuman living beings. The upshot is that if one understands nature as more than a heap of resources to be distributed, or if one advocates some form of ecological justice, then one requires a theory of (social) justice that starts from the premise that humans do not hold any (full or partial) original ownership over the Earth.

Notes

- ¹ For an environmental philosophical discussion of ownership in the sense of constituting a social institution see Markku Oksanen (2020).
- ² For a different reading of Locke that points out that Locke's position on the ownership status pre-original acquisition is fuzzier than presented here see Wissenburg (2017).
- ³ Of course, that does not include all libertarian theories. Some theorists such as (right) libertarians like Robert Nozick (1974) assume that the Earth is originally unowned.
- ⁴ This is obvious for older theories like Locke's theory of acquisition but also true for modern versions of original ownership (as for example Risse 2012).

- ⁵ Arguably, the notion of human stewardship of the Earth might necessitate that humanity originally owns the Earth as is indicated by its Christian origins and – as a secularised version – by the lack of an authority that appointed humanity as the Earth’s manager or caretaker.
- ⁶ For a discussion of the respect for nature thesis see Holmes Rolston III (2012) or Paul Taylor (1986). Regarding ownership specifically, Oksanen acknowledges this perspective by stating that ‘the idea of owning nature is problematic for those environmental ethicists who consider ownership to reflect our self-glorified attitude toward the rest of nature and who thus think it is wholly incompatible with the ethics of respect for nature and the idea of ‘biospheric egalitarianism’ (1998, p. 193). However, Oksanen also claims that there is an ‘ecological argument’ for supporting ownership, although he does not argue for original ownership as considered here but for ownership as ‘primarily a social system’ which might exist post-original acquisition (Oksanen 1998).
- ⁷ Risse’s (2012) theory of global distributive justice is a good example of a theory that bases claims of justice on the idea that humanity has original ownership claims to the Earth. For a debate on whether Risse’s argument grounding his common ownership view succeeds, see Arash Abizadeh (2013) and Risse (2013). For a detailed discussion of his notion of common ownership, see Michael Blake and Risse (2009) and Risse (2012, 2014). See also Anna Stilz (2014) for an interpretation of Risse’s use-focused right as a weak version of ownership.
- ⁸ See Edella Schlager and Elinor Ostrom (1992) for a discussion of the distinction between ‘open access’ and ‘common property’ with regard to natural resources.
- ⁹ For an example of such a libertarian view see Jan Narveson (1998).
- ¹⁰ This has some similarities to the Franciscan theologian and philosopher William of Ockham’s claim that there was no property (which he understood as ownership under positive law) in the garden of Eden, but Adam and Eve had natural usage rights (which are distinct from property rights) to use whatever they liked (see Garnsey 2007, Spade and Panaccio 2016). Ockham argued this in his *The Work of Ninety Days* which resulted from a political dispute between the Franciscan order and Pope John XXII on the subject of the Franciscan view of poverty (see Brown 2011). Yet, justice entitlements have to be distinguished from natural rights.

Visions of Just Conservation

Now that we have looked at rather abstract considerations surrounding the idea of global ecological justice, I would like to bring these different issues together by exploring a more applied dispute about biological conservation that is entangled in a web of empirical and normative debates. That is the so-called Half-Earth proposal that I am using as a case study to see what my account of interspecies justice has to say about it. The Half-Earth proposal was put forward most prominently to a non-expert audience by biologist Edward O. Wilson (2016) in support of the already existing *Nature Needs Half* community. Its central idea can be found in earlier work that observed that an average of 50 per cent of every region needs to be protected to conserve biodiversity (for example Noss 1992, Noss and Cooperrider 1994) which is meant as a partial solution to the current mass extinction event on Earth. It is suggested that this crisis can be mitigated somewhat by ‘setting aside’ half of the Earth’s land and half of sea spaces for nonhuman living beings. Currently, however, this proposal is fiercely contested between its supporters and critics that draw on a range of different scholarly backgrounds.

This proposal is particularly interesting because the disagreements it highlights uncover different visions of what just conservation should look like.¹ Different framings highlight different problems that need to be prioritised, and I would like to investigate how the *normative* side of these disagreements can be accounted for by the environmental-ecological justice framework that I have developed thus far. The proposal highlights the conflictual nature of conservation where human and nonhuman needs are at stake. In that sense it is a classical distribution conflict between humans and wild nonhumans while at the same time also uncovering important intra-social justice issues. Accordingly, I would like to investigate whether the Half-Earth proposal could constitute a distributively *just compromise* globally

between the demands of justice held by humans and nonhuman beings against the backdrop of scarcity which materialises in the current mass extinction crisis.

As we will see, whether the proposal constitutes what is required by justice or stands in opposition to doing justice is highly contingent on a multitude of empirical and normative considerations and commitments. This will become clearer when taking into consideration, on the one side, the enormous practical difficulties of putting anything close to the Half-Earth proposal into practice and, on the other side, the complicated nature of entangled and overlapping kinds of injustice that a commitment to global justice for both fellow humans and nonhumans generates. It is not a straightforward endeavour to find the path that would be all-things-considered just, because there are many issues to consider. However, we will look primarily at what could constitute a just distribution in this context when considerations of environmental and ecological justice to wild nonhumans are taken into consideration (Chapter 5). As previously discussed, biodiversity loss can function as a marker of injustice (Chapter 7), but that is conditional on different circumstances of scarcity which in turn will influence our assessment of the Half-Earth proposal. Moreover, besides distributive justice to present human and nonhuman beings, we will see that also questions of restorative justice and issues of just implementation, among other justice dimensions, are highly relevant for assessing the proposal.

As discussed in Chapter 4, ecological space functions as an appropriate distribuendum for the ecological-environmental justice nexus. Accordingly, one can think about the just distribution of ecological space in general, but it is also possible to think about the just distribution of the different dimensions of ecological space and inquire how these interact. Meaning that we will focus here on what would constitute a just distribution of physical space in terms of *habitat* which is a subordinate question to this broader realm of enquiry, because the Half-Earth proposal focuses on the distribution of the Earth's physical spaces which is only a subcategory of the broader concept of ecological space. An obvious but central fact in this context is that the Earth is a finite planet: its resources are currently becoming scarcer, its ecosystems are being put under increasing pressure and its spaces are growing more and more crowded. That said, some spaces such as the seas are getting emptied by pollution, overfishing and so on, but then again other spaces such as large monocultures are rather full in the sense that they do not leave much space for life that is non-instrumental for immediate human purposes. It is the scarcity of viable physical spaces – that is spaces for human and nonhuman life – which

constitutes a central normative problem that accounts of distributive ecological and environmental justice need to address.

Note that I use ecological or interspecies justice here as a shorthand for my biocentric account. This appears compatible with the scope of the Half-Earth proposal which aims to counteract species extinctions in general and not just of animals in particular, despite its focus lying more on animals (in terms of examples used). However, it would also be possible to normatively assess the proposal from more narrow animal rights or broader ecosystem perspectives and adjust the following conclusions accordingly. In the first section, I will introduce the Half-Earth proposal and some of the critique it has attracted, and then in the second section give a rough overview of the justice landscape of habitat conservation. Based on all these considerations, we will then assess whether the proposal has the potential to embody a just compromise in the final section. We will see that the proposal can *only* embody a distributively just compromise between ecological and environmental justice *if* it fulfils a range of conditions such as severe scarcity of habitat and the need to justly implement collective but unequally held duties of justice.

The proposal

Against the backdrop of the current extinction crisis, all the dimensions of current and increasing levels of scarcity in general, and how they impact on species extinctions in particular, are an important area of concern for environmental philosophy and political theory. As put by the Intergovernmental Panel on Climate Change (IPPC):

[d]uring the course of this century the resilience of many ecosystems (their ability to adapt naturally) is likely to be exceeded by an unprecedented combination of change in climate, associated disturbances (e.g. flooding, drought, wildfire, insects, ocean acidification) and in other global change drivers (especially land-use change, pollution and over-exploitation of resources), if greenhouse gas emissions and other changes continue at or above current rates. (Parry et al 2007, p. 213)

Although climate change is the most prominent environmental issue in the public discourse and it has severe implications for habitat loss, the less prominent global change drivers, especially land-use change, are claimed to be the main causal driver of habitat loss, and consequently

species extinctions and biodiversity loss. Conservation biologists have lamented therefore that:

[a]n exclusive focus on global climate change, the current rage, may obscure other pressing conservation problems and divert funding from combating them. As a direct global threat to species and ecosystems, climate change is currently dwarfed by land-use change in response to human population growth and conversion of wild lands to agricultural use. (Noss et al 2012, p. 3)

Such considerations are part of the rationale for the Nature Needs Half idea. As mentioned earlier, Wilson (2016) argues for setting aside half of the Earth for species other than humans. Because habitat destruction is the most important (although not sole) factor contributing to species extinction (Brooks 2010, Pimm and Jenkins 2010), Wilson proposes setting aside half the Earth as an emergency solution to the problem of rapidly declining biodiversity. The proposal is merely meant to mitigate, rather than avoid, the anthropogenic extinction of species on a mass scale, because this crisis is already in progress (Ceballos et al 2015). While Wilson (2003, 2016) is the most prominent figure promoting the Half-Earth proposal, the idea has been supported and developed by several conservation biologists, conservationists, social scientists and philosophers (see Sylven, 2011, Noss et al 2012, Locke, H. 2014, Kopnina 2016, Cafaro et al 2017, Dinerstein et al 2017, Kopnina et al 2018). In practice, the crucial claim here is that realising the Half-Earth proposal would make it possible to protect more than 80 per cent of all species (Wilson 2016). Setting aside means that these areas receive some level of protection. The International Union for Conservation of Nature (IUCN) identifies six categories of protected areas: strict nature reserve, wilderness area, national park, natural monument, habitat/species management area, protected landscape/seascape and managed resource protected area (Dudley and Stolton 2008). Some proponents of the Half-Earth proposal (such as Kopnina et al 2018) have suggested that a mixture of all these six categories of protected areas – which differ in how much human activity they allow – can fulfil the conservation demands of the proposal.

It is put forward that, not only how much space, but also which particular spaces are protected, matters. Five priorities for protection are focused on:

- Protected areas need to cover all different existent ecosystems and be large enough that native species can be maintained ‘in natural patterns of abundance and distribution’, as well as to ‘maintain ecological processes such as fire and flooding, and maintain resilience to short- and long-term environmental change’ (Locke, H. 2014, p. 365, also Sylven 2011). This quantifies as 25–75 per cent of a ‘typical region’ (Noss et al 2012).
- Protect at least half of ‘wilderness’ areas that are still ‘mostly intact’ (Nature Needs Half 2017).
- Protect remaining ‘biodiversity hotspots’ with high concentrations of endangered species (Wilson 2016).
- Protected areas should be linked with ‘corridors’ that allow animals to roam, enable gene flow and climate change adaptation (Noss et al 2012, Locke, H. 2014).
- Some protected areas will need biodiversity restoration (Wilson 2016). One – arguably effective, but also controversial (Kopnina 2016) – strategy to achieve this is ‘rewilding’ where, among a range of other activities (see Lorimer et al 2015), certain species are reintroduced into ecosystems. Big predators and herbivores in particular serve important biological functions and, thus, their reintroduction serves to counteract the ‘trophic downgrading’ of ecosystems (Sylven 2011). For example, one of the current projects of the Rewilding Europe Foundation is aiming to reintroduce bison into most of Europe, and in the United States grey wolves were reintroduced into the Yellowstone National Park in 1995.²

However, for now I will exclude rewilding projects (and ecological restoration more broadly) because they generate additional normative questions such as about restorative justice and about the risk involved in each intervention due to it being, in essence, an experimental approach (see Lorimer et al 2015). Moreover, there is also a conceptual debate about the relationship between restoration and rewilding and in-how-far rewilding is new and different from restoration (for a philosophical overview of the rewilding concept see Gammon 2018). We will return to the backwards-looking nature of restoration later, but considering that parts of the Earth might be already too degraded for conservation efforts, or are mainly used (and necessary) for human purposes, realising these goals would be ambitious – especially when comparing them to the current international conservation regime that includes the United Nations Convention on Biological Diversity (CBD) with its *Strategic Plan for Biodiversity 2011–2020* (CBD 2010).³

Besides posthumanist developments in philosophy which include a move towards thinking about our moral responsibility towards the environment in terms of justice, we can also observe a recent trend of discussing the need for justice to nonhumans and humans independently from, as well as with particular reference to, the Half-Earth proposal in social sciences and humanities circles (Shoreman–Ouimet and Kopnina 2015, Kopnina 2016, Kopnina et al 2018, Washington et al 2018) more broadly. Yet, in light of criticism of the claim that Nature Needs Half constitutes a just solution – that on the contrary it might even lead to considerable injustices (Fletcher and Büscher 2016, Büscher et al 2017a, Büscher et al 2017b) – the proposal is still in need of further philosophical discussion.

The critique

The Half-Earth proposal has been met with considerable criticism due to the social implications of the proposal and the rather weak understanding of the social realities and processes found in its most prominent call for support by Wilson (2016). Most notably, Büscher et al (2017a) claim that ‘[t]he Half-Earth proposal, in short, is infeasible, and will have dangerous and counter-effective consequences if implemented. The only logical conclusion of the Half-Earth proposal would be *injustice* on a large scale without effectively addressing the roots of the ecological crisis’ (p. 408, emphasis added). This critique can also be found in Fletcher and Büscher (2016), who damningly conclude that Wilson’s proposal ‘would entail forcibly herding a drastically reduced human population into increasingly crowded urban areas to be managed in oppressively technocratic ways’. If such points of critique are accurate, then the Half-Earth proposal might be far off from constituting a just solution. In particular, Büscher et al claim that the Half-Earth proposal is deficient in a range of issues regarding the problem of overconsumption, the ‘social impact’ of such a division of the Earth, and the social and political sustainability of the conservation areas, and leaves us with no ‘agenda for the biodiversity in a human half of Earth’ (2017a, p. 408). The alternative they propose is a focus on de-growth economics and addressing (global and social) inequalities which would tackle ‘the root causes of environmental degradation’ while simultaneously benefiting humans (2017a, p. 409).

Their critique holds some power and Wilson’s (short) description of how to put the Half-Earth proposal into practice should be found wanting by any social scientist. For instance, Wilson (2016) demonstrates a strong belief in the capacity of a free market and

technological innovation to reduce human environmental impact. In contrast, several ecological economists (such as Spash 2010), for example, are considerably more sceptical about the ability of markets to deal with environmental problems, and Wilson's proposal lacks any engagement with the debates on this issue.⁴ Moreover, it is not clear what Wilson understands to be a free market. For example, 'cap and trade' schemes are proposed as a market solution to environmental problems – such as climate change – but such schemes steer and create, rather than free, markets. Maybe Wilson believes that free markets should be allowed to put monetary values on environmental goods such as biodiversity that are currently not traded – for example via 'biodiversity offsets' (see O'Neill, J. 2015). However, this again does not seem to be what he has in mind because such an approach sits uncomfortably with the implicit and explicit respect for nature displayed by the broader literature in favour of the Half-Earth proposal, which sees more than merely instrumental value in nonhuman beings. Finally, Wilson's belief that 'intensive economic growth' (2016, p. 49) can simultaneously reduce consumption and increase human welfare rests on little evidence. It is already a point of contention what relationship economic growth has with consumption alone – see debates on 'green growth' versus 'de-growth' versus a 'steady-state' economy (see Daly 2013, Jacobs 2013, Lorek and Spangenberg 2014, Cosme et al 2017) as well as the 'limits to growth' debate (see Meadows et al 2004). Hence, it is understandable that Büscher et al (2017a) claim that the better alternative to the Half-Earth proposal would be to focus instead on the economy, and to pursue a de-growth strategy to reduce biodiversity loss, considering the environmentalists' often-displayed scepticism regarding economic growth.

Nevertheless, it should be said that Wilson does not represent the whole range of scholarly perspectives in support of Nature Needs Half. In reply to critics, supporters of the proposal have further substantiated their stance and critiqued Wilson's market-based solution. Cafaro et al (2017) and Kopnina et al (2018) point out that they are in full agreement with the critique of the neoliberal growth paradigm and that the proposal to protect half of the Earth is merely a necessary, not sufficient, condition for reducing rates of extinction. Hence, a de-growth economic strategy could potentially provide a complementary course of action in order to achieve the goals of the Half-Earth proposal (for a reply to Cafaro et al 2017 see Büscher et al 2017b). Overall this provides some indication that support for the proposal is not logically linked to a support of capitalist structures, nor to a dismissal of the importance of social justice.⁵ Focusing more on some of the normative

issues involved, we will further explore the latter point on social justice in a moment.

One problem, several perspectives

The previously mentioned distinction between ecological space and its different dimensions is a first step to illuminate the debate on the Half-Earth proposal. The Half-Earth and the ‘de-growth’ perspectives – as shorthand for the critique by Büscher et al (2017a) – seem to differ along an important dimension in this regard. Meaning that it seems as though these two proposals accentuate different questions. On the one hand, the Half-Earth proposal tries to answer the question of how much physical space is required by nonhuman nature (for its own and humanity’s sake), and on the other hand, the de-growth perspective asks how to create sustainable societies and promote human wellbeing. Hence, from a justice perspective, a more holistic approach is called for that merges these two considerations of justice into one practical proposal, instead of prioritising one dimension over the other. Because of these different angles, the two conservation proposals also emphasise different dimensions of ecological space (without using that specific terminology). On the one side, the Half-Earth proposal is mainly interested in the distribution of actual physical space and its effect on biodiversity loss. The de-growth perspective, in contrast, is more concerned with human practices that use non-renewable and renewable resources and, in this manner, implicitly occupy access to and degrade potential benefits provided by ecosystems (that is, the social-ecological metabolism). Accordingly, the two perspectives address different distributional problems of ecological space. In order to achieve a just distribution of ecological space neither problem is less relevant than the other, and neither could be substituted for the other.

Relatedly, even though neither approach is philosophically grounded, it seems that the reasoning behind the Half-Earth proposal often aligns with an interspecies justice perspective, and in contrast, the de-growth perspective rather aligns with an emphasis on environmental justice, even though both proposals exhibit characteristics of both spheres of justice. In consequence, rather than constituting theoretically incommensurable positions (regarding their core commitments rather than in the form of all their respective supporting authors), these different perspectives highlight different normative and empirical elements that matter when thinking about what would be all-things-considered just if one is simultaneously committed to doing justice to fellow humans and to fellow living beings.

The justice landscape of habitat conservation

Having said that, one might also not be very convinced of the gravity of the normative disagreement about the Half-Earth proposal when drawing on the so-called *convergence thesis* – or convergence hypothesis – about attitudes to the environment that has been primarily originated and defended by environmental pragmatist Bryan Norton. Norton's main interest lies in 'unifying environmentalism' by showing that ecocentric (broadly understood) and anthropocentric approaches have similar practical interests. In his words, '[e]nvironmentalists believe that policies serving the interests of the human species as a whole, in the long run, will serve also the "interests" of nature, and vice versa' because 'all things in nature are interrelated' (1991, p. 240). This means in practice that it does not matter whether one makes policies with human or nonhuman interests in mind because, ultimately, both approaches also support the interests of the other. According to Norton (1991, p. 240) this functions as an empirical hypothesis as well as 'an article of environmentalists' faith'.

From this perspective, the problem of how to justly distribute ecological space and habitat more specifically under conditions that are less ideal than moderate scarcity might not appear very problematic. In fact, from this perspective it seems that there might not be a problem at all, that is, in the long run and from an aggregate perspective. If an anthropocentric focus – that is, being only concerned with issues of environmental justice – should lead to the same outcome as a biocentric focus – that is, being concerned also (or only) with issues of ecological justice – then the conflict between environmental justice and ecological justice dissolves. Ecological justice would not even be needed to protect the interests of nonhumans. Their interests would be catered for simply by humans acting in their own best interest.

Even though at first sight, this perspective seems fairly promising, it has of course been met with criticism. Three main issues stand out. Firstly, it seems reasonable to be more sceptical about anthropocentrism's ability to support environmental goals – in particular regarding its ability to support conservation practices that protect nonhumans (see Katz 1999, Mathews 2016). Secondly, a related point is the question of how much human welfare really depends on the wellbeing of nonhumans. Shoreman-Ouimet and Kopnina summarise this issue:

Partially stemming from this idea of unity it is often assumed that the protection of the natural world *is* in the interests of humans. Yet, caution needs to be exercised not to assume

that human interests always correspond with those of nature. There is enough empirical evidence that mass extinctions can occur without any apparent effect on human welfare. (2015, p. 323, emphasis in original)

Considering that arguments have frequently been made to show that ambitious environmental conservation projects have negative effects for the world's poorest people (see Büscher et al 2017a), it is doubtful how close the interests of humans and nonhumans really are. This is especially the case because, thirdly, the convergence thesis makes a claim about long-term and aggregate interests and is therefore unable to provide any insight for more imminent conflicts between humans and nonhumans. Thus, even if the convergence thesis is correct, it is unable to answer how a just distribution of ecological justice should look under current circumstances. Accordingly, ecological justice needs to be added to environmental justice considerations to address the 'how much nature' question. This remains the case despite the fact that an account interested only in human wellbeing has to partially address the needs of nonhumans because some kind of 'healthy' environment remains a precondition for social justice (as argued in Holland 2008). This means that, to some degree, the question addressed by the Half-Earth proposal logically precedes but does not replace the objective of social justice.

But note that the convergence thesis is not identical to the *compatibility thesis* between social justice (between humans) and environmental sustainability or environmental conservation which is also a matter of debate. As said, here I assume that some kind of a healthy environment is needed for social justice, but the relationship between environmental protection and social justice is complex. At least some evidence (see Mikkelsen et al 2007) suggests that there is a correlation between economic inequality (that is, a form of social injustice) and biodiversity loss (that is, a marker for potential ecological injustice as I have argued in Chapter 7). That, in turn, would support the claim that social justice is also needed for environmental protection (Plumwood 1998a). Accordingly, the environmental-ecological justice relationship has areas of convergence and conflict and seems to be driven by feedbacks which add an additional level of complexity.

Putting this additional dimension aside for now, in our specific context at hand it is important that the Half-Earth proposal should not be put into practice in a manner that causes large-scale injustices towards the poor and marginalised, such as imagined by Fletcher and Büscher (2016) and Büscher et al (2017a). However, the alternative cannot be

to ignore the large-scale injustices that are already committed towards nonhumans (Kopnina 2016). A combination of these two proposals could potentially avoid many such injustices, and in the residual cases of conflict remains only the careful weighing up of the different options. In cases of more than moderate scarcity it is impossible that no one or nothing loses out (in contrast to the convergence thesis), because the satisfaction of all needs is rendered unobtainable in such circumstances.

Just global distribution of habitat

In order to assess the validity of the claim that the Half-Earth proposal is required by justice, two main questions about distributive justice, which have so far remained unanswered, must be addressed before one can turn to further – but not less important – considerations of justice about its implementation. First: is the proposal merely a pro tanto requirement of justice in the sense that it might be necessary to fulfil our duties of ecological justice, or can we claim that when taking into account global ecological and environmental distributive justice the Half-Earth proposal embodies a just solution? Second: if that were the case, under what conditions would the Half-Earth proposal be such a just solution? This is because, in my account, the principles of distributive justice change depending on the conditions of scarcity in which they apply. Thus, the question becomes under which circumstances of scarcity the Half-Earth proposal satisfies the principles of environmental and ecological justice, if at all, and whether such circumstances of scarcity accurately describe the current situation of life on Earth.

For our purposes here it suffices to subdivide different scenarios of scarcity or abundance of physical space into five categories that take into account the demands of humans and nonhumans modelled on the different scarcity scenarios that we discussed in [Chapter 5](#). These are all-things-considered descriptions of scarcity that account for the needs of humans and nonhuman entities globally:

- full abundance: all needs and wants can be (and potentially are) satisfied;
- moderate scarcity: all needs but not necessarily all wants can be satisfied;
- significant scarcity: all basic/fundamental needs can be fulfilled, but not much more;
- severe scarcity: not all (human and nonhuman) beings can simultaneously satisfy their most basic needs;
- full scarcity: societal and ecological collapse.

Under conditions of *severe* scarcity it becomes impossible, in practice, to guarantee the survival or endurance of all entities that are relevant for an account of environmental and ecological justice (while excluding prey-predator relationships and so on as previously discussed), even if very effective distribution mechanisms were in place. In such circumstances, the maximum that distributive ecological justice can demand of human agents of justice is a duty to minimise anthropogenic species extinctions. That the Half-Earth proposal only aims to drastically lower the rate of anthropogenic extinction rather than to stop anthropogenic biodiversity loss altogether implies that it might be a solution that applies to the severe scarcity scenario. Therefore:

- *if* it is empirically the case that we find ourselves in circumstances of severe scarcity;
- and *if* the Half-Earth proposal would lead to a minimisation of anthropogenic extinctions without violating the environmental justice principle that applies to severe scarcity requiring that all humans should have the opportunity to satisfy their basic needs;
- and *if* setting aside at least half of the available physical space on Earth, in particular, is the most effective solution for minimising anthropogenic extinctions rather than focusing more on setting aside different dimensions of ecological space;

then implementing the Half-Earth proposal is an all-things-considered requirement of *distributive* green justice. All-things-considered refers here to the point that demands of distributive environmental justice have already been taken into account and, thus, cannot weaken the nonhuman justice entitlements a posteriori.

In contrast to circumstances of severe scarcity (the first condition), under more benign conditions such as significant scarcity – where all living beings could theoretically satisfy their minimal needs – the Half-Earth proposal would not be ambitious enough, because under such conditions ecological justice could demand a zero-rate of anthropogenic extinctions – independently of which also exists a natural rate of extinctions which is greater than zero. Alternatively, if we find ourselves in conditions that are scarcer than severe scarcity then we have left the realm in which considerations of justice make sense or could be useful. As discussed in [Chapter 5](#), it is important that this scarcity-contextual safeguarding of human basic needs under conditions of severe scarcity is built on a non-ranking biocentric perspective that can acknowledge the relevance of different justice relationships without having to rely on a hierarchical species ranking.

The third condition is essential because setting aside ecological space in general does not necessarily involve setting aside actual physical space. Proponents of the Half-Earth proposal make empirical claims about the importance of physical space for biodiversity conservation and thereby underline the importance of this ecological space dimension. However, as pointed out earlier, physical space is not the only dimension that matters with regards to distributive justice or sustainability, and it is an empirical question how the usage of this dimension of ecological space interacts with the usage and degradation of other types of ecological space.

Just implementation

The second condition also needs further clarification in order to address the worry that the Half-Earth proposal would mainly affect the already marginalised. In contrast to important considerations about the just resolution of local (that is, specific) conservation conflicts that take into account human and nonhuman wellbeing (such as discussed in Vucetich et al 2018), my focus here lies on the implications of humanity's duties of *global* justice towards nonhumans. As discussed in [Chapter 7](#), demands of ecological justice are held against humanity as a whole and not merely against some less wealthy groups who happen to live in areas that still have high levels of biological diversity (see also Baxter 2005). Put simply, environmental justice demands that the cost of protecting these areas is shared justly, particularly when taking into account additional considerations of historical responsibility. In practice that means that the burden of change has to be primarily borne by the wealthy who occupy large amounts of ecological space (which is problematic for environmental *and* interspecies justice considerations).

In other words, the second condition raises important questions about just implementation of requirements of justice which appears to be the area where the Half-Earth proposal becomes most problematic while also remaining fairly vague (for some practical issues to take into consideration see Ellis 2019). So far I have implied that such duties of justice are held by individual moral agents, but more accurately these are *collectively but not equally* held duties. They are held collectively by most of humanity, but they are not held equally due to the unequal current and historical responsibility for usage and degradation of ecological space, and more specifically habitat. Similar arguments have already been raised in the climate justice/ethics literature to distinguish between the distinct responsibilities between, very generally speaking,

the citizens of early-industrialised high-income countries, and those of low-income countries – the former of which have emitted and benefited more from past emissions (for an overview of the issue of historical emissions for climate ethics see Meyer and Sanklecha 2017). A further complication arises because these unequally held collective duties are in tension with an unequally distributed global demandingness of the proposal. Putting aside rewilding attempts in the US and Europe, a lot (but not all) of focus of the Half-Earth proposal appears to lie on protecting high biodiversity areas in the Global South which does not match up well with the reality that the duties of global distributive ecological justice rest primarily on moral agents in the Global North, generally speaking and highly simplified. This is again similar to considerations of climate justice where there is a mismatch between emissions and benefits, on the one side, and impact of and vulnerability to climate change, on the other. Because of that, it becomes pertinent to think about how to justly implement interspecies justice, particularly because historically the creation of national parks, for example, but also conservation more broadly has sometimes been accompanied with social injustices in the form of forced removal of human communities from areas, and problematic (that is, colonial) notions of wilderness (see Plumwood 2006, Ward 2019).⁶

Regarding such potential conflicts between local communities and conservation goals, justice in terms of recognition seems to be a useful complement to distributive justice considerations in order to ease conflicts (see Martin et al 2016). However, by itself it will not be able to fully alleviate the material dimension of the unequal impact of the *global* demandingness of the proposal. For example, Schleicher et al (2019) estimate that at least one billion people would be affected. This does not imply that demands of global distributive ecological justice should not be fulfilled, but it does imply that if the Half-Earth proposal turns out to be a requirement of distributive ecological justice then the question of just implementation needs to be addressed urgently, because such justice considerations might alter what would truly be all-things-considered just. One dimension that needs to be addressed in this regard is about how to situate humanity's collective but not equally held duties within the context of an international community with a complex structure of global, national and local institutions and the socio-economic context at large. Accordingly, even though such an enquiry goes beyond the scope of the theoretical framework that I have laid out so far, it should be stressed that such duties also need to be put into conversation with considerations about injustices at the international level relating to trade, international negotiations and

the legacies of historical injustices, because if not carefully addressed, the proposal could contribute to the reproduction of international relations of domination. This links, for example, to the discussion on de-growth mentioned earlier due to the link between the displacement of communities and global capitalist structures (see Napoletano and Clark 2020) and also further supports the need to critically examine the widespread, but inefficient, use of agricultural land by growing feed crops for the global meat and dairy production (see Tscharrntke et al 2012).⁷ Moreover, this also links back to the aforementioned suggestion about the relationship between social justice and environmental protection (see also Vucetich et al 2018). Global social justice in economic and ecological space use terms appears to be a necessary component for the possibility of the just implementation of duties of interspecies justice. A lot more will therefore have to be said about this area of enquiry, and we will return to a few more theoretical considerations about just implementation in [Chapter 10](#).

A distributively just compromise?

To reiterate, whether the Half-Earth proposal is a requirement of green distributive justice depends on (1) the interplay between environmental and ecological justice and (2) a number of empirical factors. Two questions need to be addressed to assess whether the *current situation* of life on Earth would be such that the proposal might constitute a requirement of distributive justice, thus requiring further considerations about just implementation:

- Do we find ourselves in circumstances of severe scarcity?
- Does the Half-Earth proposal maximise (or contribute to maximising) nonhuman survival (without encroaching on human fundamental needs)? That is, does it minimise species extinctions?

Only if we can answer both questions affirmatively does the Half-Earth proposal fulfil the distributive ecological and environmental justice requirements and, then, under these specific circumstances, would the Half-Earth proposal embody a distributively just compromise regarding the distribution of physical space. This requires that an empirical case has been made for that at least half of physical space on Earth in particular – and not merely ecological space in general – would need to be set aside for nonhumans to provide the most effective (partial) solution to the dual demands of global ecological and environmental justice.

Moreover, the answer to what constitute human fundamental needs highly influences whether the first question can be answered positively. A very demanding theory of human wellbeing would easily push the interspecies community out of the realm of justice. For example, a position that considers a Western lifestyle as a minimal baseline for human wellbeing would create human entitlements so demanding in a world of seven billion people that it would bring us into the realm of full scarcity, where justice can no longer provide a meaningful solution. As suggested in [Chapter 5](#), an environmental virtue ethic might here be an appropriate remedy by providing an account of human flourishing that is intrinsically linked to a non-anthropocentric outlook which situates humans as part of the biotic community.

Even if the Half-Earth proposal satisfies all these different demands, setting aside physical space does not have to turn into a dystopian vision with the ultimate goal of creating prison-like human cities, industrial and agricultural areas on the one side and untouched wilderness and no-go areas for humans on the other – even though there is a real danger that it does when combined with problematic perspectives on wilderness and of the human-nature relationship. More generally, in my account, the just distribution of ecological space is more fluid and does not resemble a red line literally painted across the Earth's continents in such a way that some housemates might fairly divide their fridge-space, as some might interpret the global 50 per cent target (which is an image driven by a certain reading of Wilson 2016). That humans are part of nature is a necessary building block of understanding the essence of ecological space ([Chapter 4](#)). Thus, if realised, the Half-Earth proposal needs to be part of situating humans in nature rather than separating humans from nature, and that entails the insight that nonhumans also need to be able to have access to physical spaces. Often these spaces can be close by, or even be the same spaces used by humans, and thus more attention will have to be given to cultural landscapes and land sharing farming practices. Yet, other nonhumans will require more isolation (which should not be confused with a conceptual human-nature dualism). It should be clear that even though the Half-Earth proposal often only gets associated with the image of big, wild and human-free spaces, that is not the full story. In order to be consistent with the dual demands of distributive ecological and environmental justice it would have to embody a way of giving nonhumans space among, and not merely from, ourselves. As Val Plumwood puts it, '[i]n the current situation where nature is hard-pressed, allocating some areas for nonhuman priority is justifiable if we are to begin sharing the

earth fairly between species' (2006, p. 137), that is, between humans and nonhumans.

In contrast to worries about misanthropic implications, this conditional conclusion might not satisfy all supporters of the Half-Earth proposal, who might deem it not sufficiently demanding. But recall the argument in [Chapter 7](#) in favour of a sufficientarian approach, because setting minimal standards is not ethically problematic under all circumstances. To reiterate, depending on what circumstances of scarcity we find ourselves in, the minimal baseline for what can be considered a just distribution shifts. Accordingly, setting minimal standards is not anthropocentric in itself, *if* it constitutes what could maximally be asked for in terms of justice in circumstances that present a set of limitations on what can be achieved; and *if* sufficientarian distributive ecological justice principles are developed in conjunction with non-anthropocentrically adjusted environmental justice goals that, for example, do not start from the hubristic claim that only humans hold occupation rights to the Earth ([Chapter 8](#)).

In the end, the demands of Nature Needs Half are only an emergency solution, rather than a vision of the most vibrant and abundant version of life on Earth, and Freya Mathews (whose position we discussed in this context in [Chapter 7](#)) also acknowledges that '[t]he goal would be to seek relative abundance for all species, *within ecological parameters*' (2016, p. 146, emphasis added). Under conditions of severe scarcity, the Half-Earth proposal seems the maximum of what can be asked by ecological justice for the just distribution of habitat. Moreover, we are also still left with a further demand of distributive green justice in terms of interspecies, as well as environmental justice. Recall that if we do not currently live in the benign circumstances of moderate scarcity, a strong justice mandate remains to pursue policies geared towards sustainability in order to move up on the scarcity scale to more benign circumstances that would provide more material support for wellbeing ([Chapter 5](#)).

I hope that it has become apparent by now that the Half-Earth proposal is not intrinsically just or unjust, as some of its discussions might suggest, but whether the Half-Earth proposal constitutes what is required by justice depends on a multitude of empirical and normative questions that have to be addressed. Even if these can all be answered satisfactorily, it can only ever be one demand of justice, because it needs to be complemented with strategies – such as the de-growth perspective for example – regarding how it could be made feasible in practice. Moreover, recall that the use of habitat is only one distributional problem. The reformulation of the Half-Earth proposal

as something addressing one particular dimension of ecological space within an even broader account of global environmental and ecological justice gives it more philosophical consistency by allowing for a more nuanced normative account of the problem at hand – the extinction crisis. Only by drawing on this – or a similar framework – does one get the necessary philosophical underpinning to make a strong normative case that uses the language of justice that the proposal’s supporters want to use in its favour. But the consequence is that in order to gain a nuanced account we are left with a broad set of considerations to consider.

So what can we say about the question posed initially about whether the Half-Earth proposal could constitute a *distributively just compromise* globally between the demands of justice held by humans and nonhuman beings on a finite planet? As mentioned earlier, what would constitute a just distribution is conditional on a range of circumstances, such as how scarce the relevant good in question is and a range of other questions. Because the proposal is meant as a solution to problems that were triggered by scarcity in the first place (that is destruction of habitat), scarcity becomes the main, but not sole, indicator with which stands or falls the claim that the Half-Earth proposal is a demand of distributive justice. So, (only) when assuming that (1) most of the empirical claims that Nature Needs Half draws on are broadly accurate and (2) that a complementary philosophical and practical account of just implementation can be devised, then there are good grounds to consider the Half-Earth proposal a just compromise between the dual demands of environmental and ecological justice if the current situation of life on Earth resembles what I have called severe scarcity. Despite that this might look like a very modest insight, recall that scarcity and the needs of nonhumans are not usually considered by accounts of distributive justice. Thus, to even begin to situate the Half-Earth proposal within justice, an extensive rebuilding of how justice is theorised is required.

Of course, some open questions remain because Nature Needs Half is situated within the intersection of several spheres of justice and justice relationships. For example, more theoretical development is needed in order to provide a fuller account of the normative dimensions involved in deliberating about just conservation, such as more consideration of the temporal dimensions of ecological justice in particular, and how justice to wild nonhumans interacts with considerations about the justice relationship between humans and more domesticated nonhumans. An example that generates questions regarding both of these dimensions is the rewilding projects proposed

as part of Nature Needs Half. These cannot fully be accounted for by considerations of intragenerational distributive justice alone. If successful, rewilding projects seem to be mainly relevant for questions of compensatory justice as reparatory practices for historic injustices, or as a measure of intergenerational justice towards future human and nonhuman generations.

Another related realm of enquiry is the relationship between justice to wild nonhumans that we have focused on here and justice to domesticated nonhumans such as farm animals and plants. As previously discussed, these two justice relationships will differ regarding how justice is conceptualised and what principles follow if applicable, but this theoretical addition will be helpful to provide a more complete analysis of what could be all-things-considered just. That is not only the case because these beings matter in their own right (and, thus, trigger considerations about just treatment which links to debates in the animal rights literature on issues such as veganism), but also because agricultural practices cannot, in general, be reduced, in terms of justice, to the relationship between humans and the farmed domesticated organisms (that is, animals and plants) only. For example, agricultural monocultures clearly *cut across* and *spill over* several different human-nonhuman relationships. Also the Half-Earth proposal remains fairly silent on the relationship of mitigating biodiversity loss of wild nonhumans and large-scale farming practices of domesticated nonhuman animals and plants, but as said, how we understand and share cultural landscapes, for example, is highly relevant for providing a more in-depth analysis of the proposal. Thus, the Half-Earth proposal is merely a puzzle piece rather than a complete answer to what just conservation would require. For that purpose, an account of ecological and environmental justice would also have to be put into conversation with other existing justice relationships.

Notes

¹ On the one side, this can be linked to related broader discussions about just biological conservation that extend considerations of justice to nonhumans in the conservation context (Vucetich et al 2018, Washington et al 2018, Treves et al 2019). On the other side, alternative proposals such as the idea of 'convivial conservation' (Büscher and Fletcher 2019) rather highlight the centrality of economic and political issues from a political ecology perspective in their response to the extinction crisis. My own position shares some similarities with, but is also in some respects different, to these proposals. However, I cannot elaborate on most of these here, as I cannot represent appropriately the diverse literature on conservation in the natural and social sciences at large.

- ² See for details regarding the bison plans www.rewildingeurope.com/bison-rewilding-plan/ and regarding the developments in Yellowstone see William Ripple and Robert Beschta (2012).
- ³ At the time of writing, preparations have begun for a post-2020 global biodiversity framework.
- ⁴ For an overview of different positions on the relationship between environmental problems and markets see John O'Neill (2015).
- ⁵ For a more nuanced assessment of the relationship between the Half-Earth proposal and capitalism from an Eco-Marxist perspective see Brian Napoletano and Brett Clark (2020).
- ⁶ See Kim Ward (2019) and Andrea Gammon (2018) for an important distinction between 'wildness' and 'wilderness' and see Plumwood (2006) for an important distinction between 'nature' and 'wilderness'.
- ⁷ The latter point on meat production is an issue that Paul Taylor (1986, p. 288) already urged as a means of habitat protection in line with his 'principle of minimum wrong'.

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Outlook for Implementation

We started with the current mass extinction as the practical and theoretical catalyst for the arguments developed in the last chapters. The upshot is that we have duties of justice to wild living beings because we are standing with them in a global distributive justice relationship. But as we have seen, what these duties entail is conditional on what circumstances of scarcity we find ourselves in; meaning that the extinction of a species functions as an indicator of injustice, but it is not sufficient on its own to make that case because in very dire circumstances an extinction is not necessarily caused by any distributive injustice. Yet, even in circumstances of severe scarcity it is required by ecological justice to at least minimise anthropogenic species extinctions, which already takes into account the duties of distributive environmental justice we have towards fellow humans. Based on this we have good grounds to believe that we have a duty of justice to avoid species extinctions whenever possible. What is possible is, on the one side, based on empirical contingencies about how we can change the modes that our societies operate in to be more sustainable and, on the other side, contingent on what we consider materially necessary for a flourishing, or at least decent, human life. In a nutshell, what I have presented here amounts to an account of *global non-ranking biocentric distributive ecological/interspecies justice to wild nonhuman beings*. Based on this theoretical framework, the human takeover of the Earth's ecological space – its resources, ecosystem benefits and actual spaces – that ultimately leads to species extinctions constitutes an injustice; it should be discussed and responded to as a matter of justice.

The notion of justice is attributed particular weight in Western modern political philosophy, the mainstream of which has retained a very anthropocentric outlook until recently. Yet, I hope that it has become clear by now that the anthropocentrism in a lot of political thought stems from justice-independent assumptions and that it is

consequently possible, and in light of the current mass extinction crisis urgently needed, to defend an account of justice towards nonhumans that speaks to the material realities of life in common on a shared Earth. It seems that one main objection to the idea of interspecies justice regards the conflicts it creates between humans and nonhumans. In fairness, accounts of justice to nonhumans have not been effective in addressing these conflicts so far, but I have tried to show that engaging with the overlap between environmental and ecological justice is one route to deal with such conflicts by finding a just compromise between their different demands. Of course, a lot more will have to be said on this matter as the field of ecological justice is still in its infancy and requires extensive development in several areas, as do many ideas that I have started to develop in this book.

We have also seen that these duties and the respective entitlements of distributive green justice to present humans and nonhumans will have to be put into conversation with a further range of demands of justice in order to inquire what would be all-things-considered just. These demands are generated by different justice communities such as between humans and domesticated nonhumans; by different types of justice in addition to distribution such as what would be required in terms of recognition; and by different time dimensions of justice such as justice as restoration and justice to future generations. Yet, assuming that, all-things-considered, our duties of distributive justice to wild nonhumans come out intact, we will need to consider how we can discharge such duties of justice. We have already touched on this issue in [Chapter 9](#), but a lot more will need to be said on the matter. Thus, I would like to present some initial considerations about what it means to discharge our duties of global interspecies justice. These are by no means meant to be adequate enough to cover the question, but I would like to point to some areas that will need further consideration as well as some bodies of literature on global justice, citizenship and democracy that are already more advanced in this regard.

Responsibility and citizenship

A promising feature about justice is that it applies to collective action at the institutional level and accordingly allows us to make large-scale normative assessments ([Chapter 1](#)). Yet that also makes it more complicated for an individual who wants to discharge her collective but unequally held duties of global justice. As we have seen, these duties are held collectively by humanity and thus need to be acted upon collectively via political institutions. But these duties are not held

equally globally due to different historical and present responsibilities for the injustices at hand. Discharging duties of distributive interspecies justice becomes a matter of just implementation which in turn is driven by intra-social justice considerations. Accordingly, it becomes necessary to consider how certain distributions of ecological space – such as physical space for example – can be made possible in a world already pervaded by a range of injustices and where the demands of global justice do not easily match up with the mosaic of duties and entitlements we find on a local level. When taking into account the diversity of human lives, cultures, political institutions and responsibilities it becomes clear that the simplification of humanity is no longer appropriate when we want to disentangle how to justly implement commonly held duties of justice to nonhumans. There are clearly participatory and recognitional justice elements that play an important part in this regard to protect from narratives that might shift the burden of implementation onto communities that share to a lesser degree the collective duties to nonhuman living beings.

As indicated in [Chapter 9](#), the climate justice literature is already well acquainted with a mismatch of (different conceptions of) responsibility *for* and vulnerability *to* climate change in addition to different capacities to act in terms of mitigation and adaptation; as implied, for example, in the ‘common but differentiated responsibilities’ principle part of the United Nations Framework Convention on Climate Change (1992). Accordingly, some of the insights of this body of work will be helpful in further analysing this particular problem of interspecies injustice.¹ To clarify, there are at least three different relevant elements in the distributive interspecies justice case about habitat distribution (which is one of several dimensions of ecological space) which make this a particularly complicated global justice issue. For one, there are clearly differentiated *historical* responsibilities that influence the current status quo of use of, and power over, ecological space. Moreover, there is the *present* uneven use of ecological space by humans globally mediated by different economic and social institutions. Also in this regard there is a sense of unevenness of responsibility for interspecies injustices. And finally, regarding some aspects of ecological space there is an unevenness in local capacity to protect biodiversity as we have seen regarding habitat in the Half-Earth case discussed in [Chapter 9](#). This kind of capacity is *not* identical to financial capacity to pay for compensation and adaptation which more closely tracks use of present and historical ecological space. This means that places where there is the most potential for protecting biodiversity are often the same places where people live who do not share much of the overall historical or present

responsibility of ecological space usage more generally. Accordingly, capacity has a dual meaning here which would be obscured if it were only understood in terms of monetary and political power. In the context of biodiversity conservation there is also a more contested but implicit sense of capacity as being disproportionately subjected to the material burden of a more broadly held duty of humanity towards other living beings by living in close proximity to a broad diversity of nonhuman lives. In that sense, the term capacity obscures a problematic distance between the material burden and the primary duty holders. This is one way in which the biodiversity case differs in an important regard from the climate change issue because here the practical implications of the general interspecies duty is what causes primary discomfort rather than the unequal distribution of the actual negative impact of the environmental problem itself, which might be an additional source of worry. Accordingly, in the ecological justice case responsibilities conceived as either backward-looking responsibility, current contribution and participation in the status quo or as capacity to act do not match up as easily as in some other global justice cases. Because of that, the problem concerns particularly how to implement duties of justice that are shared unequally but whose implementation has the potential to lead to a pattern of demandingness – in terms of areas to protect, for example – that does not track these duties fairly and adding to a historical legacy of injustices.² Putting it differently, the implementation of distributive interspecies justice seems to be troubled by a twisted version of what Val Plumwood (1998a, p. 87) calls ‘consequential remoteness’.

As this is not purely a moral but also a political issue, a body of literature that will be helpful in this regard is the work on ecological and environmental citizenship. For example, Andrew Dobson’s (2003) ‘post-cosmopolitan’ account of citizenship that refers to ecological space already explicitly acknowledges ‘asymmetrical’ citizenship responsibilities based on justice leading to an obligation to have ‘sustainable’ ecological footprints (Chapter 4). Some of that will be up to individual ‘consumer choices’ and ‘lifestyles’ (Dobson’s ‘private’ sphere; but for a convincing argument to keep citizenship and consumption separate see MacGregor 2006). However, *primarily* (for me) this will again be a matter about systemic issues in which individual lives are embedded (Dobson’s ‘public’ sphere). Accordingly, a ‘green citizen’ that takes her duties of interspecies justice seriously will search for political means to influence what can only be resolved by collective action via political institutions and so on. As Sherilyn MacGregor highlights, ‘the citizen *qua* political being is necessary

for political action and resistance’ (2018, p. 3, emphasis in original). In that sense ecological justice plays two roles. On the one hand, it generates collective duties towards nonhumans but, on the other hand, interspecies justice can also function as a rhetorical tool that should be engaged by green citizens that renounce the solitary future towards which we are heading.³ Such considerations about citizenship, in turn, also link to discussions about responsibility in the context of structural injustice in the climate change and global justice literatures more broadly. For example, as part of the latter Iris Marion Young’s (2011) *Responsibility for Justice* is a useful starting point in this regard to help to further theoretically substantiate the role of the green citizen. In this influential book she provides a detailed analysis of the differentiated responsibilities individuals hold for addressing injustices with particular reference to the case of how we collectively uphold the existence of sweatshops.⁴ Similarly we might ask about how the current rate of species extinctions is being upheld collectively. Building on Young’s work, within the realm of environmental political theory some thought has already been given on the link between climate change, structural injustice, responsibility and power (see particularly Eckersley 2016). Likewise, regarding the particular interspecies justice case at hand more will also need to be said about the relationship between my analysis of interspecies injustice, structural injustice and the nature of the responsibilities held by green citizens.

Citizenship is also interlinked with thinking about deliberative and participatory democracy which has become a central theme in green political thought and political institutions more generally in the sense of ‘greening’ the state (see Eckersley 2004), as a way to engage with and live in accordance with demands of interspecies justice. Within broader theoretical engagement with the deliberative aspect of democracy and its general relationship with environmental protection, one line of argument is to rethink democracy in a more inclusive way that accounts for nonhuman interests and needs which is sometimes called ecological democracy or, simply, ecodecocracy. For example, David Schlosberg calls for ‘a form of citizen deliberation that is inclusive of environmental and ecological points of view, positions and interests that are traditionally excluded. At a minimum, [...] such participation requires [...] a type of democratic and *ecological reflexivity*’ (2007, p. 189, emphasis in original). That is in turn dependent on cross-species communication in the sense of humans ‘listening’ to ecological systems as a crucial part of such ecological reflexivity (Dryzek and Pickering 2019). On top of that, several theorists argue for the representation of nonhumans by proxies in the deliberative process (as also Schlosberg

2007). Of course, this is based on a range of different contested claims, such as regarding which nonhumans can hold interests and how we can epistemically determine these interests, which are issues which we touched upon in [Chapter 2](#). Nevertheless, besides that this seems to be a promising vehicle for making issues of interspecies justice heard within the political deliberative process, the deliberative democratic process itself can also function as an arena where different dimensions of justice that are not necessarily easily commensurable or converging can put be into conversation (as a place where substantive and procedural justice meet).

Other lines of argument focus more broadly on the state itself as the primary political institution via which – due to practical necessity – interspecies justice needs to be institutionalised at the national and international level (see Low and Gleeson 1998, Baxter 2005, Donoso 2017). For example, Brian Baxter argues in favour of constitutional protection for nonhumans and looks to the prospect of establishing an ‘International Court of Ecological Justice’ (2005, p. 183). This links, in turn, to the development of Earth jurisprudence – the representation of nonhuman interests in national constitutions, legislation and, consequently, court cases (for a position that links judicial resolution to doing justice to nonhumans see Treves et al 2019; and for a focus on the related but distinct process of conservation conflict resolution see Vucetich et al 2018). Previously mentioned prominent examples are the case of the Ecuadorian constitution which has included the rights of nature since 2008, or the case of the Whanganui River in New Zealand, which was given legal personhood in 2017. This realm of legal rights is clearly a further promising route for implementing ecological justice entitlements ([Chapter 1](#)), despite that so far, the attribution of legal rights to different environmental entities often only indirectly and imperfectly tracks justice entitlements. Nevertheless, such legal rights can play their part in the broader project of greening the state.

Coming to an end, these are only a few glimpses of some promising areas of environmental and political philosophical literature that can help spell out more clearly how to implement the environmental and ecological justice nexus. Taking our duties of justice to fellow humans and nonhuman living beings seriously is neither a matter of taking sides nor a reason to despair in light of the conflictual nature of sharing one planet. Rather the aim should be to think about what it means to be committed to doing justice on one Earth on which we live in common.

Notes

- ¹ The philosophical literature on climate change is very extensive and provides nuanced insights to which I cannot give appropriate consideration here.
- ² See also related discussions on responsibilities and justice in John Dryzek and Jonathan Pickering (2019) and particularly regarding biodiversity conservation in Baxter (2005). For a more pragmatic (anthropocentric) take that differentiates between different relevant actors in this context see Bram Büscher and Robert Fletcher (2019).
- ³ Of course, the literature on ecological and environmental citizenship has been met with criticism, which points to the need to incorporate feminist and postcolonial insights more centrally into green Western theories of citizenship (see MacGregor 2018).
- ⁴ For sympathetic critical discussions of Young's account see Robyn Eckersley (2016) and Michael Goodhart (2017).

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“A courageous and carefully crafted defence of the concept of ecological justice which places it at the centre of a viable environmentalist agenda.”

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Anna Wienhues is a postdoctoral researcher at the Center for Ethics, and the University Research Priority Programme on Global Change and Biodiversity, at the University of Zurich.

As the biodiversity crisis deepens, Anna Wienhues sets out radical environmental thinking and action to respond to the threat of mass species extinction.

The book conceptualises large-scale injustice endangering nonhumans, and signposts new approaches to the conservation of a shared planet. Developing principles of distributive ecological justice, it builds towards a bold vision of just conservation that can inform the work of policy makers and activists.

This is a timely, original and compelling investigation into ethics in the natural world during the Anthropocene, and a call for biocentric ecological justice before it is too late.



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