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Strong Sustainability Ethics

Michel Bourban*

Forthcoming in *Environmental Ethics* (accepted 01.10.2021)

This article explains how strong sustainability ethics has emerged and developed as a new field over the last two decades as a critical response to influential conceptions of weak sustainability. It investigates three competing, normative approaches to strong sustainability: the communitarian approach, the Rawlsian approach, and the capabilities approach. Although these approaches converge around the idea that there are critical, non-substitutable natural resources and services, they diverge on how to reconcile human development and environmental protection. The aim of the paper is to provide a critical overview of these three perspectives, but also and mostly to show that when we put them into dialogue with each other, we can clarify the demands of sustainability. The paper concludes that the capabilities approach is the most suitable way to think about sustainability, but only if it goes beyond its dominantly anthropocentric view.

Introduction

The notion of sustainability has contributed greatly to shaping political, social, economic, and ethical debates on the environment. Yet, after more than three decades of academic discussion, there is still a lack of clear definition of this notion. This is partly due to sustainability being an interdisciplinary topic that scholars understand through the terminological and methodological lens specific to their own discipline. But even within the same discipline, many do not agree on a single definition. For instance, philosophical discussions on sustainability are full of debates, disagreements, and contestations. One major reason for this is that most philosophers use a specific theory of social justice as a background when engaging with the topic, such as communitarianism, liberalism, or capabilityism. As these theories tend to contend with each

* Postdoctoral Researcher and Assistant Tutor in the Department of Politics and International Studies at the University of Warwick, Social Sciences Building, Coventry CV4 7AL, United Kingdom. Email: Michel.bourban@warwick.ac.uk. The author is grateful to Lisa Broussois, Simon Caney, Allen Thompson, and two anonymous referees for their very helpful comments and feedback. The author also thanks Konrad Ott for his valuable insights on sustainability while they were working together at Kiel University. This research was funded by the Swiss National Science Foundation (grant 190981).

other, it is not surprising that when philosophers discuss sustainability, persistent disagreements arise.

Philosophers do agree that a key objective of sustainability is environmental protection for present and future generations. They are also in agreement with the Brundtland report's general goal of reconciling human development with environmental protection (WCED 1987). At the abstract level of regulatory ideals, there is indeed a shared understanding of what sustainability means (Voget-Kleschin and Meisch 2015: 248–252). However, this broad definition covers different fields, such as environmental justice, participatory justice, intergenerational ethics, and environmental ethics, in which different and, once again, competing approaches exist. A key debate is about the scope of justice: are humans the only beings that matter morally (anthropocentrism), or should the moral community also extend to sentient beings (sentientism), all living creatures (biocentrism), or even non-living natural beings, such as species and ecosystems (ecocentrism)?

This paper investigates an emerging sub-field of the philosophy of sustainability, which I propose to call “strong sustainability ethics.” I compare three ethical approaches to strong sustainability to highlight their respective strengths and limitations. This critical overview is by no means comprehensive, but putting three influential perspectives into dialogue with each other helps to clarify the demands of environmental sustainability. The first section offers two key conceptual distinctions to introduce the notion of strong sustainability. The second section investigates Bryan Norton's communitarian approach to sustainability and stresses its shortcomings in the face of global environmental changes. The third section moves to Konrad Ott's Rawlsian framework, which relies on universalism and deontological ethics, two normative components rejected by Norton. While the Rawlsian framework may be well suited to the task of institutionalizing sustainability, at the same time it is not suited to properly addressing major current ecological problems. The last section moves to the capabilities

approach, which is strongly criticized by Ott. It brings together Breena Holland's idea of ecological meta-capability, Amartya Sen's contribution to intergenerational justice, and Martha Nussbaum's nonanthropocentric approach to propose a more robust approach to strong sustainability.

1. Two Conceptual Clarifications

1.1. Sustainable development and sustainability

The terms sustainability and sustainable development are often used interchangeably. A major reason for this is there are many different definitions of sustainability, some of which can overlap with the notion of sustainable development. Andrew Dobson (2007: 29) for instance points out, "Environmental sustainability, and its close cousin, sustainable development, have become all things to all people in the rush for environmental political correctness." Edwin Zaccai (2012: 81) adds, "the interpretation of sustainable development has always been a kind of game that academic, political, and social actors can play, because of its openness and plasticity to every context."

How can some analytical clarity be brought to this conceptual battlefield? A good starting point is the Brundtland report, which defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987: 8). The key objective of sustainable development in political and academic discussions in the late 1980s was to ensure that crucial human needs could be met, and the most important means to that end was development in the form of economic growth. By the end of the 1990s, the "three pillars approach" came to dominate the understanding of the notion, with the core goal of balancing economic, social, and environmental objectives (Zaccai 2012: 80). Since then, sustainable development has been aiming to conciliate economic growth, human development, and environmental protection.

Here again, the economic sector plays an important role in shaping the meaning of the notion. As Zaccai (2012: 83) stresses, “Sustainable development as an overarching concept may be in favor of an economic approach to policy, since its core formula can be read quite easily in economic terms.” Paul Thompson (2018: 16) confirms this when he reminds us the “Brundtland paradigm” largely depends on prior theories of economic development.

The notion of environmental sustainability shifts the emphasis from this predominantly economic approach to a predominantly ecological approach. Its key objective is to sustain into the future environmental value, i.e., “the value of things created by natural processes rather than by artificial human ones” (Dobson 2007: 29). This objective can constrain economic growth quite significantly, as economic growth is a leading cause of environmental degradation. While forms of growth that deplete natural resources and cause irreversible damage to ecosystems are unsustainable, forms of growth that use very few resources and even restore ecosystems can be sustainable (Thompson and Norris 2021: 9). The same goes for different forms of agriculture, forestry, fishery, etc. The origin of sustainability can be traced back to the Meadows report, which stressed that limits to (economic) growth were needed to avoid crossing (natural) limits (Meadows et al. 1972).

The key difference between the two notions is therefore this: while sustainable development gives equal normative weight to economic, social, and environmental objectives, environmental sustainability prioritizes the protection of key components of the natural environment, such as climate stability, intact ecosystems, adequate supplies of fresh water, and unspoiled natural parks. Social and economic objectives also matter from a sustainability perspective, but they always are constrained by environmental goals. The major reason why sustainability establishes such a hierarchy is that a minimal level of environmental stability is a precondition for reaching social and economic objectives. Environmental resources and

services are not simply a background assumption, but a condition of possibility for the realization of social and economic goals.¹

1.2. Weak and strong sustainability

Let us turn now to a second and related distinction to further clarify the meaning of sustainability: that between “weak” and “strong” sustainability. Weak-sustainability theorists and strong-sustainability theorists both focus on possible relationships between three different means of production: physical capital (machinery and infrastructures), human capital (skills and competences), and natural capital (natural resources and services). They differ in how they conceive the relationship between these different types of capital, especially regarding the degree to which human and physical capital can act as substitutes for natural capital:²

Weak sustainability is about maintaining a non-declining stock of physical and human capital into the future. The saving rate must remain non-negative, so that each generation has at least as much opportunity to enjoy welfare as members of prior generations. This form of sustainability is weak in the sense that it allows virtually unlimited substitutability between types of capital, as long as a stable level of welfare is maintained across generations.

Strong sustainability limits substitution between different forms of capital, specifically, the replacement of natural with human-built capital. It is strong because it constrains the actions of present generations more stringently by

¹ As we will see in section 4, ecological stability is indeed a “meta-capability,” a condition of possibility to achieve all the other basic capabilities.

² I draw here on Bryan Norton (2005: 306–310) and Eric Neumayer (2013: 22–29).

prohibiting the destruction of critical natural resources and ecosystem services. Sustainability is not simply a matter of welfare comparisons across time: parts of the natural capital cannot be traded off against economic goods.

Robert Solow (1993) is a well-known supporter of weak sustainability. According to him, our only obligation of intergenerational justice is to leave the future with the capacity to be as well off, economically speaking, as we are. To the question “What should each generation give back in exchange for depleted resources if it wishes to abide by the ethic of sustainability?”, Solow (1993: 170) replies, “it should replace the used-up resources with other assets of equal value.” Although exceptionally rare environmental assets such as the Grand Canyon or Yosemite National Park are irreplaceable, most parts of the natural capital can be substituted if other assets of equal social or economic value are created in exchange (Solow 1993: 171). According to Solow, the only alternative to the absurdly strong sustainability approach (which unreasonably demands current generations to leave the world completely unchanged for the future) is weak sustainability, which requires only that we avoid impoverishing future generations by overconsuming and undersaving. What future people need is equivalent productive capacity and technical knowledge. Sustainability is about maintaining a stable level of welfare across time.

Dismissing the straw man of absurdly strong sustainability, Herman Daly (1995) stresses that “manmade” and natural capital are not interchangeable, but rather complementary. He gives three arguments to support this view (Daly 1995: 51). First, if manmade capital really were a substitute for natural capital, then natural capital also would automatically be a substitute for manmade capital. In that case, there would be no reason to accumulate manmade capital, as nature would have endowed us with a perfect substitute. Second, because manmade capital is a transformation of natural resources, producing more of the former physically requires more of

the latter, which is the condition of complementarity. Third, and most importantly, one cannot substitute the efficient cause of production (manmade capital and labor that transform raw natural material inputs into product outputs) for the material cause of production (the natural resource flow and the natural capital stock that generates it): a sawmill is useless without a forest, just like a fishing boat without fish, or an irrigated farm without clean water. As productive capacity depends upon a natural endowment, various forms of capital are not fully fungible: manmade capital cannot substitute perfectly for natural capital such as ecosystems and ecosystem processes.

These conceptual clarifications have three advantages. First, they help us understand why sustainable development and environmental sustainability are so often confused in academic and political discussions: sustainable development and weak sustainability are very similar notions. Weak sustainability aims at maintaining a certain level of welfare over time. This goal indeed can be reached via means other than economic growth, but as Solow's theory illustrates, it is very easy to approach weak sustainability from a classic economic perspective. Second, these precisions help us understand why sustainable development and weak sustainability are so ubiquitous in political and academic discourse: they provide a simple way to operationalize sustainability by using a single measure—a comparison across time of the total stock of physical and human capital. Third, they enable strict separation of strong sustainability approaches from weak sustainability and sustainable development approaches. This paper surveys three philosophical approaches to strong sustainability. It neither claims there are only *philosophical* approaches to strong sustainability, nor that they are the *only* philosophical approaches to this topic. Its more modest claim is rather that these three approaches can be put into dialogue with each other, and that this can help clarify the meaning of sustainability.

2. Norton's Communitarian Approach

2.1. The “Grand Simplification”

According to Norton, the main problem with the weak sustainability approach is that it is not only simple; it is also *simplistic*. Weak-sustainability theorists rely on the “Grand Simplification,” the view that sustainability can be essentially reduced to measuring and comparing welfare across time (Norton 2005: 316). The prevalence of the Grand Simplification has prevented or at least confused (for many years and in many fields) discussions on the true demands of sustainability. For sustainability is not a single, monolithic problem; it is rather a cluster of interrelated problems (Norton 2005: 321):

1. The *problem of intergenerational trade-offs*: how should an earlier generation balance concern for future generations against its own prudential moral concerns? How should we weigh the demands of the future against the more palpable needs of present people, many of whom live in poverty?³
2. The *distance problem*: What is the horizon of ethical concern? Do we only have obligations to the next couple of generations, or do our obligations also extend to distant future generations?⁴

³ Norton writes that this appears to be the most important aspect of intergenerational ethics. When Voget-Kleschin and Meisch (2015: 61–63) claim Norton neglects issues of intragenerational justice, they forget he stresses “the very real and present needs of cohorts in the present generation” (Norton 2005: 337). According to Norton, it is up to the community to balance the needs of the present with its responsibility to the future.

⁴ One of the reasons why Norton conceives of sustainability as a cluster of moral problems is that to reply to the trade-off question, we must first reply to the distance question. The extent of our moral obligations to future persons delimits the set of individuals whose interests are to be considered in making any trade-off.

3. The *ignorance problem*: who will future people be and how can we identify them? What will be their values, preferences, number, and identity?⁵
4. The *typology-of-effects problem*: how can we determine which of our actions truly have moral implications for the future? In which cases will our actions significantly contribute to harming or benefiting future people?⁶

The Grand Simplification is based on no other ground than “an implausibly strong, even extreme, statement of the ignorance problem,” coupled with the “unargued assertion that economists know what resources ‘can take the place of each other’” (Norton 2005: 324). It has convinced economists such as Solow but also political philosophers such as John Rawls (Norton 2005: 317). Rawls (1999a: 251–258) defined the problem of intergenerational justice as a problem of choosing a just savings rate in the original position. Behind the veil of ignorance, which hides information regarding the generation to which they belong, parties choose a two-stage model: an accumulation phase with a positive savings rate, followed by a steady state phase “once just institutions are firmly established and all the basic liberties effectively realized,” in which case “the net accumulation asked for falls to zero” (Rawls 1999a: 255). This is the “ignorance problem” side of the Grand Simplification: because of the veil of ignorance, we can assume all that future people will want are just institutions and basic liberties. The “fungibility argument” side of the Grand Simplification is that each generation should pass on to the next a “fair equivalent in real capital as defined by a just savings principle,” keeping in

⁵ Norton focuses on the first variant of the ignorance problem, the one that deals with the values and preferences of future people; he leaves aside the second variant, which focuses on the number and identity of future people. He therefore implies the non-identity argument is not such an important problem of intergenerational ethics.

⁶ The Great Simplification solves the typology-of-effects problem in the following way: as long we avoid impoverishing the future by overspending and undersaving—as long as we maintain a fair savings rate—our actions cannot harm future people. This is precisely the point Norton contests.

mind such capital is composed of factories, machines, and the knowledge, culture, techniques, and skills “that make possible just institutions and the fair value of liberty” (Rawls 1999a: 256). There is a high, if not unlimited degree of substitutability between natural capital and artificial capital because at no point does Rawls consider natural resources and services as part of the “real capital” to pass on to future generations. In short, as long as a given generation adds to or does not detract from the accumulated manmade capital of its society, it will fulfill its intergenerational obligations.⁷

2.2. *A communitarian approach to sustainability*

Norton’s reply to weak-sustainability theorists is that the ignorance problem is not as compelling as they imply. We can be fairly certain future people will not want us to contribute to harming them through environmental degradation, for instance by threatening their basic interests in health, subsistence, and in a minimally decent life. There is an intermediate position between absurdly strong sustainability and the Grand Simplification: a less-than-absurdly-strong-sustainability approach that still maintains that parts of the natural capital ought to be protected if we are to be fair to future people. If essential natural resources and services are depleted, future people will be worse off than if these resources and services had been protected, even if in exchange they become wealthier than we are.

To explain in what way depleting essential parts of the natural capital would *harm* future people, Norton appeals to the notion of communal values. By destroying the natural and cultural history of a place where humans and nature have interacted to create a process that emerges over multiple generations, we cause damage to the communal values we share with past,

⁷ This is just a summary of Rawls’s account; his approach to intergenerational justice is more complex than this—see e.g., Gaspart and Gosseries (2007).

present, and future people from our community. In other words, “We can harm the future by failing to create and maintain a culture and a community respectful of its past, including both the human and the natural history of the common heritage” (Norton 2005: 339).

Norton’s conception of sustainability is based on a communitarian political ontology that draws on Edmund Burke’s conception of society: “a partnership not only between those who are living, but between those who are living, those who are dead and those to be born” (Burke 1910: 93–94). To Burke’s version of political community, Norton adds a strong sense of human territoriality and a recognition that both our past and our future are entwined with the broader community of living things and the ecological systems that form habitats and the multigenerational human communities. He conceives sustainability as a commitment of people in the present to protect special places that matter to their culture and to perpetuate the values on which that culture is based. Communities have to democratically choose how to express their values and what should be sustained. They should decide on a legacy, a bequest for the future, through a fair political process.

Strong sustainability is composed of two positive duties of justice: an obligation to protect special places, and an obligation to perpetuate the values and the mindset that find those special places worthy of respect and protection within our society and culture. Members of present generations have a responsibility to perpetuate, in their society, and among their offspring, love and respect for the natural place they care about enough to protect. They have a duty to transmit communal values to their children and grandchildren and ensure those values are carried into the future. The scope of Norton’s approach is therefore restricted to the community in which citizens live: “Protectionists act to create a communal sense of caring, and they do so by creating and maintaining a community that expresses a deep and abiding value for nature, a community in a physical place, forming a kind of organic unity across generations” (Norton 2005: 328). To ensure distant future people will remain in the same moral community

as ours, a “benign paternalism about values” (Norton 2005: 332) is required. By protecting special places through effective institutions, we can contribute to shaping the values of future people, so they will pursue our efforts to protect those special places that define our culture, our moral community.

2.3. *Limitations*

Just like the rest of his environmental philosophy, Norton’s approach to sustainability has been widely discussed in the literature (see e.g. Sarkar and Minter 2018). I focus here on three possible objections for the purposes of this paper.

The first is that Norton’s perspective is in fact an approach to sustainable development. According to Thompson (2018: 23 – emphasis in original), “when Norton turns directly to a discussion of sustainability as such, his approach seems to operate *within* the Brundtland paradigm”: “he does not contest the underlying paradigm put forward by the Brundtland Commissions in 1987.” (Thompson 2018: 23, emphasis in original). The problem is that the Brundtland report did not address sustainability as such; it “was dealing primarily with long recognized issues of inequality in global development” (Thompson 2018: 16). As a consequence, Norton is mainly interested in “resource sufficiency,” a distributive justice perspective aimed at extending the availability of resources by increasing the efficiency with which they are used (Thompson 2018: 23–24). Norton remained stuck in the debate over the fungibility of different types of capital, which is grounded in the “accounting mentality of economic development” (Thompson 2018: 22).⁸

⁸ Ironically, Voget-Kleschin and Meisch (2015: 59) make the opposite objection to Norton. According to them, unlike supporters of sustainable development who explicitly refer to the Brundtland report, Norton focuses on environmental protection at the expense of human development. This objection once again can be countered by a

It is true that Norton frames sustainability as a problem of distributive justice, but this statement needs two qualifications to be accurate. First, Norton is primarily interested in *intergenerational* justice: “one would not be discussing sustainability if one did not in some way focus on our moral obligations beyond the more usual intragenerational moral concerns to the longer time frames of intergenerational morality” (Norton 2015: 23). Sustainability requires communities to create a fair intertemporal bequest, where the term “bequest” refers to the sum total of cultural and physical resources passed from present generations to future generations. This indicates his approach is not as narrow as Thompson claims: mainstream economic approaches to development indeed can be interested in savings and dissavings, as well as in varying social discount rates, but they rarely prescribe positive duties of intergenerational justice. Second, and most importantly, Norton systematically integrates environmental protection considerations into his account of intergenerational ethics: “Truly strong sustainability of the sort explored here asserts that if we destroy important aspects of natural systems, then we may harm the future, making its people worse off than they would have been, even if they are able to be as well off as we are in terms of comparative welfare” (Norton 2005: 329). In contrast with approaches giving a central role to economic development in the name of the welfare of present and future people, Norton’s approach places stringent constraints on economic growth. Strong sustainability imposes constraints on activities that would damage ecological systems to protect specific ecological features that support opportunities valued by communities (Norton 2015: 78–79). Among these ecological features, resilient ecosystems play a crucial role: strong sustainability requires to maintain the resilience of ecosystems, i.e., the ability of ecosystems to rebound after disturbances (Norton 2015: 61, 94–95). It is therefore inaccurate to claim Norton’s approach has been “framed within the accounting mentality of

reminder that the problem of intergenerational trade-offs appears to be the most important aspect of intergenerational ethics for Norton.

GDP and economic development” (Thompson 2018: 24), especially when he criticizes the Brundtland report for its failure to consider what is required for the ecological and physical functioning of the system within which humans live (Norton 2015: 22).

A second, more accurate objection is related to Norton’s communitarian ethics. This objection is based on what Rawls (2005: 35–40) calls the “fact of reasonable pluralism” in liberal and democratic societies. When citizens in a well-ordered society freely exercise their practical reason, their religious, moral, and philosophical doctrines will lead to a plurality of values and conceptions of the good. In any community, the values and ideals people follow will differ on many counts, and this plurality is desirable as long as it is compatible with a democratic regime. Norton’s communitarian approach relies on an idealized conception of the community, pictured as a group of people who share the same (or at least similar) values regarding the protection of nature. Whereas, for environmentalists and nature protectionists, the protection of special places is indeed a core ideal deeply rooted in their comprehensive doctrines of the good, other people in the same community might reasonably disagree. For many people, other, competing ideals, such as increasing one’s economic welfare, might matter much more. After all, Norton himself recognizes the Grand Simplification is a very influential approach to sustainability. If the majority of a given community supports weak sustainability, this community will democratically decide against strong sustainability and transmit their values to their offspring. Members of existing generations indeed will form a moral community with members of future generations, but the values and ideals they share will be very different from the ones Norton has in mind. Therefore, whereas Norton’s approach to sustainability ethics highlights the shortcomings of Rawls’s approach to intergenerational ethics, Rawls’s political liberalism highlights the shortcomings of Norton’s conception of the community.

It is true Norton (2015: 9) recognizes “the plurality and also the dynamism of values” in modern societies. It is this pluralism that led him to refrain from proposing a “single, bottom-

line definition or measure of sustainability” (Norton 2015: xv): such a definition or measure should be democratically chosen by the members of the political community. Although this pluralism is indeed integrated into his conception of sustainability, it seems to be missing in his notion of community. According to Norton (2015: 301), a community in the full sense of the word is not only a group of people who share a sense of identity; it is also a group of people devoted to a particular natural system, a group of people “who live in a particular place and who identify with their ecophysical surroundings.” This shows his conception of the community relies on a sense of attachment to one’s particular natural environment, a concern for sustaining the physical place where one was born and grew up. This assumption strongly limits the scope of his pluralism concerning values. His benign paternalism concerning values might be justified from a perfectionist perspective focused on the conditions for a good or authentic human life. The problem is that paternalism and perfectionism are very much at variance with pluralism concerning values.

A third weakness in Norton’s account stems from his criticism of the deontological approach to strong sustainability (Norton 2005: 340–343). According to deontological logic, individuals and governments have duties to protect parts of the natural capital. These duties are often correlated to basic human rights. The deontological approach understands intergenerational ethics in terms of obligations of present people to protect aspects and processes of natural systems for future people. From this perspective, we harm future people when we destroy natural resources and services that we should have protected, and this harm is independent of any effects on the welfare of future individuals. Norton (2005: 342–343) shares the “normative sentiments” of this Kantian-liberal approach, but he rejects it. His major worry is the lack of acceptable foundation for human rights, which adds a burden of justification to sustainability, which in turn links sustainability ethics to controversial philosophical views.

Two counter objections are possible here. First, contemporary deontological theorists have shown human rights actually can be based on quite uncontroversial philosophical views. Prominent cosmopolitan theorists such as Henry Shue (1996), Simon Caney (2005), and Thomas Pogge (2008) all explain that human rights are based on our common humanity, on the claim that all human beings ought to be treated as having an unconditional equal moral worth.⁹ Human rights can be justified without relying on a comprehensive philosophical doctrine, and this explains why international human rights treaties have been ratified by multiple countries with very different traditions and cultures.

The second counter objection is that choosing a communitarian approach over a universalistic, deontological approach comes at a high price. Norton grounds sustainability ethics in the local community, not our common humanity. This implies we have duties only to present and future people within our bounded community. This approach is well suited to the first wave of the environmental crisis, characterized by pollution and environmental degradation spatially and temporally scaled to the size and dynamics of biotic communities and ecosystems. But it is much less suited to what J. Baird Callicott (2014: 5 – emphasis in original) calls the “*second wave of the environmental crisis,*” which is characterized by global and intergenerational disruptions in the Earth system, such as climate change and biodiversity loss. This new kind of environmental degradation is best understood as a disruption in planetary-level systems, pushing the whole Earth system into a new state that is much less hospitable to humans and other species. Today, our actions also contribute to harming members of other communities, now and in the future. The high-emitting economic activities of developed

⁹ Although it might seem controversial to expand the human rights approach to members of future generations, it is possible to avoid any counterintuitive position by stressing that while the claim that future people hold rights now is indeed mistaken, the claim that they will hold them in the future is correct, and that the latter claim implies existing people are duty-bound to avoid jeopardizing the future rights of future people: see Elliot (1989).

countries can for instance contribute to destroying special places that play a key role in the communal values of developing countries. Socio-ecological disruption and climate migration caused by sea-level rise in some small island developing states is a good example of this. The linguistic and cultural losses associated with forced migration cannot be captured as global and intergenerational injustices by Norton's account of sustainability.

Norton is of course aware that today's most urgent ecological problems are global. On climate change, he writes, "it is necessary to develop a concept of sustainable use of the earth's atmosphere, and ideally that concept should encompass the multiple scales at which humans struggle for survival and longevity, personally and culturally" (Norton 2015: 4). The problem is that his conception of the community substantially limits the scope of the duties of climate justice his approach can justify. Thanks to his conception of the community as a partnership between those living and those yet to be born in the same physical place, Norton can show grounds for duties of intergenerational climate justice to future members of one's community. But he cannot expand these duties to existing and future members of distant communities, especially those who are the most vulnerable to climate impacts. This limitation is clearly illustrated by the examples Norton (2005: 324–329) uses, such as the conservation of old-growth forests to avoid depriving future people of the experience of wilderness or the limitation of the pollution of seas and rivers to protect special places like the Chesapeake Bay. He mentions climate change, and stresses that its effects could be disastrous for future generations, but at no point does he expand the scope of duties of justice to members of other communities. A deontological approach based on common humanity and on human rights would have allowed him to overcome this limitation (see e.g. Caney 2009).

One last attempt to support Norton's approach would be to point out that his conception of the community is more flexible and allows for new, larger communities of like-minded citizens to emerge over time. If the moral and political community is not limited by hard

boundaries, but can evolve over time, then the problem is less important than it would seem at first. Whereas *Sustainability: A Philosophy of Adaptive Ecosystem Management* offers little on which to base such an interpretation, the last chapter of *Sustainable Values, Sustainable Change* seems more promising (Norton 2015: chap. 10). This chapter proposes scaling up Leopold's multiscale insight of a mountain ("thinking like a mountain") to a multiscale insight about the planet ("thinking like a planet"). But Norton's promise to "scale up" his approach remains unfulfilled. Most of the chapter is devoted to presenting his agreements and disagreements with Callicott on anthropocentric and nonanthropocentric ethics, how land ethics and earth ethics interconnect, and how best to interpret Leopold. In the last three pages of the chapter, Norton briefly suggests if we manage to "create or stimulate a 'public' of concerned citizens," we could "begin to work toward creating community on an expanded scale," but he does not develop this crucial idea (Norton 2015: 280). Instead, he goes straight back to the level of "local communities" to explain they are the most likely to "catalyze action" against climate change (Norton 2015: 279). It is surely true that state-level and substate-level actions are important and too often underestimated in addressing climate change, but Norton's approach can give no specific indication of how to share the burdens of climate change fairly across countries and regions, or how to help the most vulnerable avoid harmful climate impacts. This is a serious shortcoming.

The general problem therefore is that at no point does Norton question his communitarian approach, which he conceives as "a general strategy that has a better chance than any other approach that has been proposed" (Norton 2015: 281). However, Norton does not discuss relevant approaches that expand the scope of the moral and political community. Two approaches would have been particularly worth discussing: cosmopolitan citizenship, which conceives people as "citizens of the world" belonging to a single community in virtue of their common humanity (Linklater 2007); and ecological citizenship, a renewed and expanded

notion of citizenship to contend with global environmental changes (Dobson 2003). If he had taken universalistic and deontological approaches to sustainability more seriously, Norton probably would have had less difficulty addressing the second wave of the environmental crisis.

3. Ott's Rawlsian Perspective

3.1. A "comprehensive ethics of sustainability"

Let us turn now to two possible universalistic and deontological approaches to sustainability to see how they fare compared to Norton's perspective. The first possible approach is developed by Konrad Ott. To begin with, Ott agrees with Norton on two major points. Firstly, he also firmly rejects weak sustainability. To the question "What to sustain?," Ott (2014: 904–905) replies that there is a collective obligation with respect to different stocks of natural capital that he labels the "constant natural capital rule"—a general rule to hold natural goods at least constant over time. This rule is based on the claim that components of the natural capital (freshwater, soil, forests, animals, the ozone layer, the climate system, etc.) are mutually non-substitutable: they form a complex and dynamic network of relationships. Ott's concept of sustainability is rule-based, and his focus is primarily on collective duties. Sustainability should be institutionalized and organized within a just society, and personal duties to behave sustainably are imperfect duties (Voget-Kleschin, Baatz, and Ott 2015). In other words, like Norton and Daly, Ott supports a strong version of sustainability.

Secondly, Ott (2014: 896–899) also conceives sustainability as a cluster of interrelated normative problems:

1. The *focal perspective of sustainability (FP)*: this perspective is a long-term orientation with respect to natural resources or the natural capital, with two ethical dimensions: the deontology of moral commitments to members of future generations, and the axiology of

natural resources and goods that contribute to individual and social welfare. Paradigmatic cases of FP are climate change, nuclear waste disposal, species extinction, degradation of soils and forests, overfishing, and desertification. In Norton's terminology, this part of the cluster would correspond best to the "distance problem."

2. *Contemporary absolute poverty*: in the Brundtland report, the priority is to fulfil the needs of the global poor, such as adequate nourishment, shelter, and sanitation. This prioritization implies courses of actions are sustainable only if the long-term protection of natural resources does not hamper alleviating poverty. The problem is that in a context of scarce moral attentiveness, alleviating poverty can absorb much attention and effort. The overriding priority of poverty reduction can lead to a shift away from FP in sustainability theories. This tension between intra-generational and inter-generational equity corresponds to what Norton calls the "problem of intergenerational trade-offs."
3. *Inherent value of natural beings*: are some non-human beings included in the moral community? According to Ott, decades of ethical debates on this demarcation problem have led to considering sentientism as the common ethical solution: inherent moral value should be attributed to any living being capable of experiencing pleasure, joy, pain, suffering, and other conscious states. But here again, FP can be threatened by the additional theoretical burden that comes with non-anthropocentric positions.¹⁰

Ott (2014: 899 – emphasis in original) concludes that a "comprehensive ethics of sustainability, then, would be a moral *cluster* composed of the reduction of absolute poverty, animal ethics including wildlife, and original FP." Extreme poverty and the inherent value of natural beings

¹⁰ This problem is not addressed in Norton's cluster, because he supports, primarily for pragmatic reasons, weak anthropocentrism (see subsection 4.4).

lead FP to broaden its scope, but as they are overwhelming, they can overburden FP and lead its dissolution. This is why we should conceive FP as the centerpiece of sustainability ethics, and poverty reduction and animal ethics merely as “augmentations” of FP.

3.2. Institutionalizing sustainability

These agreements between the two ethicists should not hide their deep disagreement about the role of Rawls’s theory of justice in discussions on environmental sustainability. Ott indeed argues that the role of the principle of intergenerational savings and investments has been underestimated in sustainability ethics. According to him, a “sympathetic reading” (Ott 2014: 904) of Rawls could help us answer the question “what to sustain?” by finding a fair intertemporal bequest package.

One important advantage of Rawls’s theory of justice is its ability to institutionalize principles of justice. Rawls distinguishes a set of branches of government that should meet the demands of distributive justice, such as welfare policies, education, and taxation. At least one branch should address the principle of intergenerational fairness. Specific programs in this branch should lead to the implementation of the constant natural capital rule through laws, objectives, administration, incentives, and disincentives. Important rules within this branch are, for instance, investment and management rules. Because sustainability is about the savings rate, investments should be made so the natural capital is held constant. Another example is the rule of replacing fossil fuels with renewable energies to reduce pollution and greenhouse gas emissions. Other rules concern the fields of agriculture, forestry, fisheries, and livestock: here again, specific administrative bodies should implement laws and directives by adhering to strong sustainability.

On this basis, Ott (2014: 908–909) proffers four transnational commitments well-ordered societies should adhere to if they are to fulfill the demands of strong sustainability as detailed

by the cluster of moral problems and if they are to institutionalize the constant natural capital rule:

1. An obligation to take the lead: well-ordered societies should be willing to reduce both input and output of domestic industrial production, to push their citizens to change their lifestyles and habits, and to restore their natural environment.
2. A negative duty not to hamper strong sustainable development elsewhere: well-ordered societies should not support unsustainable activities abroad and should not produce and consume at the expense of the natural capital of another society.
3. An imperfect positive duty to assist poor and decent societies to realize sustainability: this duty can be combined with traditional development aid and with additional duties to fairly compensate the damage caused by high levels of greenhouse gas emissions.
4. A duty to champion an international system of environmental regimes and protocols: this duty can be set out in the United Nations Framework Convention on Climate Change, the Convention on Biological Diversity, and the Convention on Migratory Species.

3.3. Limitations

Although the Rawlsian perspective has the advantage of shifting the focus from justifying to institutionalizing strong sustainability and to laying out a concrete set of institutional reforms well-ordered societies should implement if they are to fulfill the demands of sustainability, it also has significant limitations. Is Ott's perspective better suited to deal with the second wave of the environmental crisis than Norton's approach?

There are good reasons to doubt this is the case. Any framework that aims to meet the challenges of strong sustainability has to adequately address both the *global* and the *intergenerational* dimensions of contemporary ecological problems. To find such a framework,

Ott is obliged to substantially depart from the Rawlsian theory of justice. From the very first pages of *A Theory of Justice*, Rawls (1999a: 7) warns he is not concerned with justice beyond the borders of the nation-state. He does address the topic of international relations in *The Law of Peoples*, but he rejects the validity of principles of global distributive justice and merely supports a duty of assistance towards poor countries (Rawls 1999b: 106). Stephen Gardiner (2011: 143–144) observes that such a narrow focus on donors and recipients of development aid “seems to reflect a country-to-country logic that neglects the genuinely global dimensions of problems like climate change” (Gardiner 2011: 143–144). This country-to-country approach also neglects the fact that environmental resources and services, such as climate stability, represent a background condition required to develop and preserve just institutions.

Another challenge lies in Rawls’s resourcist account of intergenerational justice. According to Rawls, distributive justice involves the fair distribution across time of primary goods: rights, liberties and opportunities, income and wealth, and the social bases of self-respect. However, as Edward Page (2007: 457) stresses, resourcism “encourages a questionable conception of sustainability where improvements in human resources can often, if not in all circumstances, offset degradations in natural resources.” This confirms Norton’s diagnosis that Rawls is a weak-sustainability theorist whose objective is not to protect the environment, but rather to find a just savings principle that allows present generations to pass on a “fair equivalent in real capital” to the next (Rawls 1999a: 256). Recall that “real capital” is composed of artificial capital, such as factories, machines, knowledge, culture, techniques, and skills that make justice institutions possible, not of natural capital, such as ecosystems, species, sentient animals, special places, etc.

Ott (2014: 908) acknowledges some of these difficulties when he writes, “As many Rawlsians have argued, one has to move beyond Rawls with respect to international affairs.” The four transnational commitments of well-ordered societies he outlines indeed surpass the

Rawlsian framework. These four commitments, however, represent *ad hoc* additions of further obligations to those prescribed by Rawls's principles at the international level, none of which is originally related to environmental sustainability (Rawls 1999b: 37). Here, a "sympathetic reading" (Ott 2014: 904) of Rawls is no longer sufficient: it is indeed necessary to "move beyond Rawls" (Ott 2014: 908) to properly institutionalize the demands of strong sustainability. This shift in perspective calls into question the merits of the Rawlsian approach to sustainability over alternative universalistic approaches.¹¹

4. The Capabilities Approach

4.1. Primary goods and capabilities

One influential alternative universalistic theory that "competes with Rawlsian approaches within the field of justice" (Ott 2014: 900) is the capabilities approach. In a landmark paper, Sen (1980: 218 – emphasis in original) criticizes the theory of justice as fairness because it "suffers from fetishist handicap in being concerned with goods... rather than with what these good things *do* to human beings" (Sen 1980: 218 – emphasis in original). People's quality of life should not be only measured by the goods they have at their disposal, but also and mostly by their capacity to convert those goods into the particular doings and beings that matter the most to them. People have different abilities to convert income, wealth, and formal liberties

¹¹ Other internal modifications to Rawls's theory have been proposed to adjust it to meet environmental concerns, such as extending his list of primary goods or adding principles of justice, but as Gardiner (2011) explains, these attempts have failed so far. He suggests other areas for extension that would imply rethinking Rawls's conception of the circumstances of justice, society, the just savings principle, and the natural duty to promote and maintain just institutions, but he stresses that Rawls's views on these topics are too underdeveloped. He concludes that "in trying to meet climate change, Rawlsians are more likely to add new theories to Rawls, and perhaps even to transform his original account, than to generate an approach 'from the inside out'" (Gardiner 2011: 146).

into well-being. This is why the capabilities approach shifts the focus from means to ends. Capabilities correspond to the freedom to do basic things necessary for leading a decent or minimally good life. They are people's substantial freedoms to choose those things they value the most.

Nussbaum also has contributed to developing the capabilities approach. Her enquiry highlights the essential forms of doing and being constitutive of human life, the components without which our life could not be considered as properly human. To guarantee everyone can live a life that is worthy of the dignity of human beings, a just society must ensure each person attains a minimum threshold of central human functional capabilities. Nussbaum (2006: 76–77) expresses this threshold through a list of basic, cross-cultural capabilities to function, such as life, bodily health, bodily integrity, senses, imagination and thought, and relationship with other species. What is important is not that people realize all these capabilities, but that they have the ability to do so, should they wish.

The capabilities approach is not systematically opposed to the Rawlsian approach. Sen and Nussbaum both have stressed on multiple occasions their intellectual proximity with Rawls (see e.g. Sen 1980: 218–219, Nussbaum 2006: 3–4). Rawls (2005: 183) also recognizes basic capabilities are “of first importance” and “the use of primary goods is always to be assessed in the light of assumptions about those capabilities.” But, once again, existing agreements should not obscure the remaining tensions. One key difference is whereas Rawls relies on a “thin” theory of the good, which is more concerned with deliberative means than with advocating a particular version of the good life, Sen and Nussbaum rely on a “thicker” account of the capabilities that moves away from Rawls's highly abstract treatment of political institutions (Fitzpatrick 2020: 186–187). Another key difference is whereas Rawls argues against principles of global distributive justice, Sen and Nussbaum use the capabilities approach as a theory of global justice. Capability is a universal currency of justice, and capability deprivation gives a

universal account of poverty. The priority of both public and international policies should be to guarantee all people have access to basic capabilities to function. Policies that threaten the basic capabilities of citizens within and outside national borders are unjust. This gives a strong advantage to those who use the capabilities approach to address sustainability.

4.2. Holland on Sustainable Ecological Capacity

A logical starting point to address the topic of sustainability from the capabilities perspective is Nussbaum's list of capabilities. This list indeed includes the ability "to live with concern for and in relation to animals, plants, and the world of nature" (Nussbaum 2006: 77). According to Nussbaum, having relationships with animals, plants, and natural places is central to living a good human life. Without the possibility of relationships with other forms of natural beings, one's dignity is threatened, the pursuit of the good life is jeopardized. This shows that her account makes room for environmental concern.

However, as Holland (2008) stresses, Nussbaum's account remains too limited. The natural environment is not just one capability among any other, equally important capabilities; it is rather a "meta-capability," a condition of possibility for all the other capabilities. All the central human functional capabilities are dependent on the natural environment: to live a human life of normal length, we need ecological systems providing food, freshwater, the ingredients of medicine and energy; to have good health and adequate nourishment, we need ecological systems such as soil, water, and specific atmospheric conditions, etc. Nussbaum's list should therefore be expanded to include Sustainable Ecological Capacity: "*being able to live one's life in the context of ecological conditions that can provide environmental resources and services that enable the current generation's range of capabilities; to have these conditions now and in the future*" (Holland 2008: 324 – emphasis in original).

Thanks to this expanded list of key human functional capabilities, the capabilities approach seems well suited to thinking about sustainability ethics. When Ott (2014: 903) objects that there is no conceptual relation between the capabilities approach and strong sustainability, one can reply 1) this is also the case for a Rawlsian perspective, but most importantly 2) there are actually more conceptual and normative resources within the capabilities approach to allow for the demands of strong sustainability. Ott (2014: 902) mentions Holland's contribution, but only to object that "The idea of conceiving basic ecological conditions such as 'meta-capabilities' is rather unconvincing," without any justification. Holland's expansion of Nussbaum's account is on the contrary a crucial contribution to strong sustainability ethics. It clearly explains why there is such a thing as a critical or non-substitutable natural capital: without the environmental resources and services that serve as a condition of possibility for the realization of basic capabilities, individuals cannot live a fully human life. They are deprived of some key element of their human dignity and are victims of an injustice that cannot be compensated with manmade capital. It therefore explains, in a way that a communitarian or Rawlsian approach cannot do, why inhabitants of small island developing states who suffer from severe cultural and linguistic losses and damages due to climate impacts such as sea-level rise are victims of global injustices, and why such injustices cannot be fully compensated by economic means.

There is, however, a limitation to this account in that it misses a key component of strong sustainability identified by Norton (2005: 304) as "intertemporal ethics," and by Ott (2014: 897) as "future ethics." Holland successfully develops a capabilities approach to global justice, but does not say much about intergenerational justice. She mentions the importance to secure ecological conditions "now and in the future" (Holland 2008: 324), but this crucial point is not developed. This is where Sen's contribution takes over.

4.3. Sen on intergenerational justice

According to Sen (2013: 8), “the concept of sustainable development must necessarily include consideration of inter-generational justice.” On that subject, the Brundtland report (WCED 1987) develops an incomplete normative account because of its exclusive concern with human needs: it tends to reduce human beings to people with needs, to patients that require caretaking. Humans are, however, also reflective beings able to reason about what they want to do and how they want to be. They are not determined by their biological and social needs; they are first and foremost “agents of change who can — given the opportunity — think, assess, evaluate, resolve, inspire, agitate, and, through these means, reshape the world” (Sen 2013: 7).

Based on this more nuanced anthropology, Sen proposes a conception of sustainability oriented toward the crucial freedoms people have reason to value, a freedom-oriented view focusing on the enhancement of human capabilities. Sustaining needs is insufficient: what we should sustain as a priority are human capabilities, including the ecological meta-capability. Accordingly, development can be considered as sustainable only when it ensures “the preservation, and (when possible) expansion, of the substantive freedoms and capabilities of people today ‘without compromising the capability of future generations’ to have similar — or more — freedom” (Sen 2010: 251–252). The freedoms Sen has in mind include the fulfillment of needs, but also the liberty for people to define and pursue their own goals, objectives, and commitments.

Page (2007: 464–466) illustrates the implications of this approach with climate change, which threatens the capabilities of life, bodily health, and bodily integrity of both existing and future people. Climate impacts such as more frequent and intense storms, floods, forest fires, and heatwaves will have adverse consequences for people’s physical and mental states, such as their health and talents. Basic capabilities of future people will be threatened by these impacts even if their share of primary goods or their level of welfare is identical to that enjoyed by

present people. Present and future people who experience deficiencies in their capability to function, for instance due to health problems caused by malnutrition and undernutrition caused by climate impacts, should be compensated, as a matter of justice. Page (2007: 465) therefore puts forward the following principle of intergenerational justice: “earlier generations should not act so as to undermine the possibility that later generations enjoy an adequate (Nussbaum) or equal (Sen) level of capability satisfaction.” Again, capability satisfaction now and in the future should include the meta-capability of adequate ecological conditions.

Thanks to its objective to protect and whenever possible expand the substantive freedoms of people today and tomorrow, here and beyond national borders, and thanks to its concept of ecological meta-capability, the capabilities approach is better suited to deal with the global and intergenerational dimensions of current ecological issues than the communitarian or the Rawlsian perspective.

4.4. Nussbaum on non-anthropocentrism

One remaining limitation to the capabilities approach is its anthropocentrism. Holland’s and Sen’s perspectives are centered on the rights and liberties of human beings. Whereas Holland focuses more on the idea of preserving “human dignity,” Sen is more interested in protecting “human freedoms,” but both are preoccupied with environmental problems only insofar as they have an impact on humans’ quality of life.

This limitation also can be found in Norton’s and Ott’s perspectives. Norton recognizes some non-human beings have some inherent moral worth, but this moral worth is never comparable to that attributed to humans. As a result, humans always take precedence over any other values. Norton’s famous “convergence hypothesis” relies on the idea that both an enlightened ethical anthropocentrism, supporting the moral superiority of humans to everything else in the natural order, and a consistent intrinsic value theory, such as biocentrism or

ecocentrism, will have similar policy implications (Norton 1991: 237–243). As Allen Thompson (2017: 83) stresses, “Norton is agnostic regarding a ‘true’ theory of value in nature; his ultimate concern lies with the development of a pragmatically ‘adequate’ environmental ethic.” As we saw, Ott (2014: 899) thinks that to avoid overburdening the demands of sustainability in a non-ideal world of limited moral attentiveness, it is preferable to “conceive FP as centerpiece of an ethics of sustainability” and place non-anthropocentric perspectives such as animal ethics “in the close surrounding as being augmentations of FP.” This is not really surprising, as Rawls expressed skepticism about the inclusion of non-humans in his theory, in which “no account is given of right conduct in regard to animals and the rest of nature” (Rawls 1999a: 448).¹²

There are, however, good reasons to claim strong sustainability ethics should go beyond anthropocentrism. Given the multiple impacts of environmental problems on non-human animals and other non-human beings, such as the impacts of ocean acidification on marine biodiversity or the impacts of climate change on ecosystems, species, and non-human animals, it has become necessary for a truly strong sustainability ethics to extend the sphere of moral considerability beyond humans. Such impacts indeed matter from an anthropocentric standpoint, because they represent an indirect threat to humans’ ability to fulfill their basic

¹² The extent to which Rawlsian justice can be extended to non-human animals remains a source of disagreement in the current literature. Sarah Roberts-Cady (2020) argues there is room in Rawls’s theory for an agreement between free and equal persons that includes duties of justice to non-rational beings, based on non-human animals’ negative rights. Patrick Taylor-Smith (2020) objects that such an extension of the Rawlsian framework would imply significant theoretical costs, but he still holds that a Rawlsian approach could support indirect obligations of justice to animals—obligations that are derivative of our obligations to other humans. Robert Garner (2012) is more radical: he explores a variety of attempts to extend Rawls’s theory of justice to include non-human animals and concludes none of them succeed. The basic problem, as Roberts-Cady (2020: 276) recognizes, is “Rawls never really developed his view about duties of justice to animals.”

capabilities. But they also have a direct normative relevance for other living beings, who also have capabilities, and whose capabilities also can be jeopardized by climate impacts. Beyond human interests, other sentient beings indeed also have interests that need to be protected for their own sake, whether these interests are understood from a utilitarian standpoint or from an animal rights approach.¹³ As Katie McShane (2016: 201) stresses, “Ethics requires that we consider the morally important interests of nonhuman animals in making decisions that will affect those interests.” Although “most ethicists agree that at least some nonhumans have interests that are of direct moral importance,” most climate ethicists have operated under the implicit assumption that only human interests matter when formulating climate policy (McShane 2016: 189). The same can be said of sustainability ethicists when they assess sustainability policies. This calls for the promotion of non-anthropocentrism both in climate ethics and in strong sustainability ethics.

From this perspective, Nussbaum’s version of the capabilities approach has the advantage of being extendable to sentient members of other species. Having dignity means being an end, and not merely a means for the ends of others. All sentient beings strive to flourish. These forms of striving we can find in non-human sentient animals also matter from a moral point of view, even if they lack practical reason. Against Rawls (1999a: 448), who believed our duties to non-human animals are merely “duties of compassion and humanity” that remain in the moral realm but are outside the scope of a theory of justice, Nussbaum (2006:

¹³ By reducing the enquiry exclusively to the interests of sentient beings, I exclude here a lot of other living beings that could be included in the sphere of moral considerability. I do this to focus on the most obvious candidates for a non-anthropocentric approach to sustainability ethics, i.e., non-human sentient animals. I am aware that by doing so, I only scratch the surface of the implications of such an approach. Even if many non-anthropocentrists will find this approach too weak, it can be considered as a starting point to extend sustainability to other living beings, ecosystems, and species.

337) stresses the sphere of justice is the sphere of moral entitlement, and animals have urgent entitlements, meaning “the mistreatment of animals is unjust.”

Some animals are subjects and agents, creatures that are not only means, but also ends in themselves, agents seeking a flourishing existence. For this reason, they have at least a negative right not to be the victims of mistreatment. Non-human sentient animals are capable of living dignified lives and, thus, possess central capabilities that must be protected to allow them to flourish. Even though humans and other animals are unequal in dignity, justice requires humans to provide non-human animals with adequate opportunity to flourish, as is appropriate for members of their species. This is why, according to Nussbaum (2006: 406), “a truly global justice requires not simply looking across the world for other fellow species members who are entitled to a decent life. It also requires looking, both in one’s own nation and around the world, at the other sentient beings with whose lives our own are inextricably and complexly intertwined.”

Conclusion

Among the different accounts of strong sustainability ethics explored in the limited scope of this paper, the most promising is a non-anthropocentric capabilities approach bringing together complementary considerations on meta-capability (Holland), global and intergenerational justice (Sen), and interspecies justice (Nussbaum). Norton’s view is useful to understand the serious limitations of weak sustainability and to think about local and national environmental problems, but it is too communitarian to be appropriate for the second wave of the environmental crisis. Ott’s Rawlsian perspective has the merit of stressing the core of the concept of strong sustainability through the constant natural capital rule and proposing a way of institutionalizing sustainability, but it is too state-centered to adequately address global

ecological issues, and its conception of intergenerational justice is too focused on savings and dissavings to properly ground a relevant approach to strong sustainability.

In contrast, the capabilities approach provides relevant insights both from a global and an intergenerational justice perspective. It shifts the focus from primary goods to the ends that matter the most to individuals and highlights that environmental sustainability and the preservation and enhancement of basic capabilities, now and in the future, are strongly related. The concept of ecological meta-capability shows that human development depends on specific environmental conditions. In addition, by recognizing the dignity and basic capabilities of sentient members of other species, this approach goes beyond anthropocentrism. The demands of sustainability are global, intergenerational, and non-anthropocentric.

One remaining question concerns the different possible relations between the approaches that have been explored and put into dialogue with each other. Would not it be possible to find an inclusive approach that draws on two different kinds of strong sustainability ethics? As explained above, it is difficult to bring Rawlsianism and capabilityism together. The same applies to Rawlsianism and communitarianism due to their different treatment of pluralism about values. What about communitarianism and capabilityism? In *Sustainable Values*, Norton suggests strong sustainability can be described “within a capabilities approach that recognizes the importance to both the present and the future of protecting opportunity-producing systems, such as forests and fisheries” (Norton 2015: 162). There are, however, three limitations to a hybrid approach attempting to bring together communitarianism and capabilityism. As the two examples taken by Norton illustrate (forests and fisheries), the first, persistent problem is that communitarianism scales down the capabilities approach to the level of local communities, which makes it less suited to addressing global environmental changes. The second problem is there is a deep tension between Norton’s claim that universalism and deontological theory “add a burden of justification to our sustainability

definition” (Norton 2005: 343) and his attempt to subscribe to capabilitarianism. His criticism originally targeted human rights approaches, but it can just as easily apply to capabilities approaches—at least, Norton has to explain in what sense capabilities escape the normative problems raised by human rights. The last problem is that Norton’s anthropocentric approach is at odds with Nussbaum’s non-anthropocentric view. This might explain why he decides to follow Sen (Norton 2015: 163), but this implies his approach excludes the capabilities of sentient non-human animals, which ought to be taken into account in any strong sustainability approach. This indicates the capabilities approach remains the most relevant for thinking about strong sustainability.¹⁴

¹⁴ This conclusion should be nuanced by an observation made by a reviewer: it remains valid only as long as an alternative approach not surveyed here is not found. So far, I have not found such an approach, but I would be interested to hear about those who propose alternative ways to think about strong sustainability ethics.

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