Picking What Persists:

Sociocultural Natural Capital and Intergenerational Justice

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Abstract

Attempts to determine the value and intergenerational importance of environmental goods have a difficult time accounting for the non-basic services that ecosystems provide. Discussions of 'Critical Natural Capital' deem some ecological goods 'non-substitutable': acting justly towards the future requires their preservation. These characterizations, however, often miss a crucial distinction between the type of non-substitutability exhibited by basic CNC and sociocultural CNC: the former is only technologically and practically non-substitutable while the latter is constructed as such by specific groups regarding token natural spaces. In this thesis, I address whether sociocultural natural capital is a required component in the basket of goods we leave for future generations. While the constructed nature of the value of these goods makes their implication in a theory of intergenerational justice subject to a number of objections, I argue—employing the Rawlsian tools of the veil of ignorance and the original position—that they are indeed a required component of a just bequest.

Acknowledgments

Rawls, in *A Theory of Justice*, calls the question of determining our obligations to the future "severe if not impossible." Clearly, though, Rawls did not have as many wonderful and encouraging people in his life as I do, for the experience of writing this thesis has been only moderately severe and certainly not impossible.

I am immensely grateful to my family—Shari, Tony, and Oliver for unquestioningly accepting that a year in a foreign country spent sitting in different spaces with my laptop is worthwhile. This thesis is, I think, the theoretical analog to the kind of care you all exhibit towards our own non-substitutable places: Blueberry Hill Inn, Hogback Mountain, and Moosalamoo National Forest.

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INTRODUCTION:
THE OBJECTS OF INTERGENERATIONAL JUSTICE

When we talk about our obligations to the future, we often refer to specific things—parks, places, woods, and wetlands. When President Obama says "Yosemite, 50 years from now, could be dramatically different, and I don't think anybody wants that," (Welsh 2016) he speaks, with normative force, as if certain identifiable places ought to persist. Even Robert Solow, a well-known adversary of stringent environmental policy, can't resist this notion: "It makes perfectly good sense," he says, "to insist that certain unique and *irreplaceable* assets should be preserved for their own sake; nearly everyone would feel that way about Yosemite..."(*my emphasis)* (Solow 1993, 168). The intuition is clear: we owe future people a world populated with some very specific ecological objects which are not up for substitution. What, though, is the nature of this obligation? Specifically: Is the duty to preserve certain value-laden heritage for future generations merely supererogatory, or is it instead a requirement of justice that the future world is furnished with these environmental goods?

These questions are inspired by recent New Zealand legislation that has brought legal force to the claim that certain places ought to exist. In 2017, the Te Awa Tupua (Whanganui River Claims Settlement) Act codified an obligation to maintain a particularly significant ecosystem by affording the Whanganui River 'legal identity,' including all the "rights, powers, duties, and liabilities of a legal person" (*Whanganui River Deed of Settlement* 2014, 2.14.1). While a discussion of the

legislation itself is not the focus of this project,[1] I take the 2017 Te Awa Tupua Act to be an illustrative instance of the guiding intuition I consider in this thesis—that is, that there are some distinct natural spaces which are a feature of what we owe the future. The Te Awa Tupua Act affirms this intuition in policy: like a person, the Whanganui River is the kind of thing that we are obliged to ensure can persist through time.

Throughout the four chapters of this thesis I feature the Whanganui River as a central example in order to motivate and bring realism to my discussion of intergenerational ecological obligations. In doing so, I ground my arguments in contemporary environmental concerns, steering well clear of the romantic conservationist's plea to conserve some wild and external nature into perpetuity. In the following extended introduction, then, I will bring context and background to the later claims of my thesis by underscoring the way in which token value-laden natural places can come to be non-substitutable components of the lives of specific individuals. That particular spaces like the Whanganui River are necessary features in current characterizations of the good life is a premise I rely upon in Chapter IV, and the best defense of this assumption is a thoroughgoing description of the way in which an actual river is deeply integrated into the lives of those living near it.

[1]In other work 'Philosophical Perspectives on Legal Personality and Intergenerational Justice' (forthcoming), I offer specific commentary on this legislation. For a general introduction see Morris (2010) and Ruru (2009).

The History of the Whanganui River, a Non-Substitutable Place

New Zealand's history is one of seismic shifts, both geologically and culturally. The first settlers of Aotearoa arrived no later than 1300 AD, reaching the shores in double-hulled canoes from neighboring pacific islands. The new inhabitants developed a unique Māori culture, forming iwis (tribes), and establishing a distinct worldview which is primarily revealed in a complex cosmology passed down through the tradition of storytelling. As Māori Marsden (1992) explains, much of this corpus of knowledge references the close relationship between humans and the natural world or *whenua*. In fact, *whenua* means both 'earth' and 'placenta,' illustrating that "just as the foetus is nurtured in the mother's womb and after the baby's birth upon her breast, so all life forms are nurtured in the womb and upon the earth's breast" (Marsden and Henare 1992, 17). A traditional Māori worldview thus understands human beings as integral to and inseparable from the environments they inhabit.

For instance, Māori cosmology sees the earth (*Papatuanuku*) as personified and living, with natural systems analogous to human biology: "the streams of water are her arteries bringing the life giving waters for her to imbibe and share with her offspring. Those same streams act as alimentary canals and help in the disposal of waste" (Marsden and Henare, 68). Humans in this framework represent the conscious mind, playing an integral role in the flourishing of earth as a whole. In the same way as human health cannot be reduced to the functioning of a particular organism, the health of Papatuanuku is understood holistically.

Further demonstrative of the inalienable connection between Māori and their local environment is the concept of *whakapapa,* a genealogical view in which "man's early ancestry traces back through its myth heroes to the gods through mother earth" (11). Earth is seen as a common ancestor of all humans; an individual did "not evolve from the primates but was born out of the seed of the god Tane, impregnated into the dawn maid Hineahuone who was formed and shaped out of the red clay – Onekura – of mother earth" (12). This kind of ancestral kinship is revealed in the practice of *mihimihi,* in which people introduce themselves with reference to their genealogy, including, as primal factors in their identities, the rivers and mountains from whom they descend.

As European settlers began to populate New Zealand in the early 1800's, they brought with them contrasting concepts and norms concerning human-environment relations. The prospects of a new land with seemingly endless resources fostered an ideology of exploitation: many colonists did not intend to stay in New Zealand for long and thus could adopt a 'frontier ethic' in which they labored to exploit natural resources for a profit with little concern regarding long-term effects. The underlying doctrine of the colonists was rooted in the domination of external nature—following Locke, the principle of *terra nullius* asserted that nature was not 'owned' until one subdued the land through human labor. Land that was not owned and mixed with human labor was considered 'waste.'[2]

[2]See Rolston (2016) for an introduction to contrasting indigenous-settler environmental ethics.

In 1840, the British Crown and Māori rangatira (chiefs) signed the Treaty of Waitangi, New Zealand's founding document. The Treaty was designed for the mutual benefit of both the Crown and Māori, an (ostensibly) well intentioned effort to ensure fair interactions, specifically land transactions, between the Māori and the British. The application of the Treaty, however, was subject to the usual chaos of colonialism, and the resulting treatment of Māori and Māori land diverged sharply from any aspirations of equity espoused by the Treaty: by 1939 only 3.5 million acres of land (around 6% of NZ) remained under Māori ownership, Māori economic and social development was stymied, and many *tapu* (sacred places) including *urupā* (burial grounds) were destroyed entirely (McAloon 2009).

The Whanganui River is a poignant example in which principles of the Treaty of Waitangi were conclusively breached, specifically the right to chieftainship over natural resources. At the time of the Treaty signing, the Whanganui Iwi possessed what can only be understood as ownership, despite their lack of use of an analogous term (Whanganui River Report 1999, 106). In the mid 1800's the Crown began exercising authority over the river by modifying river rapids to accommodate steamers and extracting gravel from the river, processes that were extremely damaging to the *mana* (honor, spirit) of the river. Eel and lamprey fishing sites, sources of sustenance as well as spaces of spiritual, cultural, and recreational value were particularly damaged by colonists (Young 1998). The Whanganui Iwi, who were still exercising customary guardianship

of the river, were not consulted, despite ongoing attempts to voice their concerns (Tribunal 1999, 284).

In 1927, the Whanganui Iwi petitioned that their rights to sovereignty over the river be recognized. Following a 1958 ruling in which the Crown authorized, without Iwi consultation or consent, a water diversion program to fuel the Tongariro Power Scheme, in 1962 a final appeals court ruled that any customary right to the river had been extinguished by prior legislation. In 1988, the Whanganui River Māori Trust Board was created, with the goal of negotiating Whanganui Iwi claims regarding the river. Two years later the Trust Board presented the Waitangi Tribunal—the agency responsible for recommending reparations for treaty breaches—with the Whanganui River Claim, seeking redress for over a century of Crown injustice.

The Whanganui River Report (1999), prepared by the Waitangi Tribunal in response to the River Claim, presents unequivocal evidence that the health of the Whanganui River is a necessary component of a decent life for the Whanganui Iwi. Matiu Mareikura emphasizes the importance of this resource for his people:

> Our people go to the river to cleanse themselves, they go to the river to pray, and they go to the river to wash. Everything leads back to the river. And the river, in return, suffices all our needs. Without the river we really would be nothing because of all the resources that it gives back to us, the history that has gone on in the past with our people who have lived on the banks and used it as a motorway, used it as the only thoroughfare. We have been taught to treasure the river for what it is, and what it has been given to us for (57).

Tariana Turia, a Whanganui Iwi member, also poignantly speaks to the harm of dissociation with her ancestral home. Her grandmother, she says, spoke to her:

> About her relationship with the River as if it was an integral part of her life. Her life was about the river as their sustenance. It provided for them physically, spiritually, and culturally. It was also their place of recreation. I never understood this as a teenager, because my experience of the river down here at Putiki was that we were not allowed to swim or to eat kai from the river as it was polluted (57).

Clearly, members of the Whanganui Iwi share the intuition outlined at the beginning of this thesis: the hypothesis that part of our intergenerational obligation involves the maintenance of specific places. Te Kuia Peeti echoes this generational commitment:

> To my sorrow my own children and mokopuna have not grown up in this environment, but what we had as children is no longer there. What we thought was unchangeable and immutable, the river, [has] undergone changes which we never dreamt of. Our beautiful safe swimming places have all gone. Because so much of the water was taken away, and therefore made it inhospitable for the fishlife to live, it was not uncommon for us to see dead [fish] floating down the river. Where once stood strong trees all along the river, we now have very serious erosion on our banks (80).

The river is indisputably a non-substitutable feature in the lives of the Whanganui Iwi. Niko Tangaroa, a Māori elder, paradigmatically emphasizes this indivisibility: "The river and the land and its people are inseparable. And so if one is affected the other is affected also. The river is the heartbeat, the pulse of our people. . . . [If the river] dies, we die as a people. Ka mate te Awa, ka mate tatou te Iwi" (74). Tangaroa's statement of interconnection secures that the Whanganui river is not perceived as some alienated other, uncoupled from the wellbeing of the communities engaging with it; rather, the functioning of the river is a necessary component of a decent life.

In giving all the legal protections of a person to this river, the 2017 Te Awa Tupua Act emphasizes an intergenerational obligation to ensure that future people occupy a world containing

distinct token places. The Whanganui has been vested with personality, deemed, to be the kind of thing—like a person—that ought to be protected such that it can persist through time. The above discussion highlights the way in which decades of Whanganui Iwi have fought for control over a distinct place, demonstrating the intergenerational importance and non-substitutability of that *specific* resource to a particular group. The Whanganui Iwi *could* have foregone this struggle and found other sources of spiritual and cultural sustenance, but instead they remained firmly committed to the health of this distinct ecosystem, the persistence of this particular place.

The Whanganui River and this Thesis

As noted, my project does not reckon with the intricacies of the Treaty of Waitangi system or the legal particularities of Te Awa Tupua. These are important conversations: there is much to be said regarding reparations for historical injustice and indigenous sovereignty over resources. Instead, I am concerned with the Whanganui River insofar as it exemplifies a place that might be a required feature of what we owe the future—a non-substitutable object of intergenerational justice. The crucial insight from my introduction, to reiterate, is that part of the question of how we should act with regard to futurity involves an inquiry into *what,* exactly, ought to exist—what the physical world our children will inhabit will look like. Our concerns for posterity are not exhausted by simply hoping that futurity is happy; rather, we speak and act—as Te Awa Tupua highlights—as if there are specific unique spaces which ought to survive for the benefit of future people. This intuition

motivates my project, for the value and import of spaces such as the Whanganui River have been copiously understated—if not ignored entirely—in contemporary characterizations of intergenerational justice.

My introduction also serves as a narrative-style defense of a few claims central to my forthcoming argument. First, it is illustrative of the importance of token natural spaces to currently living communities: the physical existence of the Whanganui River is necessary for the wellbeing of the Whanganui Iwi. Notably, no other replacement waterway could fulfil its cultural and spiritual function. Second, my foray into history highlights how part of the value of these natural spaces is derived from their continuous, cross generational role in the lives of proximal humans.

It should be noted, though, that although the Whanganui River is both a motivation and a central example in this study, the scope of my discussion is intended as broader than a defense of the importance of preserving the sacred homeland of characteristically—or perhaps stereotypically—place-based indigenous peoples. The relationship between the Whanganui Iwi and their river is a paradigm case of non-substitutability, but simple reflection reveals that many if not most of us can identify places that we consider to be necessary components in our conceptions of the good. I would reference, for instance, 'Hogback Mountain,' in Goshen, Vermont. If you disagree that non-substitutable places of this kind exist for anyone but indigenous or place-based peoples, my arguments are still of intense import, for in characterizing intergenerational justice we ought to consider the claims of these groups. If you disagree further and contend that the Whanganui River

is *not* a necessary and valued element of the 'good life' for *currently living* members of the Whanganui Iwi, we have reached an inexorable impasse.[3]

I'll grant, though, that it is reasonable to be skeptical that we are required, as a matter of intergenerational *justice*, to preserve[4] the Whanganui River, that these kinds of valuable natural features are a *necessary* component of a just bequest. One could reasonably claim that the health of these kinds of ecological goods is merely a project for indigenous activists and environmentalists, defenders of nature who are tasked with convincing a potentially disinterested public that the Whanganui River is valuable. On this view, preserving places that might not be strictly necessary for human sustenance is separate from the conversation of what we owe the future from the perspective of justice.

In response to these general inquiries, this thesis will proceed in four chapters. We cannot answer these questions without first clarifying what we mean when we say—as Solow and other economists and ethicists do—that a resource is substitutable. After an introduction to intergenerational justice, in Chapter I, I unpack this non-substitutability, noting that current treatments of the concept overlook a crucial distinction between ecological goods that are 'non-

[3]If you dispute this point, I encourage a reading of the 1999 Whanganui River Report, especially the section 'Perspectives,' as well as a viewing of the 1951 Documentary *'The Legend of the Whanganui River.'*

[4]In using the term 'preserve' throughout this paper, I do not mean to evoke the long history of the US environmental preservation vs conservation debate or the notion of 'fortress preservation' in which sections of land are cordoned off from human interaction. I use 'preserve' colloquially: to preserve the Whanganui River is to ensure that its valuable functions persist.

substitutable'[5] as a means to fulfill essential human needs ('basic critical natural capital' or BCNC) and the sociocultural natural capital (SCNC) that has been constructed as an irreplaceable component of a community or individual's flourishing. The literature on sustainability and intergenerational justice tends to conflate these two forms of non-substitutability. If part of the project of intergenerational justice is determining the content of the basket of goods we leave the future and designating some objects as non-substitutable, then we ought to consider the distinct mechanisms that afford ecological goods such a status. I'll claim that there is a stronger kind of non-substitutability present in SCNC as compared to BCNC: the non-substitutability of SCNC is not merely the result of our lack of appropriate technological replacements.

Once we understand the features of non-substitutability, I proceed to Chapter II, where I outline the position of the 'SCNC Skeptic,' who might be, first, doubtful regarding the possibility of intergenerational justice generally, and, second, unconvinced that the kind of non-substitutability exhibited by the likes of the Whanganui River can situate such places within the domain of intergenerational justice. I respond, in this chapter, to the first set of worries, noting that problems such as non-identity and non-reciprocity are not fatal to the project of justice between non-contemporaries. Once I've rescued the possibility of intergenerational justice, I turn to a second set of worries: the Skeptic has a number of arguments at her disposal suggesting that the preservation

[5]For consistency, I generally defer to the term 'non-substitutable' throughout this thesis, however, 'non-fungible,' and 'irreplaceable' can be considered synonymous.

of SCNC, while valuable, should not be an axiological objective of intergenerational justice. I explain these concerns in full: In short, the Skeptic will complain that requiring the persistence of SCNC is, given our uncertainty regarding future conditions and future people's ability to adapt, a paternalistic and over demanding obligation. I respond to some aspects of the Skeptic's claims, but save my full response to her more stubborn worries for Chapter IV.

By the end of Chapter II, I have not yet offered a cohesive defense of the place of SCNC in intergenerational justice. In Chapter III, I search for available justifications in existing proposals: do contemporary accounts of justice between generations defend the place of SCNC? Do they offer hints in my search for reasons as to why these natural spaces are an important feature of a fair bestowal? Three of the most common currencies of intergenerational justice—preferentialism, resourcism, and capabilitarianism—do not explicitly demand that places like the Whanganui River ought to exist in the future. My intuition that we will have acted unjustly towards future people if they go without these things is not confirmed by existing theories. Perhaps, then, the intuition is false. Or, as I go on to note in this chapter, perhaps contemporary characterizations of intergenerational justice—which generally extend accounts of *intra*generational justice to cover *inter*generational concerns—do not fully consider distinct and emergent features of our relationship with future people, and in turn underspecify our obligations.

In Chapter IV, I argue for the latter. A complete theory of intergenerational justice will include the preservation of such SCNC; value-laden natural heritage is a non-substitutable

component of the basket of goods we leave the future. To make this case, I first restrict myself to a particular style of argument: there are many ways to contend that we ought to preserve nature, but, in an effort to reply to the Skeptic's complaints of paternalism, I will eschew those that rely on a particular conception of the good. To aid my discussion, I turn to the work of John Rawls, whose mechanisms for neutrally examining justice relations—the veil of ignorance (VOI) and the original position (OP)—provide the foundation from which I reply to my opponent. If crucial emergent aspects of our relationship with posterity—most particularly our ability to permanently influence the natural environment they inherit—are the kinds of things we know behind the VOI, the hypothetical contractors in the OP would, I argue, include valuable natural spaces as non-substitutable features of a just bequest. I put forth three related reasons why self-interested parties would include SCNC within the bounds of intergenerational justice: first, SCNC is necessary for the preservation of a robust set of options for future people. Second, it is required for the meaning of many future-oriented projects, distinct options for the good life which require the long term persistence of particular token spaces. Third, attention to SCNC is, despite claims of 'intergenerational paternalism,' is in line with a commitment to intergenerational neutrality regarding conceptions of the good. If my argument is successful, we will be left with good reasons to consider places like the Whanganui River non-substitutable elements of intergenerational justice.

CHAPTER I
INTERGENERATIONAL JUSTICE AND NON-SUBSTITUTABILITY

While most scholarship on justice concerns relations between contemporaries (intragenerational justice*), inter*generational justice examines fairness between individuals that live during different times, perhaps never overlapping during their time on earth. While mapping the concept of justice in either case is a complex exercise, we can imagine instances which present as unequivocally *un*just. Just as justice dictates that it is unfair to distribute resources unequally on the basis of race or gender, we might similarly think that the year one is born should have no bearing on the conditions they encounter. Injustice obtains, in this instance, if those born in 2500 experience, though no fault of their own, significantly worse circumstances than myself, born in 1993, especially if the latter person's misery can be attributed to a particular action or inaction on my part. Intergenerational justice then, like it's contemporary counterpart, is centrally concerned with impartially arbitrating between the competing claims of individuals that will live at different times, providing to each that which she is due.

As current human influence multiplies, clarifying this general maxim has become an exigent priority, and theories have come to be defined by their answers to three questions, that of the 'pattern,' 'scope,' and 'metric' of our intergenerational obligations.[6] In the interests of a general

[6]I follow Page (2007), Vrousalis (2016), and Dobson (1998, 64) in distinguishing and discussing intergenerational justice in terms of these three questions.

introduction to intergenerational justice, I will discuss each below, offering tentative responses. The third question, that of 'metric,' is the focus of this thesis. Before discussing these three questions, however, I will offer a few clarifying points regarding intergenerational justice that will be helpful moving forward.

1.1 Clarifying Intergenerational Justice

1.1.1 What is a Generation?

First, one might inquire as to who or what are we obligated *to?*[7] Justice between contemporaries seems to require an agent who can produce certain circumstances; we don't for instance, consider it *unjust* if an individual happens to be killed by a falling tree or is born with a visible deformity (Miller 2017, 1.4). Importantly, though, the relevant agent need not be an individual[8], and in this thesis I will speak in terms of fairness between 'generations,' as generations, like other groups or institutions, are the kinds of things that can produce the circumstances inherited by succeeding cohorts of humans.

[7]I concern myself here only with anthropocentric obligations, and do not consider intergenerational obligations that we might have towards animals or directly to the natural world or specific instances of SCNC.

[8]In ascribing to 'generations' the agency to bring about certain circumstances, and speaking of them as standing in relations of justice, I gesture at an endorsement of the possibility of collective responsibility and agency. The methodological individualist, who thinks that generations are not the types of things that can have such agency, might prefer to conceive of each generations as comprising individuals with agency who stand in relations of justice, but for the purposes of this thesis I allow that the concept of 'justice between generations,' is understandable without taking a particularly strong stance on whether responsibility, blameworthiness, or agency can be attributed to groups.

I must, then, settle on a definition of 'generation.' In colloquial speech, we use the term generation loosely. I refer, for instance, to myself as of the generation of 'millennials' born somewhere between the early 1980's and 2004 (Bump 2014). As part of this cohort I, of course, am lazy and unmotivated in comparison to generations past—the baby boomers, generation X, or generation Y. This definition of generation is socially defined: as a millennial, I supposedly share at least some experiences, worldviews, and ideological leanings with my indolent peers. Under this characterization, different generations are alive at the same time. A similar 'chronological' definition of generation is strictly age-based, but also agrees that different generations exist at once by referring to demarcated age groups: people in their 20's or octogenarians, for example.

In contrast, we also speak of generations as groups of people that will live at different times. When President Obama writes that a lack of climate action threatens to "betray future generations," (Twitter, June 2013), his use of the word generations implies not the different generation that Malia lives in, but a set of people who are not alive now. It this kind of generation which I am concerned with in this thesis. I follow Jorg Tremmel (2009): when I speak of future generations, I am generally interested in all those that are not alive at the time of consideration. In this sense, people may migrate from the status of 'future generations' to contemporaries: i.e., that set of people that is not alive now but will be born before my death. But 'future generations' may also refer to people who will be born after I die. It is not crucial to this project that I make a distinction, although generally I do have in mind the case of people who will never exist concomitantly.

1.1.2 A Word on Rights, Obligations, and Justice

The potential for 'environmental rights'—of either the legal or moral kind—has been a debate of recent intensity,[9] but it is important to note that thesis is not primarily concerned with arguing that future people have *rights* to a certain quality of SCNC. This primarily due to a lack of consensus regarding whether *currently* existing people hold such rights: the scope of rights is a deeply disputed, but the right to live in a world with particular valuable aspects of nature is not widely endorsed (Miller 1999, 153); defenses of environmental rights are generally concerned with providing for the most basic of human needs. As highlighted in Section 1.4.1, the preservation of SCNC is distinct from the appeal to preserve the required conditions for human life, the latter being the kind of universal need generally associated with rights. In other words, access to a particular river is certainly a secondary concern if one doesn't have water of any form to drink, and the rights of existing people to SCNC has not been systematically defended or secured in political systems: Consider, for example, the 2017 Dakota Keystone XL pipeline debate:[10] if we are not in agreement that currently living people have rights to lands which have been guaranteed to them in legally enforceable treaties, it may well be futile to argue now that unidentifiable *future* people have such a right.

[9]See Hiskes (2005) for a comprehensive overview of environmental rights and Gellers (2017) for a recent discussion.
[10]See Gasser (2012) for introduction.

Thus, despite the authority and political expediency of the language of rights, in this project I will not explicitly argue rights to SCNC exist. Instead, I situate myself in the language of justice and obligations: I *will* claim that irreversible destruction of valued natural features constitutes an intergenerational injustice, and that this potential injustice triggers obligations. This commits me to a number of positions regarding the form of these divisive concepts that are important to note.

First, the relationship between justice and rights. In order to focus on SCNC and its place within a theory of justice, I do not deeply engage with the immense literature seeking to characterize and define this connection. Instead, I adopt the broadly Rawlsian framework of 'justice as fairness,' in which "each person has the same indefeasible claim to a fully adequate scheme of equal basic liberties, which scheme is compatible with the same scheme of liberties for all" (Rawls 2001, 42) and "in all parts of society there are to be roughly the same prospects of culture and achievement for those similarly motivated and endowed" (44). I will say more in Chapter IV about Rawls and justice but for now it will suffice to note that one can deem a state of affairs unjust or unfair without reference to a specific right being violated: it is unfair that between two similarly motivated people, one might end up with a higher salary, but it is not quite natural to say that a right has been violated in this case. Specifically for my purposes, I can, then, claim that intergenerational injustice obtains without needing to identify and characterize a specific right that has been neglected—although further study may well identify and defend such a right.

Next, the relationship between justice and obligations. My primary objective in this thesis is to investigate the place of SCNC within a theory of intergenerational justice. I do not explicitly discuss the nature and scope of our obligation to prevent and mitigate such injustices, but I do assume that an injustice triggers some mitigatory obligation, somewhere, on the part of some individual or state agency. Of course, the relationship does not always work in reverse: duties can exist without an injustice to correspond to (consider, for instance, a duty to feed your dog). If injustice did not engender duty, my argument would be of little import, but it is a project for a further study to determine who ought to fulfil the duties generated by intergenerational injustices.

Having briefly clarified some of the complex themes lying at the foundation of this thesis, I turn now to a specific explanation some of the central questions that any theory of intergenerational justice must contend with, before honing in on features of the final question, that of 'metric.'

1.2 Three Questions of Intergenerational Justice

1.2.1 The Pattern of Intergenerational Justice

First, one can inquire as to the 'pattern' of our intergenerational obligations. In other words, how seriously should we take the concerns of future, nonexistent individuals—how should burden and benefits be distributed across time? On one end of the spectrum, one might answer that we ought not be concerned with them at all—that is, that we have absolutely no moral obligations with respect to them. I have not encountered a philosopher who cogently defends this view, although it is perhaps

endorsed by certain American politicians.[11] On the other end of the spectrum, we might count the interests of future people to be vastly more important than ours. Again, I have not come across supporters of this position, although there is certainly a case to be made that, given mushrooming population, we have a duty to save more than we inherited for the future.[12] A more realistic proposition is that our duties towards the future are fulfilled if we act in accordance with our natural altruistic tendencies towards our children and grandchildren, and that they, in turn, exhibit the same care for their offspring.[13] This is not a popular perspective: while these special obligations are significant, it is untenable to propose that they exhaust our duties towards future people. Future people may not even have identifiable progenitors from which to receive care, and furthermore this model cannot account for obligations we might have towards people in the further future. Gosseries and Meyer (2008) for instance argue that grounding intergenerational justice in principles of beneficence would find nothing wrong with a nuclear waste storage policy that was guaranteed to severely harm people living in a hundred years.

[11]Donald Trump has tweeted "I try to learn from the past, but I plan for the future by focusing exclusively on the present. That's where the fun is" (22 July, 2014).

[12]I do not discuss population in this paper. Needless to say, this is a considerable area for further study: my suggestion that we save certain sociocultural natural capital might need reexamination if the future population is so high that only the most basic of needs can feasibly be met.

[13]This view is normally traced to Passmore (1974), whose 'chain of love' argument suggest that since we love our children, we should love our children's children, and, by extension, further children after that. It is also defended by Howarth (1992).

More commonly, philosophers and policy makers have endorsed a sufficientarian answer to the pattern question.[14] We have, in this view, passed the litmus test of intergenerational justice if future people reach some identifiable threshold. Regardless of how past generations fared, if subsequent people achieve a certain level of whatever we deem normatively important we have satisfied the demands of intergenerational justice. Once this threshold is determined, benefiting those below the threshold holds priority; those above are of no concern regardless of above-threshold inequality (Meyer 2016). An intergenerational sufficientarian will, of course, be tasked with defining the 'threshold' below which no one must fall: the 1987 Brundtland Report, in one example, posits a needs-based threshold by famously stating that, "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The exact content of the threshold—be it needs, preference satisfaction, or resources—is a matter for my upcoming discussion of the 'metric of our intergenerational obligation.

Other prevalent answers to the pattern question are broadly utilitarian or libertarian,[15] however for the purposes of this project I situate myself as broadly egalitarian with respect to the interests of future people, a position which accords with many contemporary accounts of intergenerational justice.[16] Roughly, intergenerational egalitarianism claims that all humans,

[14] Meyer (2016) for example, adopts a sufficientarian view, mostly in order to circumvent the non-identity problem. See Page (2007) for additional exploration of intergenerational sufficientarianism.
[15]See Steiner and Vallentyne (2009) for libertarian theories of intergenerational justice and Gosseries (2008) for a succinct discussion of different answers to the pattern question, including utilitarian responses.
[16]See Ott (2003). Goodin (1982), Page (2007) and Parfit (1986).

regardless of the year they were born, deserve equal treatment. This equality, can of course, be cashed out in various ways. One example, Rawlsian egalitarianism, which I will return to in Chapter IV, demands, via his famous original position contractual situation, that the year one was born play no causal role in their distribution of burdens and benefits. A Dworkinian luck egalitarian might relatedly posit that any 'brute bad luck'—uncontrollable conditions such as the year of one's birth—ought not affect whether they are better or worse off (Dworkin 2002). Since my central concern is the question of intergenerational 'metric,' it is not particularly important at this point, however, that I endorse a particularly specific version of egalitarianism,[17] the general position that when one is born should not influence their moral standing should suffice.

1.2.2 The Scope of Intergenerational Justice

The next question for the purveyor of intergenerational justice is that of scope: how far ahead should we concern ourselves? Assuming an egalitarian position, are we to take the interests of people in 100,000 years to be just as important as those currently living in poverty? A basic distinction relevant to this query is between 'generationalism' and 'chronopolitanism' (Vrousalis 2016, 13). A generationalist contends that, at some point, our obligations to future generations are muted by their

[17]In fact it seems as if the preservation of SCNC that I hope to argue for is also compatible with a sufficientarian approach to intergenerational justice, so long as the threshold is specified as high enough as to include such places.

remoteness in time, excluding some from the purview of justice in virtue of the year they are born. A chronopolitan, in contrast, does not maintain that the scope of justice expires at any specified date.

One common generational position, often endorsed by economists, submits that we should discount the interests of future people; the farther you live in the future, the less your interests matter. Economic reports such as Nordhaus' famous studies on climate change generally discount future people at around three percent per year, noting that they will likely be wealthier than we are, and thus if we treat their (economic) interests equally we will end up saving too much for them (Nordhaus 1997). The ethical analogy to the economist's calculations is generationalism: as we devise theories of intergenerational justice, the moral importance a particular individual declines the farther we move from the present day.

Discounting/generationalism, despite being pervasive economic practices, are generally dismissed by philosophers, who commonly note an example from Parfit:

> Remoteness in time has, in itself, no more significance than remoteness in space. Suppose that I shoot some arrow into a distant wood, where it wounds some person. If I should have known that there might be someone in this wood, I am guilty of gross negligence. Because this person is far away, I cannot identify the person whom I harm. But this is no excuse. Nor is it any excuse that this person is far away. We should make the same claims about effects on people who are temporally remote (Parfit 1986, 357).

There are few compelling reasons then, to support the claim that the scope of justice has an identifiable limit, and thus I follow Parfit and Vrousralis (2016) in adopting, moving forward, a chronopolitan response. As will become clear, my position regarding the 'scope' of our obligations is that we should concern ourselves with those in the future only insofar as we can know about and

influence the conditions of equality. We know very little about the world in 100,000 years—we may not even be able to assume that human life will exist. While the value of these potential lives is not excluded from the bound of justice and should be weighted equally, any obligations we have towards them—in the 'ought implies can' sense—correspond to our (expanding) ability to influence them.

1.2.3 The Metric of Intergenerational Justice

The final question, and the concern of this thesis, is that of 'metric.' If we assume that the interests of all people matter equally, and that, let's say, we can affect their interests into the next 500 years, we are still tasked with determining *what* exactly this equality consists of. The metric question asks us, then, to demarcate the 'currency' of justice (Cohen 1989), the evaluative grounds upon which we assess the distribution of burdens and benefits. As we shall see in Chapter III, answers to the intergenerational metric question tend to correspond with metric justice between contemporaries: preference satisfaction, resources, or capabilities are proposed as the relevant currency, the thing that no one, regardless of their year of birth, should have more or less (or less than a sufficient amount) of. In Chapter III, I will survey contemporary responses to the metric question, but first I will hone in on the particular component of the currency of justice—SCNC—that I am interested in defending.

As my introduction illustrated, I am concerned with a particular subset of environmental goods that are, arguably, non-substitutable components of intergenerational justice. We certainly

talk as if places like the Whanganui River are a required ingredient in basket of goods we should leave the future, but what, exactly, does it mean to mark these places as non-substitutable? The primary debating forum for this question is the literature on sustainability: ecologists and environmentalists deem some aspects of our world non-substitutable, and in doing so attend to the 'metric question,' making claims as to the normatively significant features of the world that are an essential component of our bequest.

Thus, I turn now to the discourse on sustainability to more critically consider the features of SCNC that might warrant its inclusion within the metric of intergenerational justice. In order to defend that things like the Whanganui River are a feature of intergenerational justice, I must argue there is some ethical reason that a world without them would be unjust. One way of doing this is to determine that, just as the Whanganui River is of non-substitutable value to humans *now,* it will also be of non-substitutable value to humans *in the future*—if future people go without this place, they will have, through no fault of their own, been treated unfairly in some regard, and injustice obtains. If, on the other hand, these resources are substitutable, then it may not be a concern of justice that we preserve them. The focus of the rest of this chapter, then, is unpack this notion: the concept of substitutability—one more rooted in the sustainability literature than the ethical one—warrants clarification and philosophical critique.

1.3 Sustainability and the Metric Question

To begin, a word on how I conceive of the relationship between sustainability and intergenerational justice. Since the 1987 Brundtland Report, sustainability and the related term 'sustainable development' have become powerful catch-all phrases multifariously defined and implemented. Some have suggested that sustainability in its myriad forms is an ineffective concept (Beckerman 1994), while others have advocated for a move towards 'resilience' as the operational concept in environmental management, a theory that emphasizes a system's capacity to respond and bounce back from stressors and shocks (Redman 2014). I am not concerned with these matters here. Despite definitional disagreement, however, the concept of sustainability, in its incorporation of both ecological and normative concerns, is a useful tool for our discussions of intergenerational justice: whether intergenerational justice obtains hinges upon the conditions future people inherit, which in turn is dependent on what we decide to *sustain*. There, are, of course, other non-environmental acts of intergenerational injustice—leaving posterity with overwhelming debt, for example—but as argued by Brian Barry (1999), sustainability of some variety seems at least a necessary condition for acting justly towards the future. I take on the same assumption: intergenerational justice cannot obtain without sustainable practices, which, as conceived of in the Brundtland report, requires that the "needs" of future people are met.

As I proceed with a discussion in which intergenerational justice and sustainability are central themes, at this point we can make a definitional decision as to whether sustainability is both

a necessary and sufficient condition upon our fulfilment of our environmental intergenerational duties:

1. Our concept of sustainability could be strong enough to be a jointly necessary and sufficient condition upon (environmental) intergenerational justice.
2. Sustainability could be only necessary for intergenerational justice. In this sense, it does not offer a full account of intergenerational environmental obligations. We (might) have additional environmental obligations of this kind which must be fulfilled in order to pass the test of intergenerational justice, but sustainability need not concern itself with these things.

I adopt the former approach. It is ill-fitting to divorce our definition of sustainability from intergenerational justice in the way endorsed by Option 2: if indeed sustainability explicitly concerns itself—as suggested by the Brundtland Report—with fairness between generations, it is most useful to see sustainability as analogous with the environmental component of intergenerational justice, and flesh out a robust concept of sustainability accordingly. If sustainability is to be one guiding and mitigating constraint on current action, it is not prudent to water it down by analyzing intergenerational justice and sustainability as separate axiological goals. In this sense, the principles of intergenerational justice determine definition of sustainability, not the other way around. If this is true our current characterizations of sustainability can tell us a lot (but, perhaps, not all) about what we tend to think of as important components of intergenerational justice. Sustainability may well need augmenting once philosophy determines what, exactly, fairness between generations looks like, however the literature on sustainability provides the language and terms to discuss normative intergenerational concerns. I take 'sustainability' and related concepts, then, to be a

reasonable starting point from which to begin conversations about the environmental component of intergenerational justice.

1.4 Weak vs Strong Sustainability

One such concept, already featured in this thesis, is 'non-substitutability.' Non-substitutability, as applied to the environment, refers to certain ecological goods that are a requirement of sustainability: things like clean air and water or healthy topsoil. It is disputed, however, whether such goods exist—an endorsement of substitutability marks the central contrast between 'weak,' and 'strong' sustainability, which can be roughly distinguished as follows.

1. Weak Sustainability: No natural resource is, in theory, non-substitutable. Passing the litmus test of sustainability requires only that we provide apt replacements for any resources we use up.[18]
2. Strong Sustainability: There is some 'critical natural capital' (CNC) that is a non-substitutable feature of the requirements of sustainability. There is some valuable 'stuff,' in the world, that, if destroyed, will make future people "worse off than they would have been had the items been protected—even if they are more wealthy than their ancestors" (Norton 2005, 321).

I will not offer a defense of one definition here, rather, as noted, the scope of sustainability will depend upon what we decide intergenerational justice looks like, although it should be clear that we must adopt strong sustainability if the preservation of natural artifacts such as the Whanganui River are to be features of intergenerational justice. Once again, however, we can still use the language of

[18]This view is held by Stiglitz (1974), Beckerman (1994), Solow (1991), Anand and Sen (2000), and Hartwick (1977), among others.

sustainability to help us talk about intergenerational justice: if we determine what, as a matter of fairness, must (non-substitutability) persist for intergenerational justice, we've perhaps come up with an operational definition of sustainability, although that is not the goal of this project.

Any further discussion of sustainability beyond strict substitutability (weak sustainability) will then require that we isolate CNC. The environmental scientists who work to pinpoint CNC often identify as critical a wide range of ecological goods[19] from topsoil to ozone. Some regard is paid to 'information' services—aspects of the natural world which contribute directly to non-survival components of human wellbeing—but differences between the CNC necessary for basic human life and the CNC necessary for a flourishing human life are rarely highlighted (Chiesura and de Groot 2003, 223); the sociocultural value of natural spaces is presented as one sub-category of CNC as a whole (Feld et al. 2009). Cultural ecosystem services—clearly a critical component of (present day) human wellbeing—are often underrepresented in discussions of sustainability and subsequent valuations of ecosystem services: the intangible, ineffable, and incommensurable nature of such goods make their measurement—and thus their incorporation into conservation policy—more difficult (Hernández-Morcillo, Plieninger, and Bieling 2013).

[19]See Ekins (2003) for a classic example.

1.4.1 Basic vs Sociocultural Natural Capital

Before moving on, then, let's clarify the distinction that motivates this thesis. There are two varieties of CNC:

1. Biological Critical Natural Capital (BCNC): The subset of Critical Natural Capital that is necessary for a decent standard of human life and basic life-sustaining functions.[20]
2. Sociocultural Critical Natural Capital (SCNC): Critical Natural Capital necessary for 'cultural' ecosystem services, the type that "provides the socio-cultural context for human society in terms of non-materialistic needs, e.g. health, recreation, scientific and educational information, cultural identity, source of spiritual experience or aesthetic enjoyment"(Brand 2009, 606). In general this refers to natural heritage: areas like Yellowstone, World Heritage Sites, sacred rivers and lakes, valued forests—areas that are essential to the wellbeing of individuals and communities.[21]

My purpose in this section is to point to crucial divergences in the kind of substitutability present in these two types of ecosystem services. This is necessary work prior to my defense, in Part IV, of the claim that these valuable sociocultural ecological goods—SCNC—are a required (non-substitutable) component of what we ought to leave for the future. In focusing on SCNC, I concern myself generally, then, with *places*. I do not, for instance, consider the justice claims of individual, sentient animals (Singer 1973) or biodiversity generally, nor do I concern myself with broader ecosystems (e.g. Arctic Tundra). Rather, I am interested in the intergenerational value of localized sites, with boundaries of varying size that are seen, by specific communities, as discrete and valuable

[20] See Ekins (2003) and Victor, Hanna, and Kubursi (1998) for characterizations of CNC that tend to emphasize BCNC.
[21] I benefit here from Satz et al.'s (2013) foundational work on the concept of cultural ecosystem services. See also Chiesura and de Groot (2003).

entities. A more comprehensive definition is not required; a colloquial understanding of 'place,' will suffice in delineating the kind of spaces I am interested in.

Importantly, I am concerned in this thesis only with aspects of the environment that are valued positively. Nature is not unequivocally good for (or to) humans: plants can poison us, animals can kill us, and natural disasters have perpetually damaged human populations. Some commentators, for instance, support the 'biophobia hypothesis,' (Hartig et al. 2010, 143) the suggestion that nature, generally, elicits negative, often fearful responses. It does not, however, make sense to claim that SCNC is the kind of thing that could exhibit net negative value. The Whanganui River, of course, can—mostly due to frequent flooding—be a harmful force. It does not fit, however, to say that natural place could be of *negative* sociocultural value. This is not the case with all token objects; Confederate statues in America's South, for example, might have a net negative worth. I cannot, however, come up with a natural analogy, and thus the remainder of my discussion is addresses the positive role that SCNC plays in human lives.

Note too that the same natural object can be an instance of BCNC and SCNC. The Whanganui River Report, for instance, repeatedly notes that the river "is a subject of veneration as well as a source of physical and material sustenance and that there is no inconsistency between the two" (Tribunal 1999, 301).[22] It is difficult to disentangle the sociocultural value of a place from the value of that resource as a source of basic sustenance. Consider, for instance, the practice of fishing

[22]This point is also highlighted in the Whanganui River Report (1999) at 5, 75, 80, 351.

for eel and lamprey along the Whanganui—this activity provides material benefits such as basic nourishment, but is also a practice of spiritual and cultural importance.[23] It is not as if the features of the natural world I am concerned with are neatly separated into BCNC and SCNC. I distinguish between them in this thesis, however, to point to a contrast—oft overlooked in the literature on sustainability—between the kind of substitutability exhibited by each kind of natural good, a division that becomes important as we consider what specific physical things are, indeed, non-substitutable components of intergenerational justice. If, indeed, sustainability is at least a necessary condition for intergenerational justice, and if sustainability requires determining what, exactly, is non-substitutable with regard to futurity, then we must fully expound how ecological goods come to hold their status as non-substitutable. It is to this task I turn next.

SCNC is crucially distinct from BCNC in (at least) two ways. First, it is manifested in specific, token places and for specific people or peoples. Second, the value of these ecological spaces is constructed by the people inhabiting them; they are not universally valuable features of a human life (Fischer and Eastwood 2016; Chapin et al. 2006). Put simply, SCNC is non-substitutable because human communities have deemed it such—the value of such places does not necessarily correlate with its specific physical features. BCNC, not the other hand, is non-substitutable merely because we do not—and might never—have the information or technology to provide substitutes for the distinctive physical services it provides.

[23]Satz et al. (2013) notes the same overlap, and mention hunting as a similar example.

To the first point: SCNC, the features of the natural world that undergird culture, recreation, and general well-being, are not easily abstracted: to conceive of them requires pointing at particular token features of the world that are non-substitutable to particular groups. Archie Taiaroa, in the Whanganui River Report (1999), for instance, says:

> Our people are tired, they're fed up, they feel embarrassed to come along continually and to say who they are, what is theirs. And you would have seen [on the site visit] some ... [of] our people living along the river ... getting their spiritual, their physical and their material sustenance from the river. And you see where they're located and then having to come and spend over a hundred years trying to say 'This is us, this is what we're trying to hold onto, this is what we have for our future generations (5).

Taiaroa denies here that anything other than that *specific* river could fulfil the same cultural and spiritual function. This kind of localized specificity is not required of BCNC, which emphasizes broader systems such as oceans, ozone, and a stable climate.

Second, there is a difference between the kind of value exhibited by BCNC and SCNC. BCNC is, for the most part, universally valuable to all humans, whereas the value of SCNC is bestowed by the individuals inhabiting a place.[24] I can say with full confidence that a flourishing vegetable garden can provide human nourishment, but I am less confident as to the features of a resource that necessarily give rise to spiritual experience or cultural identity. We can imagine, for instance, technology that might replace our need for what is now deemed critical: masks to breathe polluted air, artificial topsoil, or a reengineered climate. While the products of a vegetable garden

[24]For a case study examining how one ecosystem can be valued differently by different individuals, see Martín-López et al. (2012).

could be easily and justly substituted in most cases with some alternative product—a McDonald's burger or even other vegetables shipped from across the world—the thought of substituting the Whanganui River with some other natural space or a virtual reality substitute is less palatable. The point, again, is that the claim of non-substitutability for BCNC is technological—we simply might never have the science or technology to find a replacement—whereas the non-substitutability of value-laden natural heritage is a construction of the societies in which these things exist. We know, for instance, that culture and education play a profound role in the development of one's preferences and attachment to natural spaces (Buijs, Elands, and Langers 2009). BCNC, then, is valuable for humans generally, whereas SCNC is constructed over long historical timelines as valuable to specific groups of humans.

An example to illustrate: the 1830 Indian Removal Act was only possible because it failed to recognize the distinction between SCNC and BCNC. Andrew Jackson clearly does not consider localized non-substitutability:

> Can it be cruel in this Government when, by events which it cannot control, the Indian is made discontented in his ancient home to purchase his lands, to give him a new and extensive territory, to pay the expense of his removal, and support him a year in his new Abode? (Jackson 1830).

Jackson's endorsement of relocation of the Choctaw and the Chickasaw assumes the vegetable garden/burger kind of substitutability —that which BCNC exhibits. We might charitably[25] say that

[25] Jackson may have been deliberately malicious, aware of his conflation of BCNC and SCNC. Regardless, his disregard for the difference is illustrative.

he acknowledged that the Native Americans ought to have a place to live, ought to have access to the ecological goods required for human life, but saw any place to be just as good as their ancestral homes in Alabama and Mississippi—an oversight we've since deemed intolerable. To reiterate: SCNC exhibits a stronger kind of non-substitutability manifested in specific, token features of the world which have been constructed as valuable for individual communities. BCNC, in contrast, is universally valuable for human life and the functions it provides do not require it to be the token thing that it is.

1.5 'Nature,' Persistence, and the Metric Question

As I begin talking about the persistence of some natural spaces being non-substitutable, it is worthwhile to carefully consider how I am using terms like 'nature,' and 'persistence.' Sustainability (and my project) runs into a particularly vexing dilemma: on one hand, we are explicitly concerned with the maintenance of particular aspects of nature, but we must concomitantly acknowledge that natural capital does not persist in unaltered form. How am I to mandate that a thing should persist when, by very definition, that thing resists persistence? The Whanganui River, for instance, will always be undergoing a certain degree of benign change and flux; this natural variability makes the problem of establishing 'persistence' more difficult.

Consider, in contrast, the case of what might be deemed non-substitutable sociocultural *human* capital: the great works of Picasso or Monet. When we try to preserve these token objects,

we worry about keeping them as close to their original form as possible: we engage in restoration efforts to prevent colors fading or paint chipping. I cannot endorse, however, the analogous commitment to saving natural capital in untouched, unedited, and static form, a position often termed 'absurdly strong sustainability.'[26] My definition of 'persistence' must be intelligible in the current Anthropocene[27]—where few examples of untouched nature exist—and flexible enough to accommodate that much of the variability present in natural capital is benign. Moving forward, I am not in the business of arguing that some pristine, 'wild' nature ought to furnish the future world. Despite analogous non-substitutability between cultural and natural heritage, the connection should not be taken too seriously.

Thus, when I talk about a place being non-substitutable, it is the *positive functions*[28] of these places I am concerned with, functions that do not *strictly* supervene on physical characteristics of the natural good. For instance, a change in the physical characteristics of the Whanganui River—a natural change in its course—does not necessitate a change in its value as a place of recreational and spiritual activity. There, are, however, boundaries to the extent that a natural resource can change and still fulfill certain functions, still be considered the same token space. It is the concern of ecologists and relevant stakeholders to determine when these boundaries are reached, when a place

[26]See Daly, Jacobs, and Skolimowski (1995) and Beckerman (1995, 174) for the original discussion of this phrase and a lively debate over the terms of its use.
[27] The term Anthropocene refers to a proposed geological epoch which marks the point at which humans began to significantly impact earth's systems on a broad scale.
[28]As noted, I do not discuss the *negative* value that nature can exhibit. See 1.4.1 for explanation.

like the Whanganui River is damaged such that it no longer satisfies its functions, but it will suffice for now to posit that these limits exist.

1.5.1 Measurement of SCNC

The different kind of non-substitutability exhibited by SCNC means that such resources resist economic analyses (Satz et al. 2013), a factor which further motivates determining that they are indeed a concern of justice. The ineffable, intangible value of SCNC, which is subject to shifting norms and circumstances, is not easily translated into monetary terms or ecosystem services frameworks (Daniel et al. 2012). Recently, much important work[29] has been done to translate the sociocultural value of these goods into dollar amounts, but most of these efforts are focused on *current* people's preferences for SCNC. Economists ask, for instance, how much a current individual would be willing to pay for the presence of a cultural landscape or drinkable water from a local river.[30] However, estimates of the value of these places do not factor in *future* people's willingness to pay (WTP) for these resources, or if they do, they assume that the willingness of pay of future people will be the same proportion of their income as current people (Carson, Flores, and Meade 2001).

[29]See Chan, Satterfield, and Goldstein (2012), Small, Munday, and Durance (2017) and Gould et al. (2015) for examples.
[30]See Bernués et al. (2014) for one case.

Valuing SCNC in this manner presents a serious problem, for our WTP for environmental goods is subject to, in economist's terms, 'reference dependence,' where "economic decision-making is based on a value function that is defined on changes from a reference point, not on final outcomes. The reference point is typically construed to be the "current situation" (Horowitz 2002, 251). As each succeeding generation conducts willingness to pay studies regarding SCNC, their valuation of such objects is heavily influenced by previous policies and the state of the environment that they are born into: they are less likely, for instance, to be willing to pay for certain environmental goods if such places are polluted and degraded by their predecessors. Indeed, given the way *current* WTP is often insufficient to protect environmental goods, each generation will encounter conditions that they will be less inclined to value or invest resources in.

Consider, for instance, a lawmaker who has decided to forego stringent and precautionary environmental policy with regard to the Whanganui River, adopting a 'wait and see' approach. Water quality does indeed decline—the river moves from swimmable to wadeable. Future people, as most studies assume, will be willing to pay a similar proportion of their income to see improvements. However, these improvements are from the situation *they* encounter—not the drinkable water of year's past. Loewenstein (1997) explores the psychological features of this claim, noting that while we might feel passionately that a certain species ought to exist, we care much less about it once it is gone. The consequence, then, is that "under reference dependence, future decision-makers will "accept" low environmental quality that present decision-makers would want to avoid"

(Horowitz 2002, 251). This is especially evident in SCNC, since, as noted, the non-substitutability of such places is *constructed* by specific communities; human need for BCNC, in contrast, is universal. While both BCNC and SCNC seem subject to reference dependence, there is a level of BCNC quality which no future people will reasonably accept, a baseline amount of such resources required for survival. SCNC, as the Skeptic will highlight in Chapter II, can be devalued to the point where it no longer exists; the 'quality' of SCNC we might adapt to is a world with none at all.

This brief foray into economics points to the crucial importance of determining that SCNC is an object of justice, something to be considered as a mandatory ingredient in what we leave the future. Without presuming to criticize prevailing economic wisdom, I take a different approach: if I can successfully argue that the persistence of SCNC itself is a matter of justice—that these places are non-substitutable not only for individuals now but for individuals in the future—then we are left with argumentative resources to preserve it, unrestrained by the economic difficulty of monetizing the preferences of future people and incorporating their unidentifiable values into our conservation policy (Sikora and Barry 1996, 205). The non-substitutability of SCNC for current people does not, though, as we shall next see, translate easily into its intergenerational non-substitutability.

1.6 Substitutability, SCNC, and Future Generations

Agreeing that Jackson's actions in 1830, for instance, are a clear case of *intragenerational* injustice does not, however, commit you to the claim that the maintenance of SCNC—the ancestral home of the Choctaw, for example—is a necessary feature of intergenerational justice. There is a

prima facie act of injustice committed if one is quickly and fiercely denied access to the natural substrate of their culture, spirit, and identity, the most salient example being relocation like the Indian Removal Act alongside similar atrocities towards indigenous peoples in Australia and New Zealand. These peoples have suffered a non-compensable harm: a member of the Whanganui Iwi in New Zealand, over the course of one lifetime, could go from having sovereignty over her tribe's namesake river to seeing gravel extraction and navigation improvements destroy its spirit (Tribunal 1999).

But recognizing the wrongness of these actions does not require that we accept *intergenerational* non-substitutability—that is, it is still an open question whether justice demands that specific SCNC will exist in a future world. The nonconsensual taking of indigenous lands is a wrongdoing regardless of whether such lands are seen to be compensable in the lives of future people, substitutable with some alternate land or capital. In other words, the wrongness does not depend on the object's status as non-substitutable: the relocation was clearly coerced and non-consensual, ignored indigenous ownership of land, and was the source of bodily harm. If you steal my car, a wrong has been committed regardless of whether I have a deep connection with the car and whether you later buy me another, nicer one. Likewise, the Indian Removal Act being wrong does not rely on the non-substitutability of the land on which the tribes lived. We can explain the injustice of the Indian Removal Act *without reference* to the non-substitutability of a specific

resource. The non-substitutability of ancestral lands deepens the force of the injustice, but the injustice does not depend on it.

For people in the not-so near future, however, it seems that the aforementioned considerations—coercion, bodily harm, etc.—are no longer available as *reasons* why a lack of access to SCNC is unjust. Citizens generations hence will not have been forced or coerced off their sacred lands; rather, they might simply be born into a world devoid of them, slowly, as the above discussion on measurement highlights, come to devalue them. In the intergenerational case, we cannot utilize the aforementioned harms as reasons for the injustice, and may thus wonder whether a future world lacking SCNC constitutes an injustice at all. I turn next, then, to the case against the inclusion of SCNC as non-substitutable: The 'SCNC Skeptic.'

CHAPTER II
THE INTERGENERATIONAL JUSTICE SKEPTIC

Thus far, I've identified a type of ecological good—SCNC—that exhibits a kind of non-substitutability markedly different from that shown by ecological services necessary for basic human life (BCNC), but nevertheless is often alluded to as a component of what we owe to the future. Perhaps, though, despite the common political mantra that we ought to preserve certain places "for our children and grandchildren"[31] the lack of attention paid in the sustainability literature to SCNC is no mistake; rather, it simply suggests that we (or environmentalists) are wrong in thinking that value-laden spaces are a required features of a just endowment. In the following chapter, I will examine this claim. An 'SCNC Skeptic,' doubtful that such goods should feature among our intergenerational obligations, might object to the mandatory preservation of SCNC in two ways. First, she might contend we don't have obligations *at all* towards future people, or that our obligations only extend to those for whom we naturally and altruistically care. Second, she might accept that we *can* act unjustly towards people in the future, but contest that denying them access to the SCNC that we value now constitutes an injustice. I will discuss each kind of objection in turn. I will respond, in this chapter, to the first set of objections, paving the way for the possibility that we

[31]Teddy Roosevelt is famously quoted saying "cherish these natural wonders, cherish the natural resources, cherish the history and romance as a sacred heritage, for your children and your children's children." Additional examples exhibiting a concern for the future abound; consider the recent excess of apocalyptic films (*Wall-E* (2008), *Contagion* (2011), *The Happening* (2008), *Tomorrowland* (2015).

can stand in relations of justice with future people. I will reply to a portion of the second set of worries—objections that question whether SCNC should be included within the metric of intergenerational justice, but save some particularly stubborn objections for Chapter IV, where, employing a Rawlsian contractual situation, I respond in full.

2.1 Skepticism about General Obligations

2.1.1 Skepticism about Future Humans Being the Subjects of Justice

The first set of objections I will address denies that future humans are the types of beings that can be implicated in a theory of justice, and thus also denies the stronger claim that SCNC is a necessary component of a just intergenerational apportionment. Underlying arguments against the possibility of acting unjustly towards future people is the simple fact that, at present, they do not exist. This claim is most clearly declared by De George, who states, "Future generations by definition do not exist now. They cannot now, therefore, be the present bearer or subject of anything, including rights" (De George 1981, 161). A similar critique is offered by Beckerman, perhaps the most outspoken opponent of the possibility of intergenerational justice. He says:

> My argument is really very simple and can be summarized in the following syllogism:
> (1) Future generations—of unborn people—cannot be said to have any rights.
> (2) Any coherent theory of justice implies conferring rights on people.
> Therefore, (3) the interests of future generations cannot be protected or promoted within the framework of any theory of justice (Beckerman and Pasek 2001, 54).

Beckerman and De George deny the possibility of intergenerational justice by noting that future people do not seem to have rights *now* (1), and that having rights is a precondition for being a subject of justice (2). Even if we disagree that a cogent theory of justice requires the ascription of rights, it does require that future people have some interests or claims. Beckerman's argument, though, still applies to other obligation-conferring predicates: future people do not 'have' interests or claims at present, just like, as Beckerman notes, they do not 'have' "two legs or long hair or a taste for Mozart" (Beckerman 2004, 3).

Beckerman's syllogism is easily countered. We can, following Jorg Tremmel (2009) object to (1), conceding that, while "Beckerman's argument is correct," it is of "minor importance. It reminds us that we should use future tense instead of present tense, that is, to say: 'future generations will have rights' instead of 'future generations have rights' (52). In other words, future humans are the kinds of things that will have rights in the future, when they come to exist. [32] By conferring rights on future people in this manner, we can deny Beckerman's conclusion: it is *not* the case that future people *cannot* be implicated in a theory of justice due to their presently nonexistent rights.

This does not, of course, provide a positive explanation of the influence of future-rights (or future interests) on our present obligations. A reasonable account can be offered by noting that obligations need not exist concomitantly with corresponding rights. Our remarkable human ability

[32] In a notable exception, Partridge (1990) claims that future people have rights *now.* I am not convinced by this claim.

to make plans for the future engenders duties the fulfilment of which services rights or interests that do not exist at present. A modern adolescent, for instance, may not have the right to vote *at present,* but anticipating the future-existence of such a right has current moral implications: it would be unfair to proscribe the future exercise of suffrage by never informing said adolescent that she will soon be of voting age or by telling her that anyone who gets less than an A in Pre-Calculus (she received a B+) is not allowed to vote. Similarly, since I know that, after I finish this thesis, my student loan payments will commence, (and the loan provider has a right to receive the payment I have agreed to), it seems I am under a duty *at present* to act such that I can pay the bill. Even if the loan provider's right does not exist *now,* I must not squander my savings: I anticipate that they will have a right to reimbursement in the future and act accordingly. To maintain that obligations must exist concurrently with the rights or interests they are interested in promoting truncates any reasonable understanding of moral action. If obligations can exist which correspond to predictable future interests, we can offer a positive reply to Beckerman's skepticism: the future interests of future people triggers current duties. Of course, it remains to be seen whether the preservation of SCNC is one such duty, but at least a path has been cleared for the possibility that future people's claims generate general obligations on the part of the currently living.

2.1.2 Skepticism about Reciprocity

One might agree that future people *will* have rights but still harbor a worry that they are not the kinds of beings with whom we can stand in relations of justice due to their inability to, at present moment, participate in the usual reciprocal and contractual relationships that characterize some theories of justice.[33] After all, we might agree that certain sentient animals can be wronged and ought to be afforded a version of rights, but reject that they are the subjects of *justice* per say—they are simply not like *us* in the relevant way. Our actions that influence future people might, in this sense, be *immoral,* violating obligations which correspond to future-existing interests, but not *unjust* per say. Brian Barry (1989), for instance, building on Hume's circumstances of justice, notes that in order for justice to obtain between individuals, the two parties must (1) Be relative equals, (2) Be concerned with goods that are relatively scarce, and (3) Be characterized by a conflict regarding each individual's self-oriented interests in such goods. In the case of our relationship with future, non-existent individuals, it seems that condition (1) does not obtain. As Barry notes, Rawls seems to share this worry:

> It is a natural fact that generations are spread out in time and actual exchanges between them take place only in one direction. We can do something for posterity but it can do nothing for us. This situation is unalterable, and so the question of justice does not arise (Rawls 199, 291).

In the words of Barry, then,

> Whether or not the circumstances of justice obtain among nations is an empirical matter.

[33]See, for example, Ball (1985) and Laslett and Fishkin (1992)

> They may or they may not. Whether or not they obtain between the generation of those currently alive at one time and their successors is a logical matter. They cannot. The directionality of time guarantees that, while those now alive can make their successors better or worse off, those successors cannot do anything to help or harm the current generation (Barry 1989, 189).

In this sense, any positive circumstances we secure for future people are a non-obligatory 'gift' rather than fulfilling a duty of justice. Future people, due to their inability to engage in reciprocal relations, to act with us in a mutually advantageous manner, cannot be the subjects of justice.

We can criticize justice as reciprocity on both intra and intergenerational grounds, and this particular worry could be averted by positing that we have justice-related obligations that do not require reciprocal relationships: a luck egalitarian account of intergenerational justice, as mentioned, would for instance act to secure the arbitrary factor of one's year of birth does not result in disadvantage. However, even if we are committed to a reciprocity-based conception of justice, it does seem that, if we eschew a particular conception 'reciprocity,' future people are more easily incorporated. Axel Gosseries (2009), presents one account, a form of indirect reciprocity: we owe something to future generations because generations before gave something to us. Rawls, despite the aformentioned statements suggesting otherwise, makes a similar proposal:

> Each [generation] passes on to the next a fair equivalent...This equivalent is in return for what is received from previous generations that enables the later ones to enjoy a better life in a more just society (Rawls 1971, 288).

Gosseries (2009) grounds the force indirect reciprocity in an account of 'free riding.' In summary, when we do not pass on a world similar in relevant ways to the world we received, we take

advantage of the efforts of earlier generations to save for us an as such, "the obligation to reciprocate to the next generation would thus result from an obligation not to freeride to the detriment of earlier generations" (132). It seems then, that being a subject of justice—even on a reciprocity based account—does not require that parties be able to reciprocate or engage in mutually advantageous activities with *each other*.

2.1.3 Skepticism about Harm: The Non-identity Problem

Even if the Skeptic agrees that future people will have rights that elicit corresponding obligations, and that they furthermore can be the subjects of justice, it remains to be seen whether we can actually violate such rights. This is due to the famously vexing 'Non Identity Problem,' which, if taken seriously, means that we cannot harm future people. First developed in the work of Derek Parfit, the Non-identity problem is a dilemma resulting from three seemingly incompatible intuitions (Roberts 2009). The first intuition, put simply, is the commonly held insight that an act can only be wrong if it harms some individual person—that is, if the individual is worse off as a result of a particular action (Parfit 1986, 363). The second intuition is that one cannot be harmed by being brought into existence—except in circumstances where one's life is so tortuous that it might feasibly be said that their life is 'not worth living,' we seem to accept that it better to live a life that is flawed in some regards than to not have lived at all. Third, we also seem committed to the claim that some acts that affect people not yet born are, in fact, wrong. Consider, in an example adopted

from Parfit (1982), where a nuclear-waste disposal plant will—scientific assessments unequivocally predict—leak in 250 years, giving thousands of people a skin condition that moderately reduces quality of life. Most would deem such an act wrong insofar as we are certain that future individuals will indeed suffer as a result of our actions now.

These commitments collide upon considering the identity-producing effects of current actions. Given the time-sensitive nature of human reproductive systems, any trivial change in the timing of one's conception will likely result in the insemination of a different sperm-egg combination—and thus a different individual. My country's choice of nuclear policy may seem entirely unconnected from the identity of a particular child born in 250 years, but that choice of policy was actually one causal component in the identity of those who will live during the nuclear leak. If, as my government convenes to discuss the new nuclear waste disposal policy, a particular group of young legislators must stay late at work—resulting in the delay of a romantic evening with their partners—the specific resulting child will be a different one than if the legislators had been home earlier. The legislator's grandchildren and great grandchildren, too, will have different genetic material. When the nuclear waste leaks, 250 years after the initial policy debate, the set of children that suffer can, in some remote causal sense, attribute their existence to the nuclear policy itself.

It seems (Intuition 3) that the nuclear waste policy did, in fact, harm people. It also seems, however, that they were not made *worse off*, for if the nuclear policy was not instituted, it is highly likely that they would never have been conceived at all. If the life with the skin condition is still

worth living—and we generally agree that people with skin conditions do, in fact, live worthwhile lives—the nuclear policy did not make any identifiable person worse off, for the alternative to living life with a nuclear waste induced skin condition is to simply not be alive at all.

If I am to suggest that future humans can stand in relations of justice with currently living people, it is imperative that they can, in fact, be harmed by our actions. In other words, there must be some grounds intergenerational injustice: some future human must be able to lodge a complaint that they have been *harmed*. The non-identity problem challenges the very possibility of such a grievance. If some future human bemoans that they have suffered an injustice at the hands of some Act X of their predecessors, the predecessors can easily respond that Act X was a causal component of the complainer's very existence. Therefore, unless our indignant future individual would have rather not been born, it is difficult to identify the injustice at play.

In order to argue, as I do in Chapter IV, that the irreversible destruction of SCNC constitutes an injustice, I must rescue the presupposed possibility of intergenerational injustice itself. Scholars have identified a number of strategies to circumnavigate the non-identity problem by putting pressure on one of the three intuitions outlined above. Rahul Kumar (2003), who primarily argues against Intuition (1)—that an individual needs to be made worse off in order to be considered harmed—makes two crucial moves securing the possibility that our actions now can constitute an intergenerational injustice. His account, in my view, sufficiently addresses the non-identity problem

and thus clears the way for my more specific claim that SCNC is a feature of intergenerational justice.

First, Kumar notes that it is possible to wrong someone without harming them. Kumar's example is a drunk driver. If a reckless alcoholic swerves onto the sidewalk, just missing you as you stroll along, we generally agree that you have been wronged: "there is nothing suspect about the claim that one has been wronged by the drunk driver (expressed, perhaps, as resentment of him or anger directed towards him), simply in virtue of his having, without justification, taken your life in his hands by exposing you, even briefly, to so serious a risk" (2003, 102). If wronging and harming can come apart, it is plausible that we could *wrong* future people without *harming* them—that is, we can wrong someone without the making them worse off than they would have been otherwise. If we can successfully argue that future people can be wronged—and such wronging is enough to constitute an injustice—we can reinstate future people well within the bounds of justice.

Not only does intergenerational injustice not require an individual to be made worse off, but—this is Kumar's second crucial insight—we need not even reference their identity as particular individuals. We can uphold that wronging someone is person affecting—a wrong act must be 'wrong for someone,'—but maintain that determining whether an action is wrong hinges more upon their status as a *type* of being rather than a *token* individual. To Kumar, our obligations towards others are determined not because of the specific person that they are, but because of normatively relevant characteristics of their *type*. Certain and specific obligations are generated between, for instance,

student and teacher, child and parent, and boss and employee; characterizing these duties does not require we identify token individuals. To Kumar, then "that the particular psycho-physical identity of the person in question, at the point in time at which compliance with the duty is required, may still be an indeterminate matter turns out to be of no consequence, as the other retains her standing as a certain type to whom certain duties are owed regardless of what her token identity turns out to be" (112). If Kumar is right here, we can reflect on our duties towards future humans—and include them in our theories of justice—based on the type of thing that they are. We are not required to point to embodied examples of harmed humans in order to determine the general shape of our obligations.

Even if we are not convinced by Kumar, there are numerous additional responses to the non-identity problem. We might, as suggested by Meyer (2016), who also tackles intuition (1), we might adopt a 'threshold conception of harm,' in which harm consists not of a person being made worse off at time T2 than they were at T1, but in them falling below a certain threshold. Another promising approach references the 'butterfly effect,' (Tremmel 2009, 40), noting that the non-identity problem attributes a strong causal link between a particular action and a particular person being born. It is *because* of the nuclear policy that a particular sperm and egg combination became realized as a token individual. But, clearly, there are infinite causal factors that also played a role in the birth of that particular person, and causality could be applied to *any* of these factors. In this sense, *everything* that happened prior to my birth is a causative force in my very existence. It does not make sense to pick out actions which we intuitively think made a future individual worse off, and consider them

to be the singular cause of the individual's existence. The non-identity problem, then, makes a claim about as strong as stating that the flap of a butterfly's wings set off a tornado (Tremmel 2009, 42).

There is much more to be said of the non-identity problem, but I take Kumar and others to have forged a clear enough path for me to proceed. Kumar's wronging/harming and type/token distinctions allow the possibility that we can wrong future people, a final conceptual hurdle for intergenerational justice. In responding to these worries, I have concluded that future people hold the required features to be incorporated into a theory of justice—they are the kinds of beings we can act unjustly towards. I have cleared the way, then, for my more specific claim that the desecration of SCNC in the world of future people constitutes and injustice. There may be further objections, of course, but survey of common worries regarding intergenerational justice produces no arguments that are fatal to my project.

2.2 Skepticism about SCNC

I hope, that this point, that I have convinced the Skeptic that it is indeed possible to stand in relations of justice with future people. The Skeptic might agree, however, but maintain doubts that SCNC is the kind of thing that we're under a duty to preserve. BCNC, you might think—given its universal value and non-substitutability in the support of basic life—should be unequivocally considered a matter of justice, but including SCNC requires further justification. The SCNC Skeptic has a number of arguments at her disposal, which I will outline below. Some of the Skeptic's more

easily answered questions I attend to in this chapter. A latter set of worries—which more promisingly threaten the place of SCNC within the metric of intergenerational justice—are of the kind that require a more fully fledged description of what, exactly, intergenerational justice consists of and how we can derive fair principles for action. I thus save my full reply to these objections for Chapter IV, where respond within the framework of a Rawlsian account of intergenerational justice.

2.2.1 'Pricelessness' is an Error

First the, Skeptic might note that our monetary evaluation of natural resources means that they are, in fact, substitutable. Indeed, we do reduce the value derived from SCNC to monetary terms, translate SCNC into dollar amounts which, of course, are tradable. Perhaps, then, when we say 'that river is priceless,' or 'irreplaceable' or 'non-substitutable,' what we really mean is 'I feel uncomfortable putting a price on that resource.' Would Thoreau take 800 billion dollars in exchange for his experience of the sublime Katahdin? Maybe. Would you take $400 million dollars in exchange for your ancestral home? We might be able to put a price on SCNC and, as the Skeptic will contend, the fact that the price is high does not mean that such places are truly non-substitutable. In other words, in many cases we will pay *a lot* for these natural experiences that we have come to value, or to preserve specific natural things, but this doesn't mean—the Skeptic will claim—that they're *nonsubstitutable,* some necessary and uncompensatable condition of living a good life.

This objection, which in some respects I attended to in my introduction, can be countered by highlighting the difference between pricelessness and substitutability. As noted by Sunstein:

> To say that a good is not fungible is not to say that it is infinitely valuable. To say that a good lacks substitutes is not to deny that people will give up some amount, and not more, to preserve it. The emphasis on incommensurability is not meant to deny that tradeoffs are made (Sunstein 2008, 16).

Claiming, that because a good is *not* priceless, it is also *not* non-substitutable, then, is missing the point. Deeming something non-substitutable means that no other thing would provide a full replacement. Even *if* I was willing to sell a family heirloom for five million dollars (rendering it *not* priceless), it does not follow that the money provided a *replacement* or a substitute for said heirloom. To say that something is worth a certain amount is not to contend that such a sum would replace it, but to encompass that thing into a cost-benefit system for decision making. We place monetary value, for instance, on a human life (between four and nine million USD in the US according to Viscusi and Aldy (2002), but this amount does not *substitute for* in any relevant sense, the value of a person. We value money in a different way than we value places and people: as Sunstein summarizes, if we see the Whanganui River "as equal to some amount of money, we will have an odd and even unrecognizable understanding" of the value of that place (16). Despite the fact that SCNC is not infinitely valuable and we often translate it (as we should) into monetary terms, the claim that monetization entails substitutability is untenable—it would *still* be an injustice to substitute your child for the estimated nine million.

The economic valuation of SCNC does not imply substitutability. This discussion does not, of course, put forth a positive argument for non-substitutability, rather it simply defends against claims against it. Some things, of course, *are* substitutable, especially with regard to the uncertain future. The question of whether SCNC is a required feature of intergenerational justice remains open.

2.2.2 SCNC is a Luxury Good

A further critique—one that applies to both current and intergenerational debates over access to SCNC—is that such goods are 'luxury items.' Just as we are not obliged to maintain access to Rolex watches or Audi cars, one might contend that SCNC is an indulgence rather than a appropriate object for just or unjust distribution. Satz et. al. (2013) suggest three initial responses to this objection. First, it is widely known that above a certain income level, increases in human wellbeing become divorced from further economic resources: instead, relationships, culture, meaning, and community become predictors of happiness (Helliwell and Putnam 2005). Second, they note that an argument that SCNC should be included within the bounds of justice does not entail a hierarchy in which SCNC ranked as just as pressing as basic life supporting systems—if, indeed, the two could ever come apart as neatly as I have presented them here. Third, SCNC is, in many cases, a crucial component in the wellbeing of low-income groups: "Remote existence values may be luxury goods, but other kinds of cultural values—spiritual, identity, legacy, participatory, and community, values

that have been built up over many centuries of interactions between people and their environment—are anything but" (Satz et. al 2013, 681). As Satz et. al highlight, the import of the Skeptic's worry here seems dependent on a romanticized conception of nature, referencing an external environment that does not feature prominently in the cultural and spiritual lives of individuals. The pristine 'wild' may indeed be a luxury, but SCNC, natural places which, per my introduction, undergird the basic flourishing of current communities, is a different kind of thing, to which the Skeptic's objection does not apply.

2.2.3 Whose Sustainability?

A related point the Skeptic will make is that, if SCNC is indeed a compulsory feature of intergenerational justice, we will be tasked with determining *which* spaces, a choice which will necessarily privilege certain groups. The worry might be framed as such: mandating the maintenance of SCNC shares too many ideological roots of an exploitative history of 'wilderness preservation,' where the maxim to preserve natural spaces resulted in the forced expulsion of indigenous and other marginalized groups. The very National Parks that I reference my introduction were, in fact, created via a nonconsensual removal of many First Nations Groups. That 'preservation' is often bootstrapped to serve the interests of a particular group—a group often concerned with the maintenance of a pristine, untouched nature—is a worldwide phenomenon. Ramachandra Guha (1989) points out such a case with the example of India's 'Project Tiger,' where

the effort to create wilderness reserves for endangered tigers "was made possible only by the physical displacement of existing villages and their inhabitants" (2). In New Zealand, too, indigenous values and environmental practices were clearly unfairly excluded from decision making regarding Whanganui National Park (Tribunal 2015). Clearly, in arguing that specific places ought to persist, I enter uneasy terrain.

However, historical fact of the abusive and exploitative practices of past efforts to preserve certain places need not count as a decisive blow against my normative argument that some places *ought* to persist. Determining what to save in a way that considers multiple ways of valuing and interacting with SCNC is no easy task: different spaces hold different value to different groups, and in a time of scarcity and population growth it is clear that not all SCNC can be mantained. The question of *what* SCNC should persist is separate, though, from the question of whether SCNC ought—as a matter of justice—persist at all. This worry remains potent however, and motivates my later use of Rawls' 'veil of ignorance' in Chapter IV: as I argue SCNC is a feature of intergenerational justice, I will not rely on a description of *what* makes nature valuable that is beholden to a particular group.

The Skeptic's worries, it seems, are beginning to have some purchase, requiring a more in-depth conception of intergenerational justice. Thus, in the remainder of this chapter, I will outline, but only superficially respond to her objections, saving a full discussion and rebuttal for Chapters III and IV.

2.2.4 Uncertainty and Paternalism

The Skeptic will further argue our uncertainty regarding the preferences of future generations renders the preservation of non-essential goods superfluous at best and paternalistic at worst. Consider, the Skeptic will note, a group of citizens in 1400 deliberating about what they owe to the 2017 cohort of humans. These ancestors, clearly oblivious to our current preferences and needs, might have—in an impressive display of forward thinking and political will—decided to save sufficient clay and shale such that we would be able to continue to build houses out of bricks. Little did they know, of course, that we would soon learn to make houses with steel nails and wood. Their saving attempts would have been in vain. In what is obviously a stretched analogy, the Skeptic might suggest the same is true for SCNC: what happens, she might quip, if we save all these spaces of natural value but they prefer the intensity of virtual reality video games? What if future people's appreciation of 'nature' is enervated by the increased fiercety of natural disasters and weather events, such that the environment becomes a dark force we no longer value?[34]

To demand that natural spaces persist as a matter of justice, the Skeptic will contend, is to force upon future people—whose preferences we are blind to—a narrow conception of what the good life consists of. Since SCNC is *not* universally valuable like BCNC, it is illegitimate to incorporate it into what we owe the future. This claim echoes treatments of SCNC within classic

[34]See Section 1.4 'Measurement of SCNC' for further commentary on this process.

treatments of intragenerational justice: Rawls, for instance, is explicit that "the status of the natural world and our proper relation to it is not a constitutional essential or a basic question of justice as these questions have been specified. It is a matter in regard to which citizens can vote their nonpolitical values and try to convince other citizens accordingly" (Rawls 1993, 246). Dworkin, too, discussing a conflict between a "useful dam" and the preservation of a species of snail darter, similarly situates concern for the snail habitat as a personal preference outside the bounds of justice relations (Dworkin 1981, page 202). Both theorists make clear that environmental commitments are perfectionist in nature, and to demand public endorsement of environmental concerns is an unjustified enforcement of a particular, non-neutral version of the good.

The Skeptic will transpose this worry from intra to intergenerational justice, noting that, to avoid paternalistically prescribing the preferences of future people, we must "keep in mind, in making plans, that we don't know what they will do, what they will like, what they will want. And, to be honest, it is none of our business" (Solow 1991, 182). Thus, our obligations ought not supervene on the existence of natural objects like SCNC. Instead of particular things, then, the Skeptic will contend that we ought to preserve a more all-purpose metric, of the kind that I will explore in Chapter III. This stubborn objection, which seems to justify the general economic assumption of substitutability, I will address in Chapter IV.

2.2.5 We Don't Blame Our Predecessors

The Skeptic might further object to including SCNC within the currency of justice by highlighting how humans have *always* changed and modified the natural world—perpetrating no apparent injustice. In fact, human-induced changes to natural landscapes have been a large source of the generalized increase in human welfare over the course of history (Kareiva et al. 2007). It does not seem reasonable to suggest that *we* received an unfair allocation of SCNC from our predecessors: I do not consider it unjust that our ancestors turned forests into farmland or changed river valleys to towns and cities, and I do not bemoan that I no longer have the readily available option of living in the forests that used to cover Dunedin, New Zealand. We ought not presume, then, that future generations will blame us any more than we blame them; to mandate the inclusion of SCNC hinders the perennial human advancement that made possible the conditions many of us enjoy today. The dissimilar allotment of SCNC each generation encounters is, in this sense, not a concern of justice, but a byproduct of progress: if anything, it would be an intergenerational *injustice* for our predecessors to have foregone the development that produced roads, bridges, hospitals, and libraries. Mandating room for SCNC within the ledger book of intergenerational justice impedes this sort of progression. This is an important objection which I hope to tackle in Chapter III and IV. To foreshadow, it seems as if our emergent environmental influence undermines the ability of progress to facilitate justice.

2.2.6 Adaptation and Future Supersession

In a related objection, the Skeptic might highlight the remarkable human ability to adapt to changing circumstances. Why should SCNC feature as part of the metric of justice if it seems as if humans could learn to flourish in a world without it? Martin Krieger sums up this point:

> What's wrong with plastic trees? My guess is that there is very little wrong with them. Much more can be done with plastic trees and the like to give most people the feeling that they are experiencing nature. We will have to realize that the way in which we experience nature is conditioned by our society- which more and more is seen
> to be receptive to responsible interventions (Krieger 1973, 458).

In further defense of this claim the Skeptic will cite research that emphasizes such adaptability or dismisses any substantive link between SCNC and wellbeing. Pointing to studies on 'hedonic adaptation'—in which psychological processes attenuate the effect of negative circumstances on wellbeing (Lyubomirsky 2010)—she will contend that future people will be characteristically resilient in the face of ecological decline. Furthermore, she might note the 'The Environmentalist's Paradox (Raudsepp-Hearne et al. 2010), in which recent research—most notably the 2005 Millennium Ecosystem Assessment—suggests that wellbeing is steadily increasing despite decreased access to ecological services.

The Skeptic will ask us to consider the gradual demise of SCNC—the slow and continuous degradation of ecological goods upon which communities have built their identities. This destruction might be unrecognizable—indistinguishable, even, from progress. As this SCNC slowly disappears,

future people come to value what we leave for them:[35] Citizens 500 years from now might center their lives and communities around severely degraded rivers, develop an aesthetic preference for muddy, spoilt waters, and experience no decline in subjective wellbeing. In the same way many revel in the beauty of the NYC skyline, future people will rejoice their dammed rivers and removed mountaintops—after all, the goods produced by these practices fed and nourished people, provided energy, and heated the homes of the poor. The slow, irreversible ruination of valued places, occurring almost invisibly over decades, is, to the Skeptic, innocuous: future people, despite living in a world void of many places we value now, will, find new sources of sociocultural value, new sites of cultural, spiritual, and recreational sustenance. The thrust of the argument here is that future people 'won't know what they're missing,' a claim which recalls the work of Jeremy Waldron (1992), who employs similar reasoning to contend past injustices—of the very kind I am concerned with—can be superseded.

Waldron himself focuses on whether injustices that occur during a particular generations can persist through time, which differs from examining, as I do, whether situations *between* generations themselves are just. Regardless, two varieties of Waldron's claims are of the kind that bolster the contentions of the Skeptic. First, his discussion of human adaptation to changing environmental circumstances supports the Skeptic's earlier points. Second, his position regarding the features of *past* injustice dispute the importance of SCNC for *future* generations by noting that—while the

[35]See Scholtes (2010, 291–294), and Bykvist (2009) for further commentary.

destruction of SCNC might be an instance of *intra*generational injustice—it is not of *intergenerational* import. In other words, if Waldron is right that *past* injustices do not always endure, then it is plausible that injustices *now* (which will soon become in the past) could be superseded as well.

Waldron makes his claim with regard to colonists taking indigenous lands—in his view, the indigenous entitlement to certain lands can be vulnerable to the passage of time insofar as this group no longer builds their life around the resource. They have, in essence, found a replacement, the injustice is not permanent. Waldron (1992) maintains that, "If something was taken from me decades ago, the claim that it now forms the center of my life and that it is still indispensable to the exercise of my autonomy is much less credible. For I must have developed some structure of sustenance" (19). Doubtless, one could develop a structure of spiritual, cultural, and recreational sustenance as well.

Waldron speaks here of the supersession of injustice within a lifetime, yet we can reasonably suppose that his doubts about the persistence of injustice can be transposed into intergenerational concerns. If an injustice can fade after just a few decades, it is certainly the case that it would fade after generations, when the original claimants are no longer present. Future people, unaware, perhaps, of the way in which SCNC was central to the lives of their predecessors, will have found replacements. Or, rather, we will—if we endorse substitutability—have given them replacements. No injustice has been committed.

Thus, the SCNC Skeptic might grant that these natural features are valuable components of current lives, and affirm the intuition that it constitutes an injustice if they are destroyed or degraded. However, she will note that this does not secure SCNC as an object of intergenerational justice—fairness between generations. She will concede, as Waldron does, that "religions and cultural traditions we know are very resilient, and the claim that the lost lands form the center of a present way of life—and remain sacred objects despite their loss—may be as credible a hundred years on as if was at the time of the dispossession"(20). This, though, is an instance of intragenerational injustice that endures, not, she might claim, an example of unfairness between generations, and thus ought not be included among the set of things to be distributed throughout time. In this sense, we can fulfil our intergenerational demands by acting justly towards our contemporaries: SCNC is not something we owe future people, it is something we owe *each other*.

Following Waldron here, it seems that if we deprive future people of their current entitlement to enjoy certain benefits from the natural world, but in the future they find adequate replacements, that no injustice has been committed—future people will find different things to value, different means to realize robust human wellbeing, likely oblivious to the fact that it could have been otherwise.

On what grounds, then, might we defend the intergenerational import of the Whanganui River? A suitable justification of the place of SCNC in intergenerational justice must offer a response to the Skeptic's remaining objections: it must show that what we decide to save is not

derived from a particular non-neutral definitional of sustainability, that our uncertainty regarding the future does not render the preservation of SCNC a paternalistic restriction on future people, that our lack of blame for our predecessors does not excuse current environmental damage, and that future people's ability to adapt to a degraded world does not undermine their claims to certain environmental goods. In the following two chapters I attend to this task. First, in Chapter III, I examine contemporary answers to the metric question in search of readily available responses to the Skeptic. These replies do not, I argue provide sufficient justification for the non-substitutability of SCNC. In Chapter IV, I present, in Rawlsian terms, a standalone response.

CHAPTER III
WHAT SHOULD PERSIST?

Throughout my introduction and Chapter I, I determined that there exists a class of environmental goods above and beyond that necessary for basic human life which still exhibit non-substitutability to currently living people. It is still an open question, however, whether these natural spaces must exist in the future in order for justice between generations to obtain. In Chapter II, I examined a number of doubts that might lead us to believe that, if indeed we have any obligations whatsoever towards the future, the preservation of SCNC is not one of them. Are we to relax, comfortable in the knowledge that the preservation of the Whanganui River is optional so long as we provide apt substitutes?

Perhaps existing theories of intergenerational justice offer compelling responses to the aforementioned objections. To see, I return to the 'metric' or 'currency' of intergenerational justice, investigating prominent answers to the question of what ought to be distributed throughout time. I take the quintessential "equality of *what"* question (Sen 1995), which examines the spatial distribution of goods, and examine the propositions of those who have asked and answered its temporal cousin. I have not yet sufficiently argued that SCNC is indeed a non-substitutable component of the world we bequeath. Before I defend the latter claim, however, I will appraise three

positions[36] on the 'metric' of intergenerational justice to determine whether current proposals articulate justification for the place of SCNC. Do they offer clues as to how the preservation of such non-basic goods can be defended to the Skeptic? My discussion below concludes that three common strategies—preferentialism, resourcism, and capabilitarianism—do not, on their own terms, capture the non-substitutability of SCNC. To put it bluntly, each of these currencies of intergenerational justice, as they stand, can sanction a future world in which the Whanganui River no longer exists. In the latter half of the chapter, I suggest that the absence of regard for SCNC is due to the methods we've employed to answer the intergenerational metric question. Account of intergenerational justice tend to extend metrics of *spatial* justice to the *temporal* realm, an approach which fails to articulate salient intergenerational concerns which are not present in relations of justice between contemporaries.

3.1 Preference Satisfaction?

First, one might think that intergenerational justice prevails when an ability to have one's preferences satisfied is maintained throughout time. This strongly utilitarian view takes a preference satisfaction model of wellbeing and endorses it as the metric of our intergenerational concern: in other words, if the year that one is born has no effect on whether they have their desires fulfilled, we've passed the test of intergenerational equity.

[36] I follow Page (2007) in separating these three positions in this manner.

On first glance, preferentialism can accommodate the position that some SCNC is a non-negotiable feature of what we owe to future people. Posterity might have a preference for clean rivers, for sacred places, for an ancestral home, their desires frustrated by the lack of these things. In the intragenerational case, if justice requires the *spatial* distribution of preference satisfaction, such that we give "equal weight to the equal interests of the occupants of all the roles" (Hare 1963, 215), someone with a strong preference for participating in their environmental heritage could clearly have this desire obstructed, injustice obtaining if others' interests in this realm are given priority. We might say, then, that if future people have similar desires, but ours take precedence, that we've failed to be intergenerationally just.

This picture, though, is complicated by two aspects of our particular epistemic relation to the future, highlighted by the Skeptic. First, as compared with contemporaries, we have a higher degree of uncertainty regarding the wants and needs of future generations. This elicits a laissez faire approach to the preferences of the future which endorses substitutability: if we don't know what they desire, intergenerational justice does not require saving any particular *objects* of desire, rather just the *capacity* to have desires satisfied. In the words of Solow, the champion of a preferentialist view, our obligations do not require that "*particular* species of owl or *particular* species of fish or *particular* tract of forest be preserved" (Solow 1991, 180). Instead of these token goods, we're obligated to maintain the means to preference satisfaction, and, given our uncertainty as to the future

world, the most reasonable proxy for such satisfaction is a non-declining stock of capital (usually in the form of money) over time. This 'stock' of capital, though, need not be made up of SCNC.

Second, perhaps in contrast with this uncertainty, the values and preferences of future people will be *determined* by what we leave them, a factor which significantly weakens any claim that a non-qualified preferentialism does account for non-fungibility. The preferences of future people decisively depend on the values and objects available to be preferred (Bykvist 2009). As the Skeptic has already noted, if SCNC is not available to be valued, or other objects have replaced its sociocultural function, its absence cannot count in a case of desire frustration. Future people might, in their view, have all their desires satisfied, but be oblivious that their preferences might have been otherwise. They might, to use to the example of climate change, "learn to desire the possibilities offered by a warmer and wetter climate. They may, that is, adapt their desires so that they become 'contended victims' of climate change" (Page 2007, 445). If future people adapt to a world without SCNC, the preferentialist has no resources to deem the situation unjust.

Even a stronger 'informed' or 'idealized' desire theory[37] fails to capture an obligation to preserve SCNC, for even if future people *were* fully informed as to the options available to them, we should not imagine that 'informed desire theory' includes a list of all *past and present* options. It would be strange for me to complain, for instance, that my wellbeing has been compromised since I cannot realize my preference for being a knight or a cowboy. In the same way, if swimming in

[37]See Sidgwick (1907), Section 3 and Rawls (1971), page 417 for classic defenses.

rivers or viewing coral reefs becomes impossible due to the non-existence of swimmable rivers or reefs, such activities are excluded even from an informed desire approach. An 'idealized' desire theory surely cannot expect to accommodate what my desires *would have been* if my predecessors had left me a more robust set of options as to how to live my life. As Ott (2009) notes, "If nature will have been lost, a preference for unspoilt nature will be irrational—comparable to a today's preference to see a living dinosaur" (Ott 2009, 144). Even the most idealized desire theory does not have room for preferences that are impossible to realize. Furthermore, a desire theory which *did* include this kind of information would likely result in endorsing preferences that future people don't *have,* since, as noted, our preferences are shaped by what we have access to. In other words, it is likely that we would no longer regard such 'impossible' options as desirable anyway.

The preferentialist might further claim that if we *do* place SCNC as obligatory, future people might develop preferences that are ill-fitting to the world we leave them—they might, for example, not value pristine wilderness or the hoot of an owl. The solution to this worry is an explicit endorsement of substitutability: the market's tendency towards 'resource optimism' will ensure that, when a specific resource becomes depleted, its price will rise and it will become profitable to invest in a manmade substitute or create technology that can utilize a different resource for the same purpose (Neumayer 2002). If future people *do* end up with a preference for SCNC, its value too will increase sufficiently to ensure its protection. We see, then, that the preferentialist's faith in resource

optimism, combined with uncertainty regarding the preferences of future people results in a default position of substitutability.

Preferentialism thus leaves no room for a conviction that the success of intergenerational justice crucially depends on a world which contains SCNC—that part of our obligation is to leave the things that *we* have come to prefer. The objects of preference satisfaction are not determined—we *might* be able to say that future people will value some 'objective' components of wellbeing like freedom, enjoyment, or excelling at one's goals, but under this model we can't say anything about the physical world required to realize such values. An account of what it means for future people to have their preferences satisfied cannot be naturalistic, supervene on the existence of certain kinds of environments or means of wellbeing realization. We can certainly *try* to save specific natural or cultural features, but the preferentialist does not require them in their intergenerational litmus test.[38]

To put it another way, the intergenerational preferentialist has built success into her own model.[39] There is no room for one to critique the objects of our preference—given a choice between two options, we can always elicit a preference. This is a problem for desire theories generally, but it becomes far more poignant in the intergenerational case: if all that's is required for intergenerational justice is that future people obtain their desires, yet we are the determiners of the set of such desires available, we can endorse *any* potential set. When Solow (1993), similarly, claims "What matters is

[38]Neumayer (2007) offers a comprehensive treatment of how the preference satisfaction model, implicit in cost-benefit analysis environmental reports such as the Stern report, cannot adequately speak to non-substitutable natural capital.
[39]Norton (2005) puts forth a similar analysis and critique of Solow.

not the particular form that the replacement takes, but only its capacity to produce the things that posterity will enjoy" (168), he misses is that our capacity is not only to produce *things,* but also to produce requisite desires for things. Under this logic *whatever* we produce will be desirable, or perhaps more accurately, we can produce whatever we want since 'preference' does not include an evaluation or attitude but merely a choice between two *presently-available* options (Bykvist 2009). SCNC need not be one of those options.

3.2 Resources?

Trying to directly measure justice via preference satisfaction is difficult in present-day deliberations, but impossible in the case of future generations. This has led scholars of intergenerational justice to posit that the currency of our future-oriented obligations is the goods—the collection of social, human, and natural capital—that we leave for posterity. Rather than our obligations being concerned with bequeathing preference satisfaction *itself,* we are intergenerationally just if we provide for the future the *means* to realizing one's desires: some set of impersonal goods such as polluting capacity or capital. For example, although Rawls himself did not formulate it as such,[40] his successors have argued for the intergenerational distribution of primary goods: those commodities, such as basic rights and liberties, and human or natural capital, that any rational person "prefers more rather of than less of" (Rawls 1971, 123). A Dworkinian view

[40]Chapter IV will provide a fuller explanation of Rawl's theory of intergenerational justice.

similarly might posit a kind of 'intergenerational auction,' where the bundle of goods afforded to each generation must be such that no generation envies another (Dworkin 1981b, 285). Meanwhile, a developing field of 'ecological space,' utilizes concepts like 'carbon footprint' to argue intergenerational justice obtains when one generation is not allotted more carbon-burning capacity than another.

In highlighting goods that are of universal human value such as income, wealth, or capital, the general family of resource-based responses to the metric question have, like preferentialism, significant trouble speaking to the *specific,* decisively *personal* non-substitutability of SCNC. Generally, the composition of goods we bequeath is of little concern: losses in natural capital can be offset by increases in human capital—libraries, hospitals, and other infrastructure. Barry, for instance, asserts that intergenerational justice consists of equal ability to produce over time. Since the resources we leave will necessarily be different in composition than those that we received, when we use up a specific resource future generations "should be compensated in the sense that later generations should be left no worse off (in terms of productive capacity) than they would have been without the depletion" (Barry 1989, 519). Passing Barry's test of intergenerational justice does not require that SCNC continue to exist, for, as we've seen, the value of SCNC is not a function of 'productive capacity.' In fact, in Barry's scheme, the destruction of sites of sociocultural value might be *in service* of intergenerational justice: destroying sites of SCNC is just the kind of act that can

increase the productive capacity of at least a few future generations. Barry would find nothing wrong with this arrangement.

Even varieties of resourcism that do not assume total substitutability—and rather see human and natural capital as complimentary—often focus their attention on technologically non-substitutable BCNC, with little attention paid to value-laden places that are not necessary for bare bones human life. One such metric is that of 'ecological space,' which offers a promising modification of resourcism specifically designed to attend to the contemporary demands of intergenerational justice. Steve Vanderheiden unpacks the position, which provides a fruitful critique of Rawlsian and Dworkinian proposals. While an intergenerational metric of ecological space is sensitive, unlike a metric of Rawlsian or Dworkinian 'social primary goods,' to the intergenerational distribution of BCNC, it does not, as we shall see, articulate an obligation to protect spaces like SCNC which give rise to higher order human flourishing.

Vanderheiden (2009) begins by noting that the liberal commitment to autonomy can conceal the way in which our use of even equally allocated primary goods can infringe upon the freedoms of others. "By making instrumental economic goods the objects of egalitarian distribution," he says, "and decisions regarding how those goods are used the core element of individual autonomy, egalitarian justice theories like those of Rawls and Dworkin obscure the potentially wide variation in claims on ecological space that results from the way that people use their just shares of goods" (Vanderheiden 2009, 267).

Vanderheiden hints that this oversight has to do with the 'objects' of conventional justice theories. While Rawls and Dworkin are primarily concerned with *social* primary goods—the kind of thing produced by shared cooperation—they ignore the distribution of things that we did *not* produce, namely, natural resources. Natural resources, unlike social primary goods, have finite limits: a larger allocation of these kinds of goods for one party (or generation) entails a smaller allocation for another. These zero-sum resources are not, then, of the kind that can be unequally distributed but still result in benefits for the disadvantaged via a larger overall share, Rawls' classic *maximin* rule.

In light of this insight Vanderheiden suggests that the metric of intergenerational justice be some measure along the lines of an 'ecological footprint,' "the amount of the planet's surface area needed to sustain our demand for environmental goods and services at average levels of biological productivity" (260). Simply put, intergenerational justice means that no generation is afforded a greater share of this space. To illustrate, he notes that, given a global population of 6.7 billion and an average ecological footprint of 1.5 hectares, we are running at an ecological dept of .4 hectares/person given the finite 8.9 billion available hectares. To be in ecological dept of this kind is, in Vanderheiden's scheme, is to be intergenerationally unjust.

Even Vanderheiden's more intergenerationally specific proposal, sensitive to the finite nature of natural capital can, however, still endorse a world without SCNC.[41] Perhaps each generation is allocated an equivalent ability to emit carbon, an equal amount of ecological space,[42] but this bequest says nothing about *which* spaces. If intergenerational justice consists of equally allocating carbon burning capacity, we could consider ourselves acting justly towards the future while meanwhile allowing that token places like the Whanganui River are irreversibly damaged. Resourcism in its many stripes suffers from this inadequacy, summarized by Amartya Sen:

> The translation of resources into the ability to do things does vary substantially from person to person and from community to community, and to ignore that is to miss out on an important general dimension of moral concern (Sen 1997, 322).

As Sen highlights, a resourcist view cannot accommodate my concern with specific resources of the kind that are non-substitutable towards a particular way of life. An emphasis on resources does not explicitly command the preservation of the Whanganui River, the Everglades, the sacred homeland of the Choctaw; it does not speak to the importance of such places, and can endorse a world without them.

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[41]Vanderheiden may well not be proposing the ecological space is the *only* relevant currency of intergenerational justice, and his claims are not incompatible with also maintaining SCNC. Indeed, his work is oftentimes more concerned with intragenerational (international) allocation. The point, though, is that positing ecological space as the evaluative metric of intergenerational justice does do any work to justify that SCNC ought to be a required feature of what we leave the future.

[42]This proposal would, of course, need to take into account population increases, for an equal amount of ecological space distributed to different generations would result in profoundly different individual shares.

3.3 Capabilities?

Intergenerational capabilitarianism, motivated by the shortcomings of declaring impersonal goods the evaluative standard of justice, sets out to chronicle a more comprehensive set of intergenerational obligations. Recent scholarship extending the capabilities approach to intergenerational concerns gestures at the significance of SCNC, yet, as we shall see, this work generally eschews a commitment to non-substitutability, leaving, once again, places like the Whanganui River outside the bounds of justice.

Let's inspect some central features of the capabilities approach (CA), focusing on its paradigmatic development in the work of Amartya Sen and Martha Nussbaum, before examining what an intergenerational variant might look like. The CA is a response to the aforementioned worry that an equal distribution of resources does not, in fact, result in substantive equality: some people living in harsh environments, for instance, require a greater amount of resources to have access to the same 'realistic option of exercising the most valuable functions' (Nussbaum 2000, 46). Another classic illustration notes that a woman in a wheelchair and her able-bodied friend might have an equal set of assets—the same salary at the same job—but the former may still experience a lower quality of life due to her handicap: she cannot as efficiently convert her resources into what Sen calls 'doings and beings.' The problem with resourcism, then, is its focus on the means of a good human life, rather than the ends (Sen 2013).

To correct this failing, Sen first notes that good lives tend to consist of access to certain valued functionings. These functionings are the 'beings and doings' constitutive of a dignified human life: we value 'being nourished,' 'being part of a community' and we value 'doings' like 'celebrating my culture,' or 'voting.' Realistic access to these types of activities is the kind of thing that makes life go well. Note that resources are often necessary for these functionings. Sen uses the example of a bicycle: while a bike might be useful for 'being mobile,' it's usefulness towards that end depends on the person trying to use it: a bike does not universally secure functional transportation if the owner doesn't know how to use it or has physical or environmental constraints (Sen 1992, 161).

The normatively important comparative standard of justice, then, is an individual's relative bundle of capabilities. Capabilities are defined as authentic access to valuable 'functionings,' the real freedom to achieve valuable beings and doings. While we may, at any given time, exercise a specific, narrow set of functionings that undergird our wellbeing, Sen places normative importance on the set of realistic capabilities *available* to an individual—regardless of which functionings one participates in, the metric of concern is those functionings which one *could* engage in, a kind of "well-being freedom" (Sen 1992, 40). There is a moral difference, then, between an individual who has realistic access to riding a bike to work and an individual who does not—even if neither person is interested in making use of this option. Scholars of the CA flesh out the content of these 'valued

functionings,' differently,[43] but all assert that true equality consists of an equal distribution of the *capability* to *achieve* such 'beings and doings.'

Such capabilities, in general, require the conversion of resources into valued functionings, and as such the CA specifies a number of 'conversion factors' that influence an individual's ability to make use of the resources at her disposal (Sen 1992, 19).[44] These conversion factors tend to be divided into three types: personal, social, and environmental (Robeyns 2005, 90). Personal factors are unique to individuals: characteristics such as intelligence, sex, weight, and the like can profoundly affect one's ability to transform resources into functionings. Social conversion factors are those of the community in which one lives: the sociopolitical context which—through codified policies and social norms—defines how effectively resources translate into beings and doings. Finally, and perhaps most importantly for my purposes, are environmental conversion factors. The physical space one occupies—both the built and natural environment—has significant influence on the usefulness of resources; differences in climate, proneness to natural disasters, pollution, and access to water are all mitigating factors (Schlosberg 2012, 454).

Let's now examine what an intergenerational version of the capabilities approach might entail, and return to my central question of whether intergenerational capabilitarianism features SCNC as non-substitutable. If capabilities are the pertinent evaluative currency, intergenerational

[43]Nussbaum (2013), for instance, has a list of ten basic capabilities such as life, bodily health, and bodily integrity, whereas Sen does not endorse a particular set.
[44]See also Sen (1992), pages 26–30, 37–38.

justice obtains if all people, regardless of birthdate, enjoy roughly similar[45] sets of capabilities to achieve valued functionings. Whether places like the Whanganui River are non-substitutable towards achieving these valued functionings, then, turns on what exactly, we consider 'valued functionings' to be, and whether we could achieve those same functionings without the presence of SCNC. In other words, does a decline in the SCNC available to a specific generation necessarily constitute a decline in their capabilities? If we can answer in the affirmative, the CA might do the work of including SCNC within our intergenerational obligations.

Despite this potential, substitutability is explicitly endorsed by Sen, who echoes the language of Solow:

> Preserving productive capacity intact is not, however, an obligation to leave the world as we found it in every detail. What needs to be conserved are the opportunities of future generations to lead worthwhile lives. The fact of substitutability (in both production and consumptions) implies that what we are obligated to leave behind is a generalized capacity to create well-being, not any particular thing or resource (Anand and Sen 2000, 2035).

Our moral obligation here is general, unconcerned with the specific task of designating what we ought to save. In the same article, Sen endorses the economic approach developed by Hicks and Hartwick as an indicator of whether we've fulfilled our duties towards the future: if we invest the rents (capital left over after production is paid for) from resource extraction or environmental degradation into other forms of capital (from planting trees to building schools and advancing

[45]Nussbaum's theory is sufficientarian: every individual must be above the particular threshold of capabilities required to live a dignified life. Sen, on the other hand, holds that justice consists of each individual holding an *equal* capability set.

technology), we allow "future generations to sustain indefinitely the income, or capacity of consume, of the present generation" (2036).

If we take Sen's commitments here to the view endorsed by his capabilities approach, SCNC is clearly not an obligatory component of intergenerational justice. It does seem, though, that Sen's more recent work diverges from assuming substitutability. Indeed, Sen, who never systematically considers intergenerational justice, does propose that we ought to preserve "the substantive freedoms and capabilities of people today without compromising the capabilities of future generations to have similar – or more – freedom" (Sen 2004, 2). As Sen (2004) comes to note, a commitment to such freedoms requires a view of intergenerational obligation that is more substantial than a non-declining stock of capital, but he does not go so far as to describe what kind of physical world is required to secure the capabilities of future people.

Additional commentators such as Breena Holland (2008), Krushil Watene (2013), and Edward Page (2007) have experimented with bolstering the capabilities approach such that it more adequately speaks to intergenerational concerns. Page, for instance, offers two suggestions for a charitable reconstruction. First, in light of humanity's increasing control over the status of the natural world, we might *add* a capability: Page suggests 'ecological functioning,' the "capability to experience life in an environment devoid of dangerous environmental impacts such as those associated with climate change. Here, we view a safe and hospitable environment as a vital ingredient of a decent life rather than a facilitator of other functionings" (464). As characterized by

Page, however, this additional capability does not get us quite as far as considering SCNC as an object of justice; he seems most concerned with 'dangerous' environmental impacts of the kind associated with BCNC.

Second, we might augment existing capabilities, noting how they depend on a functioning environment or certain ecological goods. For instance, Page suggests that environmental degradation could destabilize existing capabilities such as health and bodily integrity, functionings that "will be threatened even if the share of primary goods and ecological space available to future generations is at least as generous as that enjoyed by the present generation" (464). Furthermore, justice involves "recognizing the claims of the disadvantaged even if their welfare is as high as others. On this view, we should value a hospitable environment because it is an integral feature of a life of decent quality and not because it facilitates desire satisfaction" (465). Page's suggestions here does seem to get us part way towards non-substitutability by noting that the CA can avoid the 'adaptive desires' problem exhibited by preferentialists and the problem of translating resources into wellbeing. Page gestures at non-substitutability here—there are some capabilities which will be undermined even *if* future people have an equal allocation of ecological space or equal desire satisfaction. In this way, the capabilities approach has the conceptual resources to suggest that an injustice has occurred even if futurity experiences similar levels of welfare or resources by adapting to an environmentally degraded world.

However, the place of SCNC within the capabilities of futurity is not yet clear. Is the Whanganui River the type of thing that—if irreversibly damaged—will undermine the identifiable capabilities, the 'decent life' of future people? Even these intergenerationally sensitive versions of the CA fall short of any real injunction to preserve SCNC due to the ambiguity of whether the relative evaluative currency is functionings that 'they' (future people) have reason to value, or functionings that *we* have reasons to value. The former, paralyzed by our uncertainty regarding what such people actually *will* value, might endorse the preservation of only those functionings that we can reasonably predict will be of value to the future: being nourished, being hydrated, being safe. Under this metric, our obligations would extend no further than BCNC. Furthermore, if intergenerational equity requires that future people have a roughly equal set of options to achieve functionings that are *valued to them,* it is subject to the same 'adaptive desires' problem as preferentialism: as SCNC is degraded and destroyed, interaction with such spaces becomes less like the kind of thing one has reason to value—placing SCNC well outside the evaluative space of justice.

On the other hand, if we are concerned with maintaining a set of capabilities that include among the menu of functionings those capabilities that *current* humans have reason to value, SCNC might be implicated as non-substitutable. In this instance intergenerational justice would consist of future people having realistic access to the beings and doings that we value *now,* alongside additional capabilities that might arise in the future. As far as I am aware, this distinction, which could articulate reasons for the non-substitutability of SCNC, has not been systematically discussed within the

capabilities literature, although Krushil Watene does note that such a claim would be rife with conflict. Protecting those future capabilities might come with a reduction of current people's set of available functionings, and contemporary accounts of the capabilities approach provides little guidance as to how we might adjudicate between current and future capabilities (Watene 2013, 34).

As it stands, without conceptual reinforcement, capabilitarianism does not speak robustly to the obligation to preserve token ecological spaces. It does, however, come the closest to providing a justification for an obligation to preserve SCNC, and as we shall see in Chapter IV, I draw on some of the insights of the capabilities approach in my defense of SCNC within intergenerational justice.

Thus far, then, I've shown that the three most common answers to the intergenerational 'equality of what' question encounter significant difficulty accounting for the non-fungibility of SCNC. Extending traditional 'metrics' of intragenerational justice does not provide specific guidance as to what we owe to the future: unqualified, each of the three theories I examined all allow for the slow degradation of places that *we* have reason to value. My search within existing literature for a cogent and conclusive justification for the intuition that SCNC ought to persist has come up empty handed.

3.4 A New Approach?

3.4.1 Distinctions between Inter and Intragenerational Justice

The failure of this search is not fatal to the project of providing convincing reasons that we are obliged to preserve SCNC; perhaps the methodology of intergenerational justice has failed to capture this obligation because it neglects morally relevant characteristics of our relationship with future people. Indeed, since Barry's *Sustainability and Intergenerational Justice* (1999), philosophers have extended theories of spatial distribution to the temporal distribution at the heart of intergenerational justice.[46] We've seen, for instance that preference satisfaction, resources, and capabilities—all popular currencies of intragenerational justice—have been grafted on to intergenerational concerns. There are good reasons for this: as Barry notes, we have developed sophisticated theories and apparati for examining relationships between living individuals, and are accustomed to thinking along these lines. Better, to Barry, not to "start from scratch" (43).

However, there are a number of perennial differences between contemporary and intergenerational relations that might warrant reexamination of this methodology. Furthermore, our increasing capacity to produce irreversible environmental change means that there might be *emergent* circumstances of intergenerational justice: fair principles might look very different now than they did a hundred years ago. It is worthwhile to examine these circumstances; perhaps existing

[46] For instance Page (2007) and Vrousalis (2016).

metrics do not include SCNC because they are not designed to adequately consider these distinct features of justice between generations.

First, there are salient differences between our relationships with contemporaries and our relationships with future people. Most generally, as highlighted above by the Skeptic, we must note that there is no cooperation between those of non-overlapping generations, and, relatedly, current people will always wield the exclusive power to set back the interests of future people (Meyer 2016). Power relations between contemporaries can shift over time: one's ability to set back the interests of others shifts with the circumstances. In contrast, the current generation holds exclusive, unidirectional influence over future generations, to the point where our actions determine the identity and number of those who will exist in the future. Future people, on the other hand, have no agency to alter the present day situation. More specifically to my project, though, we find that the relationship between SCNC and justice is manifested differently in the intergenerational case.

Distributive Ability

Between intra and intergenerational justice exists a crucial difference in our ability to distribute SCNC. We don't physically allocate or apportion SCNC among contemporaries—objects like the Whanganui River or the Grand Canyon are locked in place. Such places are not *intragenerational* primary goods. An injustice has perhaps occurred if one group has differential

access to such public resources,[47] but we are not concerned with the goods themselves as they, at present, exist immovable. The best we can offer is to distribute the access to such things: the means to travel to them and the freedom to engage with them.

In considerations of intergenerational justice, however, objects like SCNC are implicated in a different sense. It *does* seem like we can *temporally* distribute SCNC. We might say, for instance, that if future people no longer have public lands or UNESCO sites[48] available to them, that there has been an unfair distribution of such places across time. Merely following the methodology of intragenerational justice—offering future people the *means* to access SCNC—is fruitless without some distribution of the token resources themselves. Actual physical spaces—while disqualified from a theory of spatial justice—are subject to temporal distribution. The possibility for an unjust temporal distribution of SCNC is exacerbated by our nascent ability to irreversibly damage and destroy such goods, a topic which I will turn to shortly.

Influence

A further relevant feature of our relationship with posterity, which will be familiar from a line of reasoning utilized by the Skeptic, is the fact that, to a greater degree than intragenerational justice, our present-day actions form the options and preferences of future people. We can do so in

[47]The field of environmental justice tackles the questions surrounding intragenerational distribution, noting extreme environmental inequities for minorities and those of lower socioeconomic status. See, for example

[48] Consider the potential ramifications of Donald Trump's 2017 disavowal of UNESCO.

two ways. First, we can entrench certain kinds of preferences in our children and communities: we teach people that it is *better* to play sports than play video games, we embed social norms like 'I desire to recycle,' and we educate children with the hopes that their preferences will mirror ours, that they will continue to value the institutions and practices that have served us well. This shaping effect is not unique to intergenerational justice: we can, of course, influence existing people to be unaware of their unjust conditions. Our impact, however, is intensified in the intergenerational case.

Second, we can influence the preferences of future people in the *options we give them to prefer*. If we do not leave them with the ability to swim in rivers, for instance, they will not develop a preference for that activity as their form of recreation. In fact, they might develop a distaste for rivers: they are dirty and polluted and often cause flood damage. Future people's preferences are, in this sense, defined by the set of options we leave them to value (Bykvist 2009). Certain environmental features and ways of life will not be among the set of options available to future people. In all likelihood, this will mean that they do not prefer them, or fight to procure them again: we do not add the impossible to our list of potential values or conceptions of the good. The adaptability of preferences, then, can be used both in support of the claim that SCNC ought to persist, and, as per the Skeptic, to bolster the contention that the resources we leave are fungible.[49] Regardless, it is unique feature of intergenerational justice that ought to shape and constrain what fairness towards futurity consists of.

[49]See Norton (2005), Chapter 8 for discussion.

3.4.2 Past Intergenerational Justice vs Current Intergenerational Justice

In addition to the differences between intra and intergenerational justice that arise as a result of the dynamics of time, there are distinctions between the circumstances of intergenerational justice *over time* that warrant scrutiny, emergent factors of our relationship with posterity that ought to be explicitly considered in our characterizations of intergenerational justice.

Time and Irreversibility

Recent science powerfully contends that our inchoate environmental influence risks us crossing a number of thresholds that engender irreversible damage to the earth's natural systems (Scheffer et al. 2001) (Stern 2007), and the ability to produce such change is an emergent feature of intergenerational justice. Climate change is, of course, the most potent example;[50] it is now scientific fact that we have anthropogenically manipulated our climate such that sea levels will likely rise to severely flood existing coastal cities and islands. Irreversible effects are additionally possible locally, however: replacing a public park with a mall, damming revered rivers, or uranium mining on public lands are instances of irrevocable modification. Such change is already occurring: a 2017 report in New Zealand from the Prime Minister's chief scientist suggests that many of New

[50]While, CC is not of focus in my discussions, it should be noted as a crucial factor limiting the scope of possible intergenerational justice models. While the worry persists that not explicitly addressing CC is a broad oversight—and that the preservation of SCNC is mere luxury—the urgency of climate change should not, I believe, mean that we ignore local and place-specific environmental questions of the kind that I address in this thesis.

Zealand's rivers have reached thresholds where previous high water quality levels may never be attainable again (Gudsell 2017). Our ability to irreversibly damage natural systems is *new*—an emergent circumstance of intergenerational justice.

Despite a tendency for policy makers to reference 'irreversible change,' you would be right to ask for a cogent definition of 'irreversibility.' Indeed, it does seem that, given enough time, most environmental damages are indeed reversible. The Whanganui River can be restored, and if humans were to stop emitting carbon today, the climate would *eventually* stabilize; in this sense nothing is irreversible. In contrast, you might note that *everything* is irreversible. The decision to spend vast sums of money on river restoration, for example, will, just like river damage, result in a set of circumstances that cannot be altered.

Cass Sunstein (2008) is thus correct in noting that there are competing conceptions of irreversibility at play in the environmental discourse; whether a particular act is "irreversible" depends on how it is characterized. Economists, for instance, see irreversibility in terms of sunk costs: if we wait too long to engage in environmental restoration efforts, the future costs may be significantly more expensive. In this sense, it is a loss of money that is irreversible, not the physical world itself: even non-renewable resources will likely regenerate along billion-year timescales. On the other hand, Sunstein notes that environmentalists deem environmental change as irreversible if it is *serious* (not one tree, but an entire forest), and deals with goods that might be deemed "qualitatively unique, without real substitutes" (Sunstein 2008, 16).

It is crucial, though, to separate the claim that something can be irreversibly damaged from the claim that something is irreplaceable or non-substitutable. We could cause irreversible damage to something that is replaceable; consider what seems like irreversible damage to BCNC: turning corn fields into low-income housing. To avoid smuggling my conclusion (SCNC is intergenerationally non-substitutable) into the claims I use to support it, when I propose that SCNC can be irreversibly damaged, such damage does not depend on its non-substitutability.

The kind of irreversibility I have in mind, then, references human time scales and permanence: SCNC can be irreversibly damaged because some of the effects of our actions seriously change such places and the functions[51] of such places in ways that cannot be reversed in the space of a human life. In this way, irreversibility is not about sunk costs or non-substitutability, but rather the fact that we can create substantively different environmental states of affairs that cannot practically and effectively be reversed within one generation. This is the case in terms of *repairs* but not *development* of SCNC: the Whanganui River might take generations to recover from pollution, but change in the other direction (dams, diversion), could be enacted in months or years.

Importantly, as noted by Ekins et al (2003), irreversibility is largely unique to *natural* capital:[52] "The destruction of manufactured capital is very rarely irreversible (this would only occur

[51]See Section 1.4.1. Again, I must allow that much change to natural spaces, while irreversible, may be benign whilst still contending that there are thresholds beyond which the functions of SCNC are impaired.

[52]Such irreversibility also seems to apply to many pieces of token cultural capital. In fact, much of my argument rings true for heritage conservation: the Mona Lisa, for example, can be irreversibly destroyed in a way that other human capital such as schools, libraries, and roads cannot.

if the human capital, or knowledge, that created the manufactured capital had also been lost), whereas irreversibility, with such effects as species extinction, climate change or even the combustion of fossil fuels, is common in the consumption of natural capital" (Ekins 2003). Consider, for instance, a horrific fire that burns a local library: has anything been irreversibly damaged? Today, it is likely that the library would be rebuilt within a matter of years, and the information contained in its many books would have been stored elsewhere—we often explicitly engage in efforts to prevent the loss of human knowledge through digitization of texts and online repositories. The damages to the library are reversible within a single human life. Natural capital, on the other hand, cannot be duplicated and stored in a digital warehouse in case the first copy is burned.

Furthermore, SCNC can also be irreversibly damaged in a manner highlighted by the Skeptic. As SCNC becomes physically degraded or destroyed, the centrality and meaning of that place for the communities built around it can become permanently damaged or modified. SCNC might still feature prominently in the physical space of the community, but the way in which individuals interact with the resource will be irreversibly altered. In other words, it need not be the case that the Whanganui River no longer *exists* for us to deem it irreversibly changed: it could lose its sociocultural functionality via severe pollution or diversion (Kirsch and Kirsch 2001) (Adger et al. 2012).

Agency

A second nascent feature of our connection with posterity is the expansion of our agency to *avert* the aforementioned environmental degradation. 2017 affords us the technology and knowledge to, in a way unlike our predecessors, prevent thresholds from being crossed: we have, at this point, undisputable science and environmental management practices detailing how best to preserve resources, as well as sophisticated systems to project the effects of our actions. Unpacking these recommendations is not a concern of this project; it should suffice to note that, concomitantly with the expansion of our potential to irreversibly alter future conditions comes the development of our agency to prevent such damage.

'Progress' and Intergenerational Justice

These points highlight that, at least for developed countries, somewhere over the last 50-75 years, the circumstances of intergenerational justice have changed. For most of human history, an altruistic concern for one's children was sufficient for intergenerational justice to obtain; in fact, it looks like up until recently our environmental modifications tended to make things *better* for futurity. As humans as early as 10,000 BC moved from a hunter-gatherer lifestyle to agricultural communities, they impacted the environment in a way which markedly improved the lives of future people on most metrics. In a more recent example, it seems that we would not want to characterize the environmental impacts of Eisenhower's highway system or more efficient water distribution and

as intergenerationally unjust: this infrastructure facilitated mass transportation, an increase in the availability of clean water and a decline in disease. These massive, intergenerational projects were motivated by both self-interested and future-oriented concerns, driven by natural altruism for the future and an eye towards progress. And they worked: much of our environmental modification throughout the course of history improved future condition. What humans 100 years ago wanted for themselves (better water infrastructure) was tightly linked with the interests of future people; regard for improving the lives of one's self and children was enough to secure an intergenerationally just state of affairs.

There is an inflection point—probably around the mid to late 1900's, however, where it seems a natural concern for one's progeny and a commitment to 'progress' ceased to be in service of justice between generations. As many have pointed out, human progress and growth are physically constrained by natural limits (McGinnis et al. 1973). Consider, for instance, the recent proposal to open the Antarctic Wildlife refuge for continued oil drilling: this might, of course, provide short-term economic resilience to the people of Alaska, whose government allots (shrinking) oil dividends to citizens from the 'Alaska Permanent Fund.' This development, framed in terms of intergenerational equity in the form of economic provisions for future generations of Alaskans, may undermine other metrics of intergenerational unfairness such access to unique and distinct natural spaces or, for native Alaskans, the ability to participate in a specific way of life.

The point, then, is this: we have always had a concern for the future, a regard for posterity that is difficult to conceptually separate from self-interest; we are personally vested in envisioning the success of our children. Acting in line with this type of orientation—with regard to both SCNC and other intergenerational concerns—was, for most of human history, was enough to fulfil our intergenerational obligations. Now, however, with our longer scale temporal influence, the circumstances of intergenerational justice have transformed. Environmental damage in the name of human progress, motivated by a concern for our children and grandchildren, might result in a profoundly unfair situation: improvements in the lives of our children may not be in service of long term fairness between generations.

Here then, we have a response to the Skeptic's complaint that we ought not blame ourselves for the kind of actions we've historically endorsed, for past people did not stand in the same relation to us as we stand to people in the future. Acting in an intergenerationally just fashion, for past people, fell naturally from benevolent concerns for their progeny. Now, however, the conditions of intergenerational justice have transformed: we can produce irreversible environmental change on long-term time scales, and we have enough scientific information to predict the effects of these kinds of actions. A benevolent concern for SCNC is not enough, for instance, to ensure it continues to exist. Each generation could engage in justifiable (to their children) conversion of natural to human capital at a rate which is unsustainable in the long term, engendering long-term intergenerational inequality. In other words, while two neighboring generations might share roughly similar

conditions, a wide-angle view will reveal a wide disparity. In light of these conditions, a critical examine of the metric of intergenerational justice is in order.

These emergent circumstances of intergenerational justice demand an answer to the metric question that does not simply extend the currencies of *intra*generational justice. It is to this task I turn next. Before moving to Chapter IV, however, let's review where we've been thus far. In my introduction, I introduced a common intuition: we are obligated to preserve specific *physical things* for future generations, objects ineligible for substitution or compensation. In Chapter I, I unpacked this concept of substitutability, which is featured prominently in the literature on sustainability. In thinking about what aspects of the natural world we are obligated to save, we can distinguish between BCNC and SCNC, noting that SCNC is manifested in token natural spaces which are more than technologically non-substitutable. In Chapter II, I outlined the claims of my opponent, who might maintain the impossibility of intergenerational justice generally or be more specifically skeptical that SCNC is the kind of thing we have a duty to protect. In Chapter III, I examined contemporary accounts of intergenerational justice in an attempt to find justification for the place of SCNC. I came up short; the resources of current currencies of intergenerational justice pay little mind to places like the Whanganui River. I suggested a few features of intergenerational justice — both persistent and emergent—that demand we reconsider whether extending metrics of justice between contemporaries is an appropriate methodology. Perhaps, given careful reflection on these circumstances, we would include SCNC within the evaluative space of intergenerational justice.

I'd like, them, to offer a direct defense of the place on non-substitutability in our metric of intergenerational equity. In order to maintain that SCNC is a non-substitutable component of a just endowment, I must defend the claim that there is, in fact, something manifestly unfair about irreversibly denying future people access to such goods. Due to the constructed nature of the non-substitutability of SCNC discussed in Part I, we cannot rely on *current* characterizations of human well-being—in which SCNC is often a necessary feature—to argue *future* people are owed such goods: those future citizens might easily adapt to a world void of the places we value now. Are there any further reasons for mandating SCNC as an object of intergenerational justice that are immune to the worries of the Skeptic? In the following chapter, I employ the work of John Rawls to argue in the affirmative.

CHAPTER IV
DEFENDING SCNC AS NON-SUBSTITUTABLE

In Chapter III, I searched for a characterization of intergenerational justice that could adequately protect places like the Whanganui River. Current currencies of what we owe the future—preference satisfaction, resources, or capabilities—do not, on their own terms, demand the preservation of SCNC. There are, however, additional reasons that such value-laden spaces ought to persist. I will survey three prevailing approaches, which justify natural preservation by noting that nature is intrinsically valuable, transformative, or a necessary component of a good life. Can any of these natural values account for the intergenerational non-substitutability of SCNC in a way that can respond to the Skeptic's more stubborn claims? In this chapter I will first claim that, while such arguments submit compelling explanations as to why the Whanganui River might be an object of moral concern, they are not the kind of reasons that secure these valuable natural spaces as a component of *justice* particularly. I suggest, then, a fourth approach. Using Rawlsian tools in an effort to respond to the Skeptic's remaining worries, I argue—without relying on the three previously mentioned justifications—that SCNC is indeed a non-substitutable feature of intergenerational justice. In brief summary, the persistence of SCNC is a necessary condition upon leaving a robust set of options—including the opportunity to participate in projects of

intergenerational significance—for future people, and is furthermore a principle which accords with a commitment to intergenerational neutrality.

4.1 The Intrinsic Value Argument

A standard argument for environmental preservation, featured heavily in much of the environmental ethics literature, makes appeals to nature's intrinsic value. I examine a few varieties of intrinsic value arguments below, focusing on positions that apply intrinsic value to non-sentient aspects of the environment, since indeed it is the persistence of such spaces that is my central concern. In inspecting these claims it becomes clear that they do not provide convincing reasons that intergenerational justice requires reference to SCNC.

Generally, defenders of environmental intrinsic value argue nature is valuable above and beyond its usefulness (instrumental value) for human beings. One variety of intrinsic value views, for instance, situates moral considerability in individual aspects of nature. Paul Taylor (1981) offers a 'life centric' account: regardless of consciousness or the ability to feel pain, Taylor argues that aspects of the natural world acquire value insofar as they are as alive and have ends of their own. Appealing to the common propensity to value and fight for life, Taylor situates individual living things as the ultimate center of moral concern: even if a tree or a bug cannot think or feel, Taylor suggests they are valuable since they have identifiable goals or *telos*. If having such a *telos* is the

requirement for moral considerability, nature qualifies as valuable above and beyond its use in fulfilling human ends.

In another account, Holmes Rolston (1998) offers a further departure from anthropocentrism by rejecting an *anthropogenic* system and arguing that value exists entirely independent of conscious human valuers. Rolston contends that the moral considerability of nature is a mind-independent natural fact resulting from what is evolutionarily 'good' or 'bad' for organisms, regardless of whether such organisms realize it or not. Rejecting that of humans are the ultimate source of value, Rolston proposes a kind of naturalism in which evolution and natural selection are the basis for observer-independent natural value, citing a number of organisms or life-sustaining characteristics which he feels generate value in themselves. Dragonflies, for example, have "highly engineered wings" which actually change shape with airflow, despite a lack of muscles. Regardless of the presence of a valuer, it seems that organisms, specific *to their particular kind,* have characteristics which promote their individual good, and it is in this way that nature's human-independent value is introduced into the world (Rolston 2016, 77).

An alternate strain of thought rejects the idea that value exists in individual entities and instead proposes a holistic ethic in which collectives, species, or ecosystems are the locus of moral concern. The face of this holism is Aldo Leopold, whose seminal 'Land Ethic' roots value in the community or land as a whole. His position is summarized by the oft-quoted "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" (Leopold 1949, 249). While Leopold's ethic is largely an emotional, rhetorical appeal to why we should see ourselves as members of a larger ecosystem, J. Baird Callicott (1991) proposes that there are indeed strong philosophical foundations, rooted in Smithian 'moral sentiments,' from which to argue for a holistic ethic, and claims that we must conceive of ourselves as community members rather than conquerors. This 'organic whole' model does not mean than individuals are not valuable, but merely suggests that their value is conceived of alongside the whole ecosystem, thus opening up space for nature's non-instrumental value alongside its usefulness.

The fundamental idea throughout these arguments—that the natural world is an end in itself—does not fit neatly into my discussion of what, exactly, ought to be included in the basket of goods we leave for the future. First, the project of ascribing intrinsic value to nature largely rejects the anthropocentrism inherent in my discussion of justice between present and future human generations. Second, even if we successfully defend the claim that SCNC exhibits intrinsic value, such arguments do not do much explanatory work to show why future people's lack of access to such things constitutes an *injustice*. Defenders of intrinsic value are concerned not with the question of justice, but with the question of moral considerability. Given the general agreement that something with intrinsic value warrants moral concern, if the environment indeed has such value we are required treat it as such. This view might mandate that we are ethically obligated to preserve natural spaces, just as we are ethically obligated to preserve (i.e.: not kill) other archetypes of intrinsic value such as human beings. Arguments for intrinsic value, however, are not designed to

reckon with justice relations: even *if* SCNC has intrinsic value, it does not follow that it is an injustice if future people are denied it. All that has been secured is that SCNC—along with other aspects of nature—ought to be included within our sphere of moral concern.

This last point gives rise to an additional objection regarding utilizing intrinsic value as a justification for the preservation of places like the Whanganui River. Recall my central claim in Chapter I: the non-substitutability of some token natural spaces is a result of their construction as such by specific communities. Theories of intrinsic value are unable to speak to *token* places of importance—a blanket ascription of such value does not square with the fact that the Whanganui River is an example of SCNC whereas some other landscape might not be. Intrinsic value, in other words, offers no help as we deliberate about what aspects of the world ought to exist for the benefit of humans, for its primary goal is to argue that nature, in fact, does *not* exist for that purpose.

Finally, as the contentious nature of intrinsic value debates highlights, nature having such value is not of universal appeal.[53] A worldview strictly wedded to the non-anthropocentric value of the environment is rooted in a particularly 'green' conception of the good. As the Skeptic has highlighted, in the face of uncertainty regarding the preferences of future people, our reasons for incorporating SCNC within the bounds of justice ought to be available to all. Intrinsic value does not fulfil this criteria, and thus does not provide a response which will satisfy the Skeptic.

[53]See Norton (2005), Chapter 5.

4.2 The Transformative Value Argument

A separate but related strategy to argue for natural preservation is grounded in the transformative power of nature. This explanation differs from the intrinsic value approach in its explicit reference to nature's effect on humans, yet still lacks the resources to fully defend the claim that the destruction of SCNC is an intergenerational injustice. The general skeleton of the argument appeals to the way in which experiences in nature transform our worldly understanding: we ought to care about preserving nature because it has the power to change the way we think and feel. In the conclusion of his famous account of Katahdin, Maine's highest mountain, Thoreau is the archetypal spokesperson for the sublimity and transformative potential of nature: "Talk of mysteries!" he says. "Think of our life in nature,—daily to be shown matter, to come in contact with it,—rocks, trees, wind on our cheeks! The solid earth! The actual world! The common sense! Contact! Contact! Who are we? Where are we?" (Thoreau 1864). This kind of meaningful reflection brought on by the exposed Maine ridgelines speaks to some important natural values that ought to be maintained: put in simple syllogism, nature can transform us, these transformations are valuable, and valuable things ought to be preserved.

However, the argument from transformative power has trouble defending the significance of particular value-laden places within a theory of intergenerational justice. First, places that seem deemed transformative are of a different kind than the SCNC I wish to defend in this thesis.

Thoreau's experience on Katahdin owes part of its power to his encounter with a new place; his interaction with the mountain was far from everyday. In another example, environmental philosopher David Abram, on a trip to Bali, had a transformative moment with a mystical spider web as he weathered a storm from within a dim cave. "It was from them" he says,

> That I first learned of the intelligence that lurks in nonhuman nature, the ability that an alien form of sentience has to echo one's own, to instill a reverberation in oneself that temporarily shatters habitual ways of seeing and feeling, leaving one open to a world all alive, awake, and aware (Abram 1996, 17).

Garden variety spiders or the webs in the corners of closets, it seems, were not sufficient for this realization. Similarly, it is the everyday environment that I am interested in: the Whanganui River does not give rise to profound singular experiences, rather it is valuable because of long term, constant, and quotidian engagement. Using the transformative power of nature in the broad sense as grounds for the non-substitutability of SCNC defends such places on the basis of a kind of value that is not central to their worth.

Relatedly, an argument founded upon transformative power encounters a 'boundary problem' as noted by Sakar (2012, 57). It is not clear the features of a natural object that give rise to transformative experience: what, exactly, is shared between Katahdin's exposure and the simple lines of a spider's web? Even a blade of grass might elicit transformation (57). How are we to use the transformative power of nature to deliberate about where, exactly, to focus our environmental efforts? The problem of delineating specific non-substitutable spaces is still potent, and perhaps becomes even more so if we chose to use transformative power as a litmus test for non-

substitutability—at least spaces like the Whanganui River exhibit non-substitutability for a group or community who can reveal their interests. The spider's web, on the other hand, was perhaps transformative for a singular instance for Abrams alone.

Second, the transformative power of nature is, like intrinsic value, conceptually divorced from the issue of justice. It is not clear, exactly, what the relationship is between this kind of natural value and justice between *contemporaries,* let alone the temporal dimension. We don't talk about transformative experiences—or access to them—as being the kind of thing subject to distribution; in fact, part of the importance of these moments lies in their unpredictability: Thoreau did not climb the Knife's edge in explicit search of the sublime. While I am in no doubt as to the metamorphic potential of exposed ridges, grounding a mandatory requirement to preserve SCNC with an argument that future people ought to have access to the transformative power of nature does not provide justification for SCNC *specifically, n*or offer any comment as to why the transformative potential of nature cannot be substituted with other kinds of transformative experiences—education, for instance. Rather, it demands the preservation of some generalized environmental conditions which might, if future people are in the right place at the right time, facilitate transformation. Once again, we find that this kind of value in nature is not sufficient justification that SCNC a required component of intergenerational justice.

4.3 The Nature as Necessary Argument

A third explanation for environmental preservation posits that a connection to or appreciation of the natural world is a necessary or universal condition of a flourishing life. In the words of Barry (1999): "Perhaps people in the future might learn to find satisfaction in totally artificial landscapes, walking on the astroturf amid the plastic trees while the electronic birds sing overhead. But we cannot but believe that something horrible would have happened to human beings if they did not miss real grass, trees, and birds"(49). Brian Norton (2005) suggests a similar case:

> Suppose our generation systematically converts all old-growth forests and wilderness areas to productive uses such as farming and mining, producing wealth but making it impossible for future persons to experience unspoiled wilderness or other natural places...As long as they have adequate income to be able to afford such substitutes, the economists tell us, they will have been adequately compensated for the unavailability of such places in reality (327).

Both theorists—along with many others—employ an intuitive disgust at this future world as a premise in their arguments for non-substitutability.

Couched in these brief thought experiments is a normative claim about what makes a good life: in the eyes of Barry and Norton, nature is a necessary component. These commentators maintain that access to non-artificial old growth forests unequivocally makes life *better*. Support for this claim abounds: recent research suggests that time spent outdoors provides a wide array of social, physical, and cognitive benefits (Bowler et al. 2010). Even the presence of a small indoor plant in hospital settings may increase the wellbeing of the ill (Bringslimark, Patil, and Hartig 2008).

However, these facts and the associated claim that we require nature for wellbeing are not helpful in my response to the Skeptic. First, while contending that nature is necessary for wellbeing may well bolster an argument that SCNC is a required component of the basket of goods we are required to leave, this approach once again provides little help in justifying that *token* natural features of the world—the Whanganui River—ought to persist. Even if it is true that access an indiscriminate nature is necessary for robust wellbeing—a claim brought into question by the aforementioned 'Environmentalist's Paradox'—we have not satisfactorily argued that some specific SCNC is a non-substitutable component of what we owe the future. Access to some indiscriminate nature might be an inarguable source of human wellbeing, but a hydrangea plant might be just as good as a lavender plant, and the Whanganui River could be substituted with a serene pond.

Second, this argument, despite gesturing at the universal value of a life lived in harmony with the natural world, is, like the previous suggestions, particularly rooted in a specific conception of the good life. While BCNC might be non-substitutable insofar as it secures the basic conditions for human existence, SCNC, as we've seen, is required for *some* particular chosen pursuits, projects, and ways of living. As I search, in light of the Skeptic's paternalistic worries, for a justification of the importance of SCNC that is neutral among competing conceptions of the good and acknowledges the human potential for adaptation, I cannot argue on the grounds that SCNC is the kind of thing that unequivocally makes life go better—a primary good. I will not maintain, for instance, that the

city dweller would be better if they had a deeper sense of environmental place, and I hope that my argument will appeal to even the ardent urbanite, who, in no uncertain terms, "hates the outdoors."

Clearly, I am unsatisfied with relying on what might be termed "the environmentalist's intuition"—the view that the sacredness and specialness of nature is adequate grounds for making the preservation of things like SCNC a necessary component of our intergenerational obligation. The environmentalist's intuition is simply not strong enough to respond to the Skeptic, for it is possible that human wellbeing is not dependent on unspoiled wilderness, believable that we might even flourish in artificial landscapes or a Disney facsimile. In Rawlsian fashion, it seems that as we deliberate about what constitutes an intergenerational injustice, we must utilize reasons that are accessible to all citizens: the of addition of future people, whose preferences and values are largely shaped by our choices, makes a commitment to neutral justification especially salient.

Before moving on I should note, first, that turning to Rawls and the tradition of liberalism could prompt some serious objections, especially insofar as I am concerned with indigenous peoples whose worldview may not be adequately accommodated by the supposed neutrality and universal desirability of liberal principles. There are good reasons to suppose that liberal values play a role in forming the context in which both colonialism (Pieterse and Parekh 1995) and our current environmental crises (De-Shalit 2000) have played out. I am sensitive to these claims and hope that, in presenting reasons why self-interested parties might opt to preserve SCNC, I can accommodate some of the perspectives that may have previously been disempowered by the approach to justice

advocated by liberal theorists. As such, while I endorse the liberal commitment to neutrality I do not agree that current answers to the metric of intergenerational justice, delineated in Chapter III, present a neutral conception of what we ought to save.

4.4 A Rawlsian Defense of SCNC

At this point, it should be clear that I place neutrality among conceptions of the good as one crucial desiderata in our formulations of intergenerational justice. Of course, neutrality itself is a contested concept,[54] but a neutral vindication of the place of SCNC is immune to the worries of the Skeptic: it is not rooted in a current preference for SCNC, nor does it illegitimately import such desires onto future people. It is only fitting then, that I turn next to the hypothetical contract theory of John Rawls, whose archetypal work on justice is strongly committed to neutrality. There are, of course, alternative frameworks, even within the liberal tradition, from which to consider justice relations, but Rawls' tools of the veil of ignorance and original position provide the means to appraise our intergenerational duties free from generational bias or reliance on the 'environmentalist's intuition' My purpose here is not a critique of Rawls or a contribution to interpretations of his work, rather his hypothetical contractual situation provides a vehicle to assemble and arrange our intergenerational intuitions.[55] As such, I do not press Rawls, aside from

[54]See Arneson (2004) for a summary of competing views.
[55] Vanderheiden (2008) offers a thoughtful overview of the shortcomings of Rawls' treatment of intergenerational justice. See Chapter 5.

clarifying some equivocations in his view, on the terms and conditions of the OP—the *mechanism* for deriving principles of intergenerational justice.

Instead, I put pressure on the principles of fairness that Rawls suggests are mutually agreeable from behind the veil of ignorance. The skeleton of my argument, to anticipate, is as follows: I claim that, if the self-interested parties reasoning in the original position are privy to the emergent circumstances of intergenerational justice elucidated in the previous chapter, SCNC emerges as a necessary feature of true intergenerational equality—regardless of whether one endorses the intrinsic or transformative value of nature or the environmentalist's intuition. As our deliberators aim to decide upon a robust set of guiding intergenerational principles, they will discover that SCNC is a non-substitutable factor to be considered within the evaluative metric of intergenerational justice. If these arguments convince, we will have good reasons to incorporate SCNC as a non-substitutable component in the basket of goods to be intergenerationally distributed.

4.4.1 Rawls on Justice

First, a brief explanation of Rawls' view is in order. Put simply, Rawls seeks to understand how a society can function coherently given fundamental differences in comprehensive views and conceptions of the good. Each individual has competing goals, ideologies, ways of living, and

understandings of morality, (disagreeing, for instance, about the value of nature),[56] but we must nevertheless find a starting point that can provide a basis for a *shared* conception of justice; the diversity of human experience makes a political system based upon acceptance of one comprehensive view unfeasible (Rawls 1994, 36–57). In other words, it is not legitimate to derive policies from a contested conception of what is good or right, and "our exercise of political power is proper only when we sincerely believe that the reasons we would offer for our political actions—were we to state them as government officials—are sufficient, and we also reasonably think that other citizens might also reasonably accept those reasons" (Rawls 1997, 771). Like justice between contemporaries, intergenerational justice must too adhere to these standards. 'Other citizens,' then, includes those who will live in the future: we must be able to provide cogent reasons, acceptable by future generations, for our intergenerational principles.

We come then to Rawls' idea of 'public reason,' which posits that all laws (or, for my purposes, intergenerational principles) must also be justified by or at least consistent with public (secular) reasons, which do not require a specific worldview to endorse and understand. I take the previous three justifications for natural preservation to be features of a comprehensive conception of the good, and therefore disqualified from being the kind of reason that could determine obligations of justice. I see no reason why a commitment to public reason would not extend to

[56]Rawls is largely silent on environmental value, stating in *Political Liberalism* that "Many if not most political questions do not concern those fundamental matters, for example, much tax legislation and many laws regulating property; statutes protecting the environment and controlling pollution; establishing national parks and preserving wilderness areas and animal and plant species; and laying aside funds for museums and the arts" (214).

*inter*generational justice: a certain conception or mode of valuing the natural world cannot, then serve as a justification for the intergenerational importance of SCNC.

In order to arrive at a conception of justice which could theoretically be agreed upon by all members of society, Rawls, in *A Theory of Justice* (1971), employs a thought experiment where citizens who are forming a society must agree upon fair principles. To arrive at a final determination, citizens adopt the hypothetical perspective of the 'original position,' behind the 'veil of ignorance.' What this means is that deliberators, while they *are* characterized as free and equal, know nothing about who they are or what role they operate in society. They understand certain aspects of what it's like to be human, alongside biological, psychological, economic, and ecological facts about the world, but are 'veiled' from any of their own characteristics or even any restricted view of the human good. This is not supposed to be a description of an actual contractual situation, but rather a thought experiment designed to capture the proper perspective for deciding on shared principles of social cooperation. What Rawls argues here is that, given this lack of personal characteristics, we arrive at a fair conception of justice which every citizen can endorse regardless of their status in society, independent goals, or underlying religious/political doctrines.

There is much more to be said about Rawls, and I will not discuss here the principles for justice between contemporaries that Rawls derives from the original position. However, it is important to note what Rawls sees as the 'metric' of justice: that which hypothetical contractors

know is universally valuable to all people and subject to distribution. Rawls calls these things 'primary goods.' They are:

> (1) basic rights and liberties [...];
> (2) freedom of movement and free choice of occupation against a background of diverse opportunities;
> (3) powers and prerogatives of offices and positions of responsibility in the political and economic institutions of the basic structure;
> (4) income and wealth; and finally,
> (5) the social bases of self-respect: the recognition by social institutions that gives citizens a sense of self-worth and the confidence to carry out their plans (Rawls 1994, 181).

This list, to Rawls, details the set of things which all people—conceptions of the good aside— have interests in obtaining. Primary goods, which can be likened to the 'resourcist' view of metric from Section 3.2, are, to Rawls, the evaluative measure of equality: to gauge whether justice obtains, one can examine the distribution of these goods among people.

Important to remember, however, is that Rawls principally designates these goods as the currency of justice between contemporaries; they are not specifically designed for the special circumstances—both enduring and emerging—of intergenerational justice. Further, Rawls does not maintain that these goods should be distributed throughout time in the same way they are distributed among contemporaries. As we shall see, revisions are in order.

4.4.2 Rawls on Intergenerational Justice

Most of the previous discussion has highlighted features of Rawls' understanding of justice between contemporaries, but Rawls, who is not known for giving a particularly comprehensive

theory of intergenerational justice (Paden 1997a, 1), does employ a modified version of the OP to determine intergenerational principles as well. Rawls revised the terms of the OP over the course of his career, rejecting his initial 'general assembly' version—in which there is a representative from *each* generation—in favor of a 'present time of entry' condition (Rawls 1971, 254). Under the newer formulation, parties in the OP know that they are contemporaries, but they are blind to what generation they belong to.

In a further modification, Rawls (1971) originally stipulates a 'motivational assumption,' (255) where the hypothetical contractors are inspired to save for those in the following two generations, but he subsequently retracts this claim, preferring to retain the self-interested deliberators that are characteristic of his work (Rawls 1978). He settles, then upon the following condition:

> The correct principle is that which the members of any generation (and so all generations) would adopt as the one their generation is to follow and as the principle they would want preceding generations to have followed (and later generations to follow), no matter how far back (or forward) in time. (Rawls 1978, 58)

Thus, the parties in the OP do not know where they will fall on time's arrow, so one crucial requirement for a principle is that it does not disadvantage being born at a later or earlier date. Moving forward, I will call this the *intergenerational condition*.

Deliberators in the OP must, given these constraints, determine the *content* of the correct principles—one feature of which being the metric used to evaluate whether differing intergenerational conditions are just. The theory that emerges must not be so permissive that being

born later results in disadvantage, nor too conservative is that it over demanding, requiring unjustifiable sacrifice on the part of earlier generations to fund the trivial pursuits of their progeny. As emphasized, it must also be neutral with regard to comprehensive conceptions of the good: the deliberators do not know which generation they belong to, nor what preferences they will have when they arrive.

Rawls claims that self-interested contractors would adopt a broadly sufficientarian, two-stage approach to intergenerational justice, a 'just savings principle' that is mutually agreeable and fair with respect to the intergenerational condition. In the first 'accumulation' stage, a generation is required to *positively* save—that is, to set aside *more* for future generations than they received—in order to build the stock of resources necessary for just institutions. Once such institutions are developed we enter the 'steady-state' phase: the savings rate—in Rawls' scheme—can drop to zero. This does not mean that we have no obligations whatsoever with regard to the future; rather, we are simply not required to save anything *additional* to that which we received, that which is necessary to preserve the basic structure of society. We must continue to "preserve the gains of culture and civilization," "maintain intact those just institutions that have been established" and "put aside in each period of time a suitable amount of real capital accumulation,"(Rawls 1971, 285) but Rawls does not argue any specific BCNC or SCNC must necessarily be included. Notably, Rawls is concerned here with the goods we *produce* together, rather than our two varieties of CNC, which are goods that we've *saved* together.

Rawls explicitly endorses substitutability here: there are no *objects* of our intergenerational duties. Rather, once just institutions are established, "real saving (that is, net additions to real capital) may fall to zero; and existing stock only needs to be maintained, or *replaced*" (Rawls 2001, page 107, my emphasis). Under this scheme, we pass the litmus test of intergenerational justice so long as "existing stock," is substituted with some other form of capital—regardless of the sociocultural value of the places destroyed.

Importantly, then, Rawls does not even go so far as to be concerned with equal distribution of primary goods over time, but rather with acting such that future generations have sufficient resources to uphold liberal institutions.[57] The cornerstone of intergenerational justice, for Rawls, is preserving that which is required for fairness *between contemporaries*. An injustice occurs, in this arrangement, if one generation cannot maintain the basic structure of society due to the actions of its predecessors. Priority is on equality between those who will live at the same time: Rawls does not as explicitly speak to what fairness *between generations* would look like. He is correct in allowing that our just institutions look very different from generation to generation. When viewed side by side, however—from the impartial perspective of the OP—the generational manifestations of *intragenerationally just* institutions might still be an example of profound *intergenerational*

[57]Rawls does not think that the difference principle applies to intergenerational concerns (Paden 1997a).This seems fitting: there is no way to transfer resources to past generations, who have likely fared worse. Despite the impossibility of such backwards transfers, the possibility of an unjust forward-looking distribution of SCNC remains potent.

inequality. It looks like what the hypothetical contractors would endorse in the OP is far different from a mere principle of 'just savings.'

Clarifying the Intergenerational Original Position

As I move to a more thoroughgoing examination of what our hypothetical contractors would adopt in the OP, we must first clarify a few ambiguities present in Rawls's approach. First, Rawls is not always clear as to whether we can actually assume that the past has saved for us. In *A Theory of Justice,* Rawls posits that, once the VOI is dropped, "past generations have saved or they have not" (292). As many commentators have noted, this undermines the possibility that rational choosers would decide to save anything at all: in a kind of 'intergenerational prisoner's dilemma' (Gardiner et al. 2010, 96), deliberators would have no self-interested reasons to act favorably towards futurity. If their choice of policy in the original position has no effect on the conditions they inherit, it is not in their interest to adopt a principle of savings.

This worry can be sidestepped by highlighting the difference between ideal and non-ideal theory. As Jane English notes, Rawls' aforementioned commitment should be reneged in favor of an 'ideal theory' version:

> Rawls' account of just savings is part of an ideal theory, the choosers in the original position should assume that other generations save according to just principles, too. [Thus]...selecting a savings principle would not be contrary to their self-interest (English 1977, 98).

If determining the principles of intergenerational justice is conducted at the level of ideal theory—where deliberators can assume that previous generations will have complied with the rules that they pick—it becomes prudent to adopt a principle of savings such that no generation accrues disadvantage.[58]

The principles decided upon, then, should be universally applicable across generations, yet robust enough to accommodate the emergent circumstances of intergenerational justice. If one is born in 1800, for instance, certain intergenerational maxims decided upon in the intergenerational original position might not apply. Or, perhaps more fittingly, we fulfil such duties without active effort: as noted in Section 3.4.2 our natural care for our children might have previously been sufficient to secure the persistence of SCNC. Since hypothetical contractors have been aware of the conditions of our modern Anthropocene (but do not know whether they will end up living in it), they will be motivated to come to conclusions that offer guidance for action in our contemporary moment.

4.4.3 What would Deliberators Pick in the Intergenerational OP?

Rawls is clear that we should be willing to revise our principles of justice in light of new circumstances—what hypothetical contractors might endorse will shift in light of new information

[58] English's argument has been criticized by Roger Paden (1997b, 40); however his central complaint is that the transition to ideal theory undermines the purpose of the just savings: to create and maintain just institutions. Moving forward, though, I follow English, for my purpose in employing Rawls is not so much to examine our obligations to ensure and create just institutions, but rather to appraise our intuitions regarding what, exactly, we should specify as the appropriate 'metric' of intergenerational concern, and to enquire as to the place of SCNC within that metric.

(Daniels 2003, 2.2). As noted, I propose, then, that parties in the OP ought to be furnished with the emergent intergenerational information discussed in Section 3.4: it is reasonable to suggest that our hypothetical contractors might be made aware of their ability—and the ability of their potential predecessors—to irreversibly destroy natural capital, alongside the scientific knowledge of how best to preserve it. Furthermore, under the terms of the OP, deliberators will also be educated in basic human psychology, and thus aware of some of the insights of the Skeptic. They will know, for instance, that once they leave the OP, our exceptional ability to adapt to the environmental circumstances might result in the same self-reported levels of wellbeing as previous generations despite a decline in environmental conditions. They are also aware that a world without SCNC is compatible with the existence of just institutions that provide BCNC, but, if born at a late enough date, we will have the requisite knowledge to preserve value-laden natural capital. In the same vein, the hypothetical contractors will remember that SCNC can be *temporally* but not *spatially* distributed. Upon comparing generations decades apart, the intergenerational allocation of SCNC might—depending on the principles picked—come to light as patently unfair.

Let's more carefully consider, then, what parties in the OP could mutually agree upon as fair intergenerational conditions. Recall Rawls' formulation for the correct principle: We should pick rules that we would endorse under the assumption that previous generations would have followed the same rules. Under these constraints, our hypothetical contractors would come to three pivotal,

connected conclusions regarding SCNC that would mandate it as a non-substitutable feature in the metric of intergenerational justice.

Preservation of Options

The first insight would be to note that just savings is compatible with a severe imbalance in the number and quality of options available to those of different generations. Disinterested parties—unaware of whether SCNC will feature prominently in their lives—can no doubt recognize that such resources are necessary for a number of different freedoms, a number of place-specific realizations of the good life. Such is the case with my central example of the Whanganui River; for generations this waterway has been foundational in the flourishing lives of Whanganui Iwi and other New Zealanders. In their negotiations, our set of hypothetical contractors will realize that, if they are born in a later generation, the set of freedoms they have available to them, despite their access to adequate material base, could be paltry compared to the robust set afforded to prior generations: it is possible that swimming, fishing for eels, boating, as well as the opportunity to participate an intergenerational cultural and spiritual community will be threatened.

The unfairness of neglecting SCNC can be demonstrated simply: imagine, for instance, that we leave a very literal 'basket' of goods to each generation.[59] To pass intergenerational muster, we might require that the basket of goods brings about the same amount of welfare (preferentialism),

[59]This example is inspired by a similar discussion in Barry (1989).

weighs the same (resourcism), or provides a similar number of capabilities that are valued to the receiver (capabilitarianism). What, though, of the *content* of this endowment? We received a basket full of a diverse set of goods: apples, oranges, chips, and chocolate. What we pass on, under a principle which endorses substitution, need not retain such diversity; we would be licensed in leaving an equally weighted basket full of only different varieties of apples. Those on the receiving end of the apples may not be aware of the set of options denied from them (after all, they've never tasted chocolate), but from the OP this arrangement presents as unequivocally unfair—especially given our relative power to prevent such a decline in variety. Since the destruction or substitution of that SCNC not required for just institutions is sanctioned under any of the currencies of justice from Chapter III, people born far in the future can be born into a world void of the specific options presented by distinct physical conditions.

The preservation of options over time has often been noted, in varying forms, as a potential maxim of intergenerational justice. Edith Weiss Brown, for instance, says:

> First, each generation must conserve options. This means conserving the diversity of the natural and cultural resource base, so that each generation does not unduly restrict the options available to future generations in solving their problems and satisfying their own values (Weiss 1990, 22).

Amartya Sen in his later work likewise posits that we should be "concerned with preserving – and where possible expanding – the substantive freedoms of people today without compromising the ability of future generations to have similar, or more, freedoms" (Sen 2004, 1). Talbot Page (1982) makes a comparable claim:

> With some effort we can control the form of the heritage to be passed on to the next generation. It is beyond the control of the present generation to ensure that the next one will be happy or hard working. It is beyond our control to increase their welfare; we can only assure them of certain opportunities for happiness that we can foresee will be essential (32).

Brian Barry (1989), likewise contends that intergenerational justice consists of "some notion of equal opportunity across generations" (104).

What is not routinely illustrated, however, is the fact that SCNC plays a non-substitutable role in the maintenance of such options, and therefore, as the hypothetical contractors will realize, ought to be an explicit component of the metric of intergenerational justice. Andrew Dobson highlights this point, noting that:

> [Liberals] should be in favor of strong sustainability—and not because of any special 'commitment' to nature, but because a structured bequest package amounts to a wide range of options from which to choose good lives (Dobson 2003, 158).

In other words, anthropogenic irreversible natural change to SCNC constitutes a limitation on the freedom of future people: we deny their access to particular versions of the good life, particular *options* which were available to past generations.

If, for instance, the members of the Whanganui Iwi born a hundred years from now find themselves in a world in which their river is far too polluted to swim, void of eel weirs and dammed at the headwaters, their opportunity to participate in a particular way of life, one which, importantly, was valued by us, their ancestors, will have been irrevocably foreclosed to them. Recall one statement from the Whanganui River Report (1999), where Te Kuia Peeti says,

> To my sorrow my own children and mokopuna have not grown up in this environment, but what we had as children is no longer there. What we thought was unchangeable and immutable, the river, [has] undergone changes which we never dreamt of. (80).

These words demonstrate the philosophical point at hand: the latter generation's lack of the *option* to swim in the Whanganui River is a case of intergenerational injustice.

In another example, consider the case of the Inuit Circumpolar Conference, where a group petitioned to receive redress for climatic damages to their way of life:[60]

> The transition of their physical environment due to the individual and cumulative effects of climate change have undercut the Inuit's ability to enjoy the benefits of their traditional way of life and property, and have imperiled Inuit health, safety, subsistence harvest, travel (Watt-Cloutier et al. 2005).

The token resources required by the Inuit people and the Whanganui Iwi are a clear case of SCNC non-substitutability. It is not so much that their basic sustenance has been threatened, but their *unique* and particular ways of acquiring sustenance, a localized version of the good life, has been denied to them—and, crucially, to future individuals. No other river or hologram substitute will do, for—as I will expand upon in the following section—these distinct conceptions of the good depend on the continuity of these natural spaces and associated practices throughout time: a virtual Whanganui river would not provide the same cross generational linkage.

Crucially, from the birds-eye view of the hypothetical contractor, parties in the OP are immune to the worries of my SCNC Skeptic. Deliberators realize the potential for human adaptation,

[60]Heyward (2011) uses this example as well.

recognize that if they are born into a later generation they might be oblivious to what they're missing, organized their lives around substitute natural or human capital. From their removed perspective, however, the manifest unfairness that is sanctioned by any theory of intergenerational justice that neglects reference to token natural objects is clear. Without some specification of the special, specific SCNC that should persist, we endorse a profoundly unfair imbalance in the set opportunities available between generations.

If, then, SCNC is a necessary feature of specific formulations of the good life, then the directive to maintain 'opportunities' needs qualification: this set of options ought to include opportunities that are of *value to us now*. Barry (1989) is wrong to contend, then, that in the spirit of "respecting the creativity of future people," we should "provide future generations with the opportunity to live good lives according to their conception of what constitutes a good life" (104). If all that is required is that future people are provided freedom to live the kind of lives that *they* value, the current generation is sanctioned in limiting future people's freedoms as we pursue our own conceptions of the good. As we shall see below, preserving *currently* valuable options does not result in forcing a particular comprehensive conception upon future people; rather it is a principle in service of intergenerational neutrality.

To summarize this insight: SCNC underpins many current versions of the good life, and thus, if we are concerned with preserving options for future people, we ought to be concerned with SCNC. While the OP prohibits the knowledge of what particular conception of the good we will eventually

endorse among a given set, hypothetical contractors will agree that a decline in SCNC corresponds with a decline in the robustness—the substantive diversity—of that set. If those in the OP are given the knowledge that any generation can cause *irreversible* damage to many aspects of the natural world, they will choose to be more explicit in their designation of what to save, include specific reference to the SCNC that, even in the OP, they know is constitutive of many conceptions of the good. While it is of course imperative to maintain for future people access to food, water, and air, a weak theory of intergenerational justice could require such conditions while concurrently denying to future people a s*pecific* way of securing such goods as well as specific cultural, spiritual, and recreation practices—thus endorsing a diminished set of options for the future.

Our Skeptic, of course, will object that the opportunities provided by valued places can surely be substituted with the expansion of other options, alternate ways of life that will likely arise from technological advance. Why, you might wonder, is some interaction with SCNC necessary for adequate choice? My response to this objection—which to please the Skeptic must remain neutral and avoid the kinds of claims from the beginning of this chapter—is twofold: first, I would reiterate that the *number* of opportunities available not the only way of measuring the value of the set. As demonstrated by the basket example, there is clearly a difference between a heterogeneous cornucopia and a basket of apples. The second response, which should become more clear in the following section, falls from the temporal continuity of SCNC. What distinguishes SCNC from artificial nature substitutes is the way in which places have held meaning for human communities

over time: one can sit by the Whanganui River and imagine both predecessors and progeny having the same experience. The option to participate in a temporally extended project, to engage with a place of intergenerational value, cannot be substituted even with an exact replica or virtual reality experience, for such compensation will not exhibit the same long-term significance.

Future Oriented Projects in the OP

Let me next expand, then, on one feature of SCNC that further situates it as something self-interested parties in the OP would deem a non-substitutable building block of intergenerational justice. As noted by Janna Thompson (2009), Avner De Shalit (2005), and Eric Brandstedt (2016), part of the value of our projects—whatever generation we happen to be born into—is derived from their status as 'future oriented.' That is, we often imagine ourselves as participating in activities which will continue to be important after our deaths, or perhaps may never even be beneficial during our lives. Consider, for instance, the scientist engaging in long-term cancer research, or the elderly novelist penning his last book. If the scientist was told that, regardless of her efforts, cancer would be effectively cured immediately following her death, or if the novelist was informed that his publisher would drop his book and his masterpiece would never once be read, part of what makes these projects valuable would be lost.

Eric Brandstedt (2016) details a convincing version of this claim, positing that we ought to augment the list of Rawlsian primary goods with an additional good: "the sustainability of values."

Brandstedt suggests that a group of people treat one another unfairly by choosing not to care about other's long-term projects, "as doing so jeopardizes the preferences, commitments, projects and traditions whose value and meaningfulness are conditioned on a future continuation and maintenance of society" (282). This means that, as we come down upon principles of justice, one primary good is that the conditions for one's projects being valuable will always obtain.

Importantly, Brandstedt is careful to state that sustainability of values as a primary good is compatible with liberal neutrality, for it "summarizes reasons to preserve values underlying various practices and projects, but these are not necessarily reasons to preserve any particular culture or tradition that may instantiate them. Because of that the resultant theory cannot be said to be improperly conservative" (282). Brandstedt's argument, then, has the potential to provide neutral justification designating SCNC as non-substitutable. If Brandstedt is correct, we are obligated to preserve the conditions upon which the value of one's projects depends. If, then, we can secure that engagement with SCNC is the type of project in which the future-existence of such resources is necessary for the value of the project itself, than the preservation of SCNC is implicated in our theory of intergenerational justice.

Indeed, it does seem as if SCNC is the type of thing whose value in part depends on its persistence into the future. Returning to my central example, it is reasonable that part of the value of the Whanganui River comes from envisioning that it will persist: if such future-existence is not secured, the value of the river to current individuals is undermined. Part of the importance of these

spaces comes from their ability to connect generations; the meaning of natural spaces is linked to our ability to imagine our progeny enjoying it. Conceptions of the good that involve SCNC depend on it being the kind of thing that has been part of the good life of past people and will continue to be so for future people.

If SCNC is not specified as something that ought to exist, if it is not treated as non-substitutable with regard to future generations, we disrupt the ability of current people to value and engage with the river in the same way. Recall, for instance, the Whanganui Iwi member imagining his children enjoying the same experience of swimming in unpolluted waters. The parties in the OP thus have a further self-interested reason for mandating that SCNC be protected intergenerationally: there is a good chance that the *persistence* of such places will be of vital importance, give meaning to many projects that transcend the bounds of one lifetime. In other words, the fact that places of value will exist in the future is a condition upon their current value. In this way, we can respond to the Skeptic who considers the options presented by technological advances to be fair substitutions with the options presented by SCNC: non-existent technology does not provide the opportunity to participate in a temporally extended project.

It should be noted that this approach, while still offering justification for the mandatory place of SCNC in a just bequest, diverges from the methodology employed in the rest of this thesis. The obligation to preserve the value of future oriented projects—by ensuring that such projects do, indeed, continue into the future—is, as formulated by Brandstedt, a duty we owe *to each other*; it

need not rely on the stipulation that what we pick in the OP needs to be binding across all generations. Instead, the "sustainability of values" argument justifies the non-substitutability of SCNC within the framework of justice between contemporaries.[61]

However, it does seem that deliberators in the OP, constrained by the intergenerational condition, might also posit SCNC as something we owe, not just to our contemporaries, but to future people. If they agree, which seems likely, that SCNC is indeed an example of a 'future oriented project,' an object whose value depends on being able to project its existence into the future and imagine its existence in the past, then it looks like, once again, self-interested parties would opt to include it as both an intra and intergenerational obligation. No matter where one falls on time's arrow, they can be sure that part of the value of the projects which exist when they arrive will depend on the persistence of particular objects into the future, and the meaning placed on such projects in the past. This, in some senses, is a reiteration of the maxim to preserve options: without specifying and maintaining these temporally extended objects, we deny to future people the opportunity to participate in a distinct conception of the good that requires the presence of places with deep historical value. The long-term historical significance of SCNC makes it an option that is unique in kind, for the opportunities provided by technological progress cannot substitute for the option of engaging with places that have been of perennial intergenerational significance.

[61]If you, like many critics, consider Rawls' intergenerational condition to be ad hoc Mazor (2010), designed simply to 'solve' the intergenerational savings problem but not independently justifiable, this approach secures SCNC as a non-substitutable component of intergenerational justice without requiring reference to justice between non-contemporaries.

Intergenerational Neutrality

Finally, I must respond to the Skeptic's worry that the injunction to save SCNC imports a non-neutral conception of the good. My approach, you might say, forces a set of options upon future people that limits our potential to explore *new* options, or proceed with current ones of the kind that require environmental damage. We don't complain, for instance, that the option of participating in the good life of being a cowboy in the Western US no longer exists, for this option has been, for all intents and purposes, forgone in favor of infrastructure and technological advances, exciting new opportunities and capabilities. This worry, however, fails to note the difference between human and natural capital, and the way the latter, especially SCNC, can be irreversibly damaged on long-term timescales. In responding to this complaint, a commitment to neutrality comes to light as a third, final reason, available to our hypothetical contractors, that SCNC is a non-substitutable component of what we leave posterity.

Let me explain: Including SCNC as one essential element of intergenerational justice, upon reflection, actually promotes intergenerational neutrality, a central commitment of Rawls' characterization of justice. Or, perhaps more aptly, it inoculates against intergenerational *non*-neutrality. If once the VIO is dropped our denizens decide they would indeed rather return to the lifestyle of the American West, that horses and shoot em ups are a fundamental part what a good life consists of, this change could be enacted over the course of a lifetime. So long as the natural

capital remained—open prairies and grasslands—we could make this option possible by tearing down a few gas stations. In contrast, even if we could rally the political will to clean the Whanganui River to a swimmable standard, a recent New Zealand report suggests that this change would take over 50 years to occur, if it is possible at all (Office of the Prime Minister's Chief Science Advisor 2017).

Thus, while some might object that including SCNC within the bounds of intergenerational justice privileges a certain comprehensive conception which embraces the environmentalist's premise, in fact, it does the opposite. This is highlighted by Dobson (2003):

> Strong sustainability is, in other words, a way to maximise neutrality in respect of 'comprehensive doctrines'. The belief in total substitutability found in weak sustainability amounts to a foreclosing of opportunities: you can have any kind of good life you like as long as it is wholly and completely expressible in terms of 'gunk' (or whatever it is into which everything has been converted)(158).

By explicitly choosing, in some respect, the SCNC that persists, we act in accordance with a commitment to liberal autonomy and neutrality.[62] The friends of Solow and the Skeptic might continue to complain it is paternalistic to mandate that world of a certain natural character persists, that a neutral theory of intergenerational justice will avoid forcing current values onto future people, whose preferences are "none of our business" (Solow 1991, 182). The alternative, though, *not*

[62] Since the focus of this thesis is justice between generations, I do not comment on how an anti-paternalistic requirement to leave options open for future generations might be in tension with democratic decision-making and present-day paternalism. See Ellis (2016) for discussion.

picking what persists, threatens to leave for future people only those options for living the good life that are available after we live ours.

Put another way, regardless of whether we endorse substitutability or not, something physical world will persevere. Whether we include SCNC among our intergenerational obligations or not, we are making a normative choice regarding the world future people inherit: declining to posit SCNC as non-substitutable is a non-neutral decision of its own. If we are concerned with picking a currency of intergenerational justice that is universally acceptable—and I think we should be—the question becomes which option—substitutability or non-substitutability—services this goal. While both positions nudge future people towards valuing specific versions of the good life, adopting SCNC as one important feature of the metric of justice is, due to the irreversibility of environmental policy decisions, an intergenerational principle more neutral than the alternative.

Once again, irreversibility is crucial, for, as noted, while SCNC is not the kind of universally valuable primary good that can be distributed between contemporaries, it *can* be distributed between generations: our permanent destruction of valued spaces might result in a manifestly unfair intergenerational allocation. Since, in the words of Ellis (2016) "each win for the development side is permanent, while each win for the conservation side is temporary" (507), we find that sanctioning substitutability results in one long-term environmental outlook: irreversible change.

The permanence of environmentally damaging policies precludes future people from valuing the natural capital that will be destroyed, illegitimately prohibiting certain versions of the good life. Even Dworkin (1985), who in most of his works argues that conservation falls outside the limits of justice, is sympathetic: suppose, he says, that a liberal, in the face of what he also deems "irreversible" environmental destruction, fears that a certain way of life "will become unknown, so that the process is not neutral amongst competing ideas of the good life, but in fact destructive of the very possibility of some of these." If this is the case, he says, the liberal has "reasons for a program of conservation that are not only consistent with his constitutive morality, but sponsored by it" (202). Licensing that SCNC is intergenerationally substitutable, then, endorses an irreversible decline in these spaces that is decidedly non-neutral among competing competitions of the good. In contrast, a commitment to non-substitutability does not permanently foreclose versions of the good life which depend on the temporally extended existence of SCNC.

Conclusion

In closing, let's survey the structure and central claims of this thesis before noting the relevance of my argument for our approach to environmental management as well as areas for future work. First, in an extended introduction, I put forth a premise in narrative form: there are some places which are non-substitutable components of current conceptions of the good life. The Whanganui River in the North Island of New Zealand features as a central example of what I call Sociocultural Natural Capital—places that are valuable over and above their capacity to provide for basic human sustenance. While the non-fungibility of the Whanganui River to contemporary communities is unequivocal, the focus of this thesis is the significance of such places for futurity. My central question then, was this: is SCNC a non-substitutable component of intergenerational justice?

In Chapter I, I gave an introduction to intergenerational justice, noting three primary questions that any theory of future oriented obligations must answer. I subsequently focused in on the 'metric question,' which seeks to outline the evaluative currency of justice between generations. To understand what might be a feature of a fair bequest, I unpacked the concept of 'substitutability,' a term primarily utilized in the sustainability literature to mark the persistence of a specific physical feature of the world as obligatory. Scholarship on sustainability, while making increasing attempts to integrate sociocultural value into designations of Critical Natural Capital—those physical features of the world that must be preserved for sustainability to obtain—does not adequately recognize the

crucial distinction between the kind of substitutability exhibited by SCNC and that shown by natural capital necessary to preserve basic human sustenance—BCNC. If sustainability—and thus intergenerational justice—requires determining *what* exactly (if anything), is a non-substitutable ingredient in the selection of places we leave for the future, we need to consider both kinds of non-substitutability. Unfortunately, while it seems *prima facie* true that we ought to leave future generations with enough to fulfill basic needs, including SCNC as a mandatory component of what we leave succeeding generations encounters greater justificatory obstacles.

In Chapter II, then, I note a significant set of objections regarding the place of SCNC within intergenerational justice. First, one might be skeptical regarding the general possibility of standing in relations of justice with future people due to their non-existence and non-identity. I respond to these worries, clearing the way for my more specific claims. Second, the Skeptic may have doubts that SCNC is a non-substitutable component of a just bequest; the kind of substitutability SCNC exhibits complicates an assertion of its essential role. The 'SCNC Skeptic' has a number of salient concerns: she will contend that the preservation of SCNC is paternalistic given our uncertainty regarding future people's preferences, note that we don't blame our predecessors for the same environmental modification I condemn, and highlight the remarkable human ability to adapt to changing circumstances. I do not respond in depth to these concerns; rather, the remainder of my thesis serves as my reply.

In Chapter III, I hunt for a response to the Skeptic among existing theories of intergenerational justice: is SCNC implicated in contemporary accounts of what we owe the future? I conclude that it is not, although I note that capabilitarianism provides a promising start. Perhaps I come up empty handed, though, because current answers to the metric question are extensionist, grafting accepted currencies of justice between contemporaries on to intergenerational concerns. I subsequently outline features of our relationship with future people that demand reexamining this methodology. In the absence of an existing justification for SCNC, an independent response to the Skeptic is required—or else I must acquiesce that the commonly-held intuition that SCNC ought to persist might be false.

Thus, in my final chapter, employing the Rawlsian mechanism of the original position in an attempt to arrive at a neutral conception of what we ought to save, I present a defense of the claim that a full-bodied account of intergenerational justice includes reference to the spaces and places that are of non-substitutable value to current communities. After rejecting three potential arguments for natural preservation which cannot adequately respond to the Skeptic, I make an alternate argument. Acting justly towards future people requires preserving for them not only the freedoms afforded by intergenerationally just institutions, but a diverse list of options that includes—to the extent possible—that SCNC that is a necessary feature of many present-day lives. I put forth three related reasons to support this claim, which are agreeable regardless of your individual relationship to nature or conception of the good. First, the persistence of SCNC undergirds the provision of a

robust set of choices from which future people can choose. Second and relatedly, options involving SCNC—and not some artificial substitute—represent a unique, non-substitutable kind of option due to their long-term historical significance. Third, placing SCNC as a essential feature of intergenerational justice is, despite worries of intergenerational paternalism, in service of a neutral formulation of what we owe progeny.

In summary, then, this thesis has argued that even with boundless technological knowledge capable of replacing even the most complicated ecological services, there remains a section of CNC—SCNC—that is *still* a non-substitutable feature of what we owe the future. While it is a present-day injustice to deny individuals access to such goods, a Skeptic might consider their intergenerational preservation merely supererogatory, noting that future people may not share our regard for such places or—if we destroy or degrade them—find a new source of recreational, spiritual, and cultural value. In contrast, I argued that a lack of attention to SCNC is, in fact, a crucial error: value-laden natural spaces ought to be considered within the evaluative space of intergenerational justice. What we owe future people is not merely the freedom to formulate their good life from a set of whatever options we choose to leave for them. Instead, some consideration must be given to the content of those options: a just set will include versions of the good life as *we conceive it now*. To be truly intergenerationally fair, we are obligated to preserve more than BCNC. Instead, "future people should be able to share (at least certain aspects of) the particular way of life of currently living people" (Meyer 2016). Specifying and maintaining SCNC we've deemed non-

substitutable is one aspect of such a duty, to be visibly included within the bounds of intergenerational justice.

Future Directions and Climate Change

A full-bodied description of intergenerational justice, then, ought not implicitly endorse a world full of satisfied, rich, and capable humans who are, whether they are aware of it or not, victims of our choices. Instead, it should speak to what *ought* to exist. My thesis, then is an injunction for *localized* intergenerational justice: the existence of global environmental problems does not render local duties—the preservation of token places of value—outside the bounds of justice (Francis 2003).

I do not, however, engage in the project of determining *which* spaces. Clearly, we cannot secure that all SCNC persists, and we will be forced to make choices as to which spaces we consider most important. I have not spoken to how this process would best unfold, and how we ought to mitigate competing claims if, for instance, we must arbitrate between two spaces of SCNC or between SCNC and BCNC. I have not endorsed any hierarchical ranking of these kinds of CNC, nor suggested how we might translate such non-substitutable value into economic terms. I have conducted my analysis primarily within ideal theory: eschewing practical considerations, what, exactly, would a full-bodied account of intergenerational justice demand we preserve? Actualizing the resulting principles in our current political moment is an additional task.

What I hope to re-emphasize, however, is that whether we explicitly specify what ought to exist in the future—by, for instance, visibly including SCNC as a demand of intergenerational justice—places and spaces will exist regardless. Disregarding SCNC is a normative position: the things that *ought* to exist are defined by currently existing interests alone—interests which are often short-termist, myopically self-interested, or influenced by politicians and corporations.

While there is a considerable literature on the obligation to preserve BCNC, an injunction to include SCNC as an axiological goal of intergenerational justice has not been systematically explored or defended. This oversight might be due to the exigency of global climate change, a driving force motivating increased interest in intergenerational justice. However, despite the cataclysmic conditions of anthropogenic warming, the question of persistence—that is, *what should be sustained* still looms large; catastrophic prospects of climate change should not, I believe, mean that we ignore local and place-specific environmental questions of the kind that are not directly related to basic human sustenance (Francis 2003). What worldly 'stuff' we save is still an important question: for the first time in human history we have the distinct power to destroy, beyond reasonable repair, features of the world. While these questions may feel humble in comparison to the global challenges of climate change, our environmental impacts can be injustice regardless, and if we cannot answer the kinds of environmental questions that would exist *even if climate change didn't,* we will certainly be unable to weather the 'moral storm' of climate change (Gardiner 2011).

In fact, to conclude this thesis, I'd like to suggest that the apocalyptic narrative of climate change makes the project of defining what tangible, physical features of the world *ought to persist* an essential exercise. In an era where 'cli-fi' has become a dominant literary genre, and where doom-filled science fiction narratives about what the future world will look like are ubiquitous,[63] we often forget that a future world *will exist*—and that we are uniquely positioned to shape it. While it will be tragically different than ours in many regards, requiring adaptation that will necessarily damage and destroy places of value to us now, it vital to remember the human-ness of future humans, envision then using and enjoying what we *decide* to leave for them. Acting justly towards the future alleviates the uncertainty and ambiguity of climate change, calls us to pick and preserve those places and spaces that are valuable in our contemporary moment, determining, with active effort, the very features of the world that persist.

[63]See, for commentary, Ghosh (2016).

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