

Integrating Justice and Fairness as a Resolution to
Indigenous Environmental Harm

by

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ABSTRACT

Principles of climate mitigation in environmental ethics often draw on either considerations of fairness and forward-looking concerns, or on justice and backward-looking concerns. That is, according to some theorists, considerations of the current distribution of climate benefits and burdens are foremost, while others take repairing historic wrongs as paramount. Some theorists integrate considerations of fairness and justice to formulate hybrid climate principles. Such an integrative approach is promising particularly in the context of environmental harm to indigenous subsistence peoples, who are among those suffering the most from climate change.

I argue that existing integrative climate principles tend not to sufficiently emphasize considerations of backward-looking justice. This is a problem for indigenous peoples seeking reparations for environmental harm and violations of their human rights. Specifically, indigenous people in the Arctic suffer a cultural harm from climate change as they lose their land, and their way of life, to erosion, cementing their status as climate refugees. I argue that the current climate situation facing Native Arctic people is unfair according to Rawls' second principle of justice. In addition, the situation is unjust as indigenous people suffer from emissions by others and few attempts are made for reparations. Thus, Rawlsian fairness combined with reparative justice provide a befitting theoretical framework. I conclude that an acceptable climate principle will adequately integrate considerations of both fairness and justice, both forward-looking and backward-looking considerations.

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INTRODUCTION

In the context of environmental justice and elsewhere, philosophers distinguish between forward-looking principles and backward-looking principles, between fairness and justice. Many prefer forward-looking principles grounded in fairness, while others prefer backward-looking principles grounded in justice. Still others combine both principles and theoretical groundings to produce an integrative principle of climate mitigation. However, such combinations tend to include considerations of fairness to a greater degree than considerations of justice.

This asymmetrical approach is a problem for indigenous peoples in particular, who continue to be ignored in climate policy decisions. Indigenous peoples often suffer most acutely as a result of climate change, yet they contribute the least to emissions. This has significant implications for assessing the level of justice and for informing climate negotiations. I argue that an acceptable climate mitigation principle will integrate both fairness and justice, both forward and backward-looking considerations. Such a principle should include considerations of political feasibility and reparative measures for past injustices. I will focus my discussion on indigenous peoples, and particularly to indigenous groups in the Arctic (especially Alaska).¹

Indigenous peoples, such as the Yup'ik (*pl* YUPIIT or YUPIAT) of Alaska, suffer cultural harms and an unfair distribution of benefits and burdens from climate change. Because the situation is unfair, forward-looking principles may help address the harm. However, I argue that their situation is also unjust, and as such, backward-looking principles are also appropriate. I then argue forward-looking and backward-looking principles are not mutually exclusive, and that an acceptable climate justice principle will

include both kinds of consideration. Existing integrative principles tend to inadequately integrate backward-looking justice, especially reparative measures for historic wrongs. Reparations are as important as considerations of fairness, and as such, both ought to be included.

The theoretical discussion will have implications for the Yupiit. Many of these people must relocate within the next few years, as scientists predict that their villages will disappear from erosion. The Yupiit and the state of Alaska have three main options for a plan of relocation. First, they could move their entire village, house by house, across the river, and with state help in the form of financial assistance. The Yupiit have chosen this option and are currently moving each house to the new site. This plan will cost the state about \$130-179 million.² Second, the Yup'ik could move to nearby city or town, such as Nome, also with state financial help, at a cost of about \$93 million.³ A third alternative is that the Yupiit could choose either of the two options, but the state does not provide financial assistance. While the first option is desirable for several reasons, especially those based on the idea of reparative justice, my argument ultimately supports the second option of moving to a nearby place. This is due to the integrative nature of my approach.

CLIMATE CHANGE AND THE ARCTIC: THE BASICS

In Arctic regions, climate change is happening at a quicker and more intense rate than anywhere else on Earth. Alaska and Northern Canada experience warming two to three times more than equatorial regions.⁴ Since the 1980s, this area has experienced the “greatest contraction of Arctic sea ice since modern measurements began”⁵ with sea ice surface area having decreased by about 40% over the past 100 years.⁶ Loss of sea ice generates ‘feedback loops’ when warming is accelerated by newly exposed dark ocean waters absorbing much of the sun’s rays instead of reflecting rays with bright sea ice. In Alaska, average winter temperatures have increased by as much as 5° to 7°F in the past 70 years.⁷ Melting of sea ice and higher temperatures contribute to sea level rise, but loss of glacier volume also contributes to rising seas. Glaciers in Denali National Park in Alaska are documented to be retreating by an average of 66 feet per year for the past 60 years.⁸ Finally, permafrost on the Alaskan coast has warmed about 5°F in the past 30 years, which renders it more vulnerable to erosion.⁹

There is very little dispute among scientists about these changes in Arctic regions. Scientists rely on a variety of reliable testing methods, including satellite imagery, detailed temperature analysis with global thermometer networks and ice column observation, historical photographic records, ice radar measuring devices, and laser altimetry measurements taken from airplanes. Geologists, biologists, anthropologists, and many other scientists rely on clear evidence to determine whether a given hypothesis is confirmed, hypotheses which adapt with new and changing evidence. There exists little to no speculation on the part of scientists when they deliver the results of their research experiments on the effects of climate change.

While the existence of climate change is not disputed among scientists, determining the precise cause of this trend has been fairly controversial. Climate change skeptics argue that climate change might not be human-caused, or might not be as dangerous as previously thought. They argue, for example, that the media manipulates popular conceptions of climate change or that the sun is the main cause of warming. However, the vast majority of scientists specializing in the field of climate change agree that human-caused greenhouse gases released into the atmosphere, particularly carbon dioxide (CO₂), are directly and positively correlated with an increase in overall global temperatures, and that climate change could be dangerous. CO₂ levels in the atmosphere are higher now than they have been in the past 650,000 years.¹⁰ There was about one-quarter less CO₂ in the atmosphere during the pre-industrial era (100-1750 AD) than there is today.¹¹ This increase in CO₂ is directly correlated with human industrialization and pollution from factories, automobiles, and the burning of fossil fuels. For these reasons, I will assume that the science is correct and that climate change is anthropogenic for the purposes of the argument concerning justice and historic wrongs.

Data from geology, meteorology, and chemistry research supports the hypothesis that Earth's climate is indeed changing; in particular, average yearly ground surface temperature has been steadily rising to grow warmer. These changes are more extreme in Arctic regions than other parts of the world due to, among other things, that area's acutely sensitive topography. Not only are local landmass areas in the Arctic currently experiencing dynamic transformations, but as a consequence the people and wildlife who live in these areas undergo similar transformations.

CULTURAL HARM, CLIMATE CHANGE, AND THE YUP'IK WORLDVIEW

The dramatic effects of climate change in the Arctic greatly impact the indigenous peoples who live there. Rebecca Tsosie writes that the “impact of climate change, while problematic for all peoples, falls disproportionately on Native peoples in regions such as the Arctic and Pacific, where the environment is closely tied to indigenous lifeways.”¹² These locations are subject to unusually intense changes in climate and they are home to many indigenous groups who depend on stability of land and resources. Climate change damages the synergistic relationship between the natural environment and the indigenous people who live there. In this section, I introduce a group of Eskimo people and discuss their metaphysical and spiritual beliefs about nature. I then argue that they suffer a bundle of individual harms from climate change, which together form a cultural harm.

The present situation of the Yup'ik people of Alaska is an interesting case in point for understanding the possible effects climate change.¹³ The majority of Yup'ik people live on the waterline on land that is especially vulnerable to erosion, increased storm intensity, and other byproducts of climate change. Several groups of Yup'ik people are said to be the United States' first climate refugees as many of them must relocate in order to avoid sinking.¹⁴ The Yup'ik people exemplify special problems that may arise under conditions of climate change not only for themselves and other Arctic Native peoples, but for all communities similarly situated.

As with many indigenous subsistence people, the Yup'ik people greatly suffer from the effects of climate change. When the land and climate begin to change in unexpected ways so that even the community climate experts cannot predict what will happen, the Yup'ik people have a difficult time practicing subsistence activities with

much success. The consequent instability to their lifeways as a result of climate change threatens to undermine their very existence. This threat is not duplicated among those in non-subsistence communities, for example those dependent on more ‘developed’ or modern means. When resources become compromised, those who ‘live off the land’ suffer not only from lack of adequate sustenance, but also economically, culturally, and spiritually. These individual harms together form a larger cultural harm.

What is a cultural harm? There are two main types of cultural harm, as articulated by Tsosie. First, indigenous groups may be barred from accessing their own cultural systems, for example when artifacts are unjustly taken. Second, another group might control or exploit indigenous cultural systems, a practice known as ‘cultural appropriation.’¹⁵ These two types of cultural harm may overlap, for example when a museum asserts ownership of a sacred indigenous artifact (barring access), while displaying the artifact as a piece of the state’s history (cultural appropriation).¹⁶

The bundle of cultural harms facing the Yup’ik people, which I will discuss shortly, more closely resembles the first type of cultural harm characterized by diminished access to a group’s own cultural systems. This is made clear by the steady destruction of nearly every aspect of their cultural life, due in large part to effects on the environment from climate change. Many aspects of indigenous cultural life flow from a relationship of reciprocity and balance with the natural environment. Perhaps the most profound cultural harm is that of diminished access to the natural environment, or in a sense, the sacred. (I will briefly note here that I hope to avoid the somewhat problematic depiction of a cultural harm characterized by 'blocked or barred access' to 'nature'. Indeed, there are no agents literally blocking anyone from accessing nature. What I

intend to articulate is diminishment of the Yupiit's synergistic relationship with their cultural system which includes nature as a kind of deity). This diminishment of cultural systems counts as a cultural harm, and is a consequence of climate change caused by others.

Many Yup'ik people believe that “*Ellam Yua*, or a Spirit of the Universe” is a subject of the highest spiritual reverence.¹⁷ They believe that all the things of the Earth possess spirit, consciousness, or awareness. This might be understood as a kind of panpsychism, that everything contains mind or soul, but not pantheism, as the Yupiit do not necessarily believe that objects in nature are the subject of *worship*.¹⁸ Nature is to be treated with honor, care and respect, and objects in nature are often the centers of rituals and ceremonies. The land, sea, animals, plants, humans, and the like, each have a spiritual element and we are to live in harmony and with balance with nature. Angayuqaq Kawagley says about Yupiit religious tradition, “[t]he land is described in action words, therefore it is a process, on-going and dynamic... Nature became their metaphysic. Today, the Yupiat [Yup'ik] people are not living as close to nature and, as a result, suffer from a spiritual depression.”¹⁹ This spiritual depression is the central cultural harm which precludes Yupiit ability from accessing their culture.

For many indigenous peoples, including the Yup'ik, land, nature, and environment are dominant figures in appropriating the highest respect and honor.²⁰ Tsosie explains that many indigenous people have a kinship relationship with their environment, caring for the land and living and non-living beings, who are regarded as fellow ‘people’ and are to be treated with dignity and respect.²¹ This harmonious way of living with the environment constrains human freedom of action; for instance respect for the land

precludes economic development in certain areas. The worldview that the Earth, and indeed other aspects of the universe, as an animate life source that is sacred and a proper source of veneration gives rise to a guiding ethics of reciprocity and balance.²² Tsosie explains that many indigenous communities practice reciprocity of sharing and giving of personal property during ceremonies and otherwise in order to strengthen the community and redistribute wealth.²³ The value in the balance of goods distribution is one of the most central guiding ethic and it works to impart moral duties on those in the community. However, this moral view goes beyond social obligations and prescribes special duties towards the earth and its people, including land, plants, and animals.²⁴ The guiding ethics of reciprocity and balance, Tsosie notes, support further normative ideas of ecological integrity and sustainability and often, expectations of stable and permanent ties to a particular land place.²⁵ Reciprocity and balance work to maintain healthy relationships among the community members themselves and also with nature.

At this point, I will argue that a bundle of individual harms form a fundamental cultural harm of diminished access to the natural environment. The first harm concerns the dangers of the newly unstable ecosystem. The ecosystem that the Yup'ik people depend upon for their livelihoods changes and becomes unpredictable, resulting in unreliable or scarce resources. Wildlife populations, which the Yupiit depend on for subsistence means, undergo changes due to a warming climate. Mammals, birds, fish, and plants in western Alaska experience a recently changing ecosystem and must quickly adapt for survival.

For example, many of the region's lakes and ponds have disappeared or shrunk due to newly porous ground with thawed permafrost, ponds which were once home to

many native plants and animals. These native plants and animals were important subsistence resources.²⁶ Melting sea ice retracts shelter for seals and polar bears, which is troublesome not only for these animals, but for the subsistence people who rely on them for food and clothing resources.²⁷ Seals and polar bears in western Alaska have been found to display decreased health by scientists and local villagers, especially among pups and cubs, who are often stunted and underweight, rendering them a low-quality subsistence resource.²⁸ Fewer, and less healthy, caribou causes problems for the Yupiit, and additional problems arise when freshwater fish and waterfowl disappear. The instability of these resources is difficult to cope with for the Yup'ik people, who have lived a steady subsistence lifestyle for thousands of years.²⁹ Almost everywhere they look now, they see highly compromised wildlife that is often not suitable for consumption, if they see any at all.³⁰ Thus, the Yupiit face a serious harm of ecological degradation.

A second harm the Yup'ik suffer, due in part to climate change, is a loss of some traditional epistemological systems. Community elders are often leaders of a group, sharing traditional knowledge, wisdom and custom, spiritual and cultural beliefs, and practical advice, transmitted from their own ancestors.³¹ One Yup'ik man says, “[t]aking the oral instructions with you when travelling [*sic*] gives you good judgment... Indeed, when one makes an effort at following the instructions on the land and ocean and doesn't forget them, they are valid” and another says “[t]he instructions aren't mine” professing the idea that the age-old instructions are real and important.³² These special instructions for how to live are normally taken with great respect by the younger generations, who understand that to succeed in the traditional Yup'ik lifeway, they must heed the valuable advice from elders.³³ However, this previously stable tradition is beginning to collapse

with the changing climate. Traditional knowledge of “*ella*,” or “weather, world, or universe,” and also climate, environment, and proper social behavior among contemporary Yup’ik people diminishes as the topography and ecosystem changes in unusual ways due to the changing climate.³⁴ Elders who were once able to accurately predict the weather and safe times and routes for traveling are no longer able to do so.³⁵ Thus ‘exposure-sensitivity’ - or “the susceptibility of people and communities to conditions that represent risks”, increases with the loss of traditional ecological knowledge and the new and changing environment.³⁶

Shrinking knowledge of *ella* among both young and old community members in Yupiit villages is not only dangerous for the integrity of their epistemological system, it is also dangerous for *ella* itself. Many Yup’ik people believe that failure to observe traditional lifeways results in disintegration of both the natural and social environments.³⁷ When people share resources with one another, those resources will replenish and restore to a natural balance. Sharing mink and muskrat with other community members, for example, helps to ensure that these resources do not become scarce in the future. In this way, *ella* reacts with the social environment, providing more subsistence resources when people reciprocate sharing, and less when they do not. In addition, many Yupiit believe that if the people fail to respect or positively disrespect the natural environment, it will “get bad following its people.”³⁸ This indigenous environmental ethic matches the idea of reciprocity and balance, as we will recall from Tsosie.

Ella is becoming bad following its people, despite the clear warnings of community elders. This compounds the loss of traditional knowledge, which in turn amplifies *ella*'s becoming bad, creating a cycle. Researchers and geographers say,

“[k]nowledge transfer and learning is not functioning as it was in the past.”³⁹ There are several reasons for this. When the weather was more stable and predictable in the past, elders had extensive knowledge about conditions which was passed on to the younger people. In recent decades, Yupiit elders express that they can no longer rely on subtle clues that they previously had, for example in wind and snow patterns. The weather is so unpredictable that people commonly speak of “*ella iqlungariuq*”, or, ‘the weather is becoming a liar’.⁴⁰ Because the climate is so unpredictable and elders are no longer a major source of vital knowledge for many Yup’ik communities, young people are becoming ‘deskilled’ at successful subsistence living.⁴¹ This in turn results in disengagement from relationships with elders and from subsistence living itself. With the elders in the community aging and a high child and youth population,⁴² traditional ecological and social knowledge is declining and the usual expectations of what will come are not met. This loss of traditional epistemological systems creates a harm to the Yup’ik people.

A third harm the Yupiit suffer, due partly to climate change, is mental and emotional hardship. Many Yup’ik people express despair and spiritual depression because of the rapid changes their homeland is undergoing.⁴³ Drug and alcohol abuse is already high in Yupiit communities, and the current situation only magnifies the problem. Worries about impending coastal erosion, flooding, and scarce resources certainly does not help the situation of those people who may already be depressed or abusing substances.

A fourth harm to the Yupiit is the loss of employment and income. For instance, most employed Yup’ik people of rural towns work for government agencies, oftentimes

for projects involving building and maintaining nearby infrastructure, but these employment opportunities have decreased significantly for rural Yup'ik people in recent years. Alaska spends \$10 million every year on repairing roads damaged from thawing permafrost, usually prioritized for city roads, and this results in less funding for employment in rural projects.⁴⁴ Along with this same point, many Yup'ik people also suffer extreme poverty that gets worse as a result of the various effects of climate change.⁴⁵ For example, commercial fishing is a primary source of income as well as a subsistence resource for many Yupiit, but the practice is under threat. Warmer sea temperatures, combined with melting sea ice, have changed certain features of the water, which has affected fish stocks.⁴⁶ Consequently, successful commercial and subsistence fishing has been more difficult for the Yup'ik people for the past thirty years. Decreasing employment and income is difficult to cope with for the villagers who spend an average of half their yearly income on subsistence technology, and is thus a serious harm.⁴⁷

A final harm to the Yup'ik people from (in part) the effects of climate change is that they “are in imminent danger from flooding and erosion and are planning to relocate.”⁴⁸ With 90% of Alaska’s indigenous communities situated on the western coastline or riverbanks, most of these communities (86%) are vulnerable to erosion and flooding, incurring significant “adaptation burdens”.⁴⁹ On Alaska’s coast, permafrost has warmed about 5°F in the past 30 years, rendering the ground so brittle it often falls into the sea in huge chunks. Thawing permafrost is further sensitized to a more volatile ocean wave pattern caused by melting sea ice, which is caused by warming temperatures.⁵⁰ In the Yup'ik village of Newtok in southwestern Alaska, coastal erosion due in part to anthropogenic climate change, claims 83-100 feet of land every year,⁵¹ causing homes to

suddenly approach the water's edge. Newtok has already lost 4,000 feet of land into the ocean due to coastal erosion in recent years and must relocate within the next four years at the risk of being completely underwater. The relocation will bring exorbitant costs.⁵² The erosion of Newtok is an extreme case; however, as Fienup-Riordan notes, the "erosion is region-wide."⁵³ Newtok is nearly 100 miles away from the closest town or paved road, accessible only by small plane, boat, or snowmobile depending on the weather, making the relocation difficult and expensive.⁵⁴

The whole Newtok community has voted to move nine miles south of the Ninglick River, on higher ground in Nelson Island. But until the move to the new site, dilapidated infrastructure in Newtok fails to qualify for repair assistance because governmental agencies do not usually fund projects the costs of which exceed the projected benefits, and since Newtok residents will soon relocate, it does not make sense to fund expensive repairs in Newtok.⁵⁵ This is especially frustrating considering that the site of Newtok as a permanent settlement was set by government authorities approximately 50 years ago.⁵⁶ In addition, since the effects of climate change are gradual and often very subtle, often they do not qualify as a natural disaster for federal disaster relief.⁵⁷

Before moving on to the next section, I will consider an objection to my argument that the Yupiit suffer a cultural harm from climate change and offer a reply. The objection is that certain effects of climate change could be to the benefit to the Yup'ik people, such that the changes are better for the people on balance. For example, scientists predict that the Seward Peninsula will change from a relatively barren tundra landscape into a lush deciduous and spruce forest within the next 100 years.⁵⁸ This transition will

create better economic opportunity with increased lumber resources and a more hospitable environment. In addition, newly mild summers will increase the tourism season and create economic growth for Native Alaskans and bring about a longer growing period, making commercial agriculture more profitable.⁵⁹ Finally, melting glaciers have exposed ancient indigenous artifacts that otherwise would have been buried indefinitely.⁶⁰ Prehistoric tools, clothing, and human remains have been discovered at retreating glaciers, and these objects may offer valuable opportunity not only for scientific research, but for indigenous peoples to learn more about their distant ancestors.

I have two responses to this objection. First, while these circumstances may be beneficial in the short-run, they could subside or even become dangerous in the long-run due to environmental feedback loops. For example, with quick expansion of boreal forests comes not only lush forests and milder temperatures, but increased forest fires and beetle infestation.⁶¹ Not all ecological benefits are long-term benefits, and may bring with them further unforeseen disadvantages.

Second, and more importantly, even if the benefits continued into the long-run, they are outweighed by a persistent cultural harm and do not justify past, present, or future GHG emissions. While the benefits of increased tourism and agriculture as a result of warmer temperatures are great, especially to Native Alaskans living in poverty, economic gain and more pleasant weather are minor profits and offer little solace to people who stand to lose their whole way of life. The Western perspective that industrialization and increased access to technology contributes to a better life is not necessarily one that the Yup'ik people share, and to attribute it to them is inappropriate and could enable ad-hoc justifications for GHG emissions and corresponding climate

change. However, if the Yup'ik people (especially the youth) do come to share the view that more technology contributes to a better life, the cultural harm will nevertheless persist if they must make a difficult trade-off between technology and preserving nature. If they do not care about preserving nature, then there will be no such trade-off and consequently there will be no cultural harm, at least to those who do not care to preserve nature. However, there should be concern if the Yup'ik people express such wishes as a result of coercion, subtle or otherwise.

In addition, there will remain a serious harm to the Yupiit that comes with blocked access to their cultural life, or their ability to maintain the relationship of reciprocity and balance with the environment. Even the prospects of compensation for damage in the absence of mitigation for cultural harms may be inadequate, as illustrated in the case of the Sioux Nation's refusal to accept payment from the U.S. for the unjust taking of the Black Hills, but demand for return of the land itself.⁶² Finally, a detail that the above objection overlooks, with respect to unearthed artifacts, is the possibility of a further harm of cultural appropriation. It is likely that if any ancient Native artifacts surface as a result of melting glaciers, they will be discovered not by the descendants of those who made the artifacts, but by others. If this happens, it is likely that these artifacts will end up in museums or for sale against the people's will, as has been the historical trend.⁶³

In this section, five harms against the Yupiit were introduced. These harms are not independent from one another; rather, they each make up a single bundle of a cultural harm characterized by diminished access to a culture which is rooted in a kinship with nature. Each of the harms discussed belong to, and comprise, the larger category of

cultural harm with 'spiritual depression' as a result.⁶⁴ Both *Ellam Yua*, or the Spirit of the Universe, and subsistence resources, suffer as a result of climate change, which deeply hurts the Yupiit and other similar peoples. “Cultural harm is both material and spiritual”, as Tsosie argues.⁶⁵ In sum, the combination of harms facing the Yup'ik people, including the burdens of relocation, decreased employment opportunities and subsistence resources, emotional hardship, and loss of traditional epistemological systems, constitute a cultural harm of barred access to their own cultural system of reciprocity and balance with a sacred nature.

FAIRNESS AND JUSTICE; FORWARD-LOOKING AND BACKWARD-LOOKING PRINCIPLES

In this section, I argue that the unequal share of burdens and benefits of climate change that the Yup'ik people face constitutes an unfairness. To do this, I draw on Rawls' theory of justice as fairness, as well as a couple of alternative conceptions of fairness to show the consistency of the result. I then discuss forward-looking principles of climate justice which have a focus on fairness as a theoretical grounding. After this discussion of fairness and forward-looking principles, I turn the focus to justice and backward-looking principles. (I thus separate the notion of justice and fairness, unlike Rawls. I utilize Rawls' theory of fairness, but his theory is that of justice *as* fairness. However, because I argue that considerations of both fairness and justice, conceived as involving historic wrongs, are needed for an acceptable climate principle, the discussion of justice will depart from Rawls' own theory of justice. My purpose is not to formulate a criticism of Rawls' theory, but to utilize elements of his conception of fairness).⁶⁶ I argue that the unfair situation that the Yup'ik face is, in addition to being unfair, also unjust, with the background assumption that justice is grounded in deontology and historic wrongdoing. To argue that the situation is unjust, I draw on arguments for reparative justice, as well as a couple of alternative conceptions of justice. I then discuss backward-looking principles of climate justice which have a focus on reparative measures. In addition, I discuss some advantages of both types of principle. In the subsequent section, I argue that the two types of principle and theoretical groundwork should be integrated to formulate an acceptable climate principle.

My argument will thus utilize these concepts of fairness and forward-looking

principles, and justice and backward-looking principles. Because John Rawls' theory of justice as fairness is one of the most comprehensive and influential systems of fairness, I draw upon it. And, because his theory is relatively complex with many working parts, the discussion on Rawlsian fairness will be quite a bit longer and more detailed than the discussion on (non-Rawlsian) justice. For Rawls, justice as fairness are two sides of the same coin. The notion of forward-looking principles is essentially that of fairness; the two ideas are bound together. Forward-looking principles aim to distribute goods, such as climate benefits and burdens, to free and equal parties under the assumption of fair equality of opportunity. On the other hand, the notion of justice, which I use here, has to do with actions taken to repair a past wrongdoing. Justice necessarily responds to wrongdoing, and justice is done when the wrongdoing is erased or otherwise lessened in some way. The notion of backward-looking principles is bound together with the notion of justice; backward-looking principles aim to mend a past wrongdoing through a plan of action that the wrongdoer(s) ought to implement.

It should also be noted that fairness and equality are not necessarily coextensive; there may exist a fair situation in which agents are not treated equally, and likewise an equal situation in which agents are not treated fairly. To illustrate: the terms of a race will be fair when the racers are treated appropriately according to their conditions, although this treatment will be unequal. The race will have fair terms if disabled people get a head start before the others in order to even out any differences in ability. Similarly, if all the racers in this community marathon were treated equally, or the same regardless of relevant differences, the conditions of the race will not be fair. It is clear that the current

climate situation is unequal; now I will turn to arguments showing that it is moreover unfair and why. First, we should discuss Rawls' theory of fairness.

Fairness

Rawls

What is 'fairness'? Within Rawls' theory, the level of fairness in a society is determined mainly by the way social institutions distribute rights and duties, as well as peoples' holdings of advantages and disadvantages within society.⁶⁷ In determining the fairness of a division of social goods, we refer to certain well-formed general principles of justice in a procedure whereby rational and "mutually self-interested persons are brought to act reasonably."⁶⁸ These principles are those that free and equal people in an initial situation of society would accept in a hypothetical social contract, and they will inform the fair terms of cooperation between free and equal people over a complete life.⁶⁹ In addition, acceptable principles of social justice will be chosen consistent with the rule of maximin, according to which the rational thing to decide is to choose the alternative with the best worst features.⁷⁰

In the context of political liberalism, Rawls argues fundamental political issues must be justified by public reason. This justification will appeal to public values (a political conception of justice) and public standards that rational and reasonable people will accept.⁷¹ No comprehensive doctrine, whether religious, philosophical, or moral, is accepted by all citizens, so no comprehensive doctrine can serve as the basis for the legitimate use of coercive political power. Only the public political culture, which includes the background ideas that all citizens are free and equal for fair cooperation in society can serve as a basis for political power.⁷² This is neutrality of aim: public

institutions and policy will not favor any comprehensive doctrine. Justice as fairness upholds the principle of state neutrality for a citizenry of free and equal people.⁷³

An important premise supporting the theory of justice as fairness is that holdings are “arbitrary from a moral point of view”⁷⁴ and influenced by a natural lottery. The holdings consist of primary goods, or “things which a rational man wants whatever else he wants” in order to have a good life as a free and equal member of society.⁷⁵ Primary goods are distinguished into two classes: social primary goods, including fundamental rights, liberties, opportunities, economic possessions, and the social bases of self-respect; and natural primary goods, including health and natural assets such as talents and abilities.⁷⁶ Attaining enough primary goods helps us live a decent life.

In *A Theory of Justice*, Rawls proposes two principles of justice: I. “Each person is to have an equal right to the most extensive scheme of equal basic liberties compatible with a similar scheme of liberties for others.” II: “Social and economic inequalities are to be arranged so that they are both (a) to the greatest expected benefit of the least advantaged and (b) attached to offices and positions open to all under conditions of fair equality of opportunity.”⁷⁷ The first of these principles is lexically prior to the second and thus is to have more weight for consideration than the second and is to be satisfied prior to the second principle’s being satisfied.⁷⁸ The reason for this is that violations of basic liberties for the purpose of social and economic gain are always impermissible. Any social arrangement which violates these principles is unfair and unjust according to Rawls’ justice as fairness.

Consider the principle of fair equality of opportunity within the second principle of justice. According to this principle, “social and economic inequalities are to be ...

attached to offices and positions open to all under conditions of fair equality of opportunity.”⁷⁹ Each person is to have equal life chances for equal talents. Regardless of ability to attain certain primary goods such as education and healthcare, each person will have equal prospects as everyone else to access opportunities. For example, consider persons A and B, each of whom are motivated to become a medical doctor. Person A has wealth inherited from her parents and can afford to hire a tutor and attend an expensive prestigious university. Person B is poor and cannot afford a tutor nor tuition for an elite school. Ultimately, person A receives the competitive position as a medical doctor. Persons A and B do not exhibit fair equality of opportunity, since person A was in a better position to get the job because she was lucky enough to have the resources for which to better seize the opportunity. Both people have equal motivation, and both could be excellent doctors, but one person advances due to having more tools (undeservingly) than the other. According to Rawls’ fair equality of opportunity, people ought to have equal chances for achievement when they have equal talents, motivation, and the like.⁸⁰

Do the Yup’ik people have equal life chances for equal talents? It does not appear so. They have insufficient tools, compared to others, which they need to achieve their goals, and they are losing the tools they do have. For instance, the Yupiit lose income and wealth, and they incur significant adaptation burdens as a direct result of climate change in their areas, thus losing out on an important social primary good of economic holdings. They also miss opportunities to share traditional knowledge for hunting and safe travel, which in turn hinders opportunities to build and maintain relationships with elders. In addition, the Yupiit experience spiritual depression and a sense of despair as a result of their changing climate and their inability to stop the change, damaging their self-respect

(a primary good). The cultural harm which they face might be an instance of deprivation of the social primary good of self-respect, or it might be an instance of deprivation of the natural primary good of health (a deprivation of which would also affect equality of opportunity), or both.

The preceding discussion concerns the part of the second principle of justice about equality of opportunity. Now, I will discuss the other part of this second principle, which is called the difference principle. According to the difference principle, “[s]ocial and economic inequalities are to be arranged so that they are ... to the greatest expected benefit of the least advantaged.”⁸¹ This principle is supposed to assign a just distribution of wealth and income. Social institutions are to be arranged so that any economic inequalities are to the advantage to “every party” involved, but most importantly to the advantage of those worst-off.⁸²

Who are the least advantaged? Rawls does not offer a very precise answer to this question and he thinks that any answer is likely to involve some degree of arbitrariness and might even be unnecessary.⁸³ However, it seems clear that the least advantaged are characterized by an undeserved inadequate holding of primary goods.⁸⁴ In *A Theory of Justice*, we see three main contingencies which determine whether an individual or group is least advantaged: family and social class one is born into, natural talents and abilities, and general luck in the ‘natural lottery’ of life.⁸⁵ Also in *A Theory of Justice*, the least advantaged seems to be primarily an economic index, which could be set in terms of income (that of an unskilled worker, or that of half the median income); but elsewhere,⁸⁶ the least advantaged is an index of primary goods in general with a focus on how one came to be in one's present state. Roy Weatherford notes the former index simply

describes the current position of the least advantaged, whereas the latter index describes the current position of the least advantaged with the possibility that it is undeserved.⁸⁷

It is this latter index that I wish my argument to hinge upon, both because it is more interesting and because it maintains the normative relevance for later parts of the argument. So, for the argument's sake, let us stipulate that the least advantaged are characterized by an undeserved inadequate holding of primary goods and that they are part of the worse-off members of society.⁸⁸

Are the Yup'ik people part of the least advantaged? To answer this question, we need to determine their position with respect to three main contingencies: family and social class one is born into, natural talents and abilities, and luck in the natural lottery of life; and we will also need to characterize their holdings of primary goods. As far as the first contingency, the Yupiit are indeed typically born into a relatively low family and social class. They tend to have a lower socioeconomic status than many Americans.⁸⁹ As far as natural talents and abilities, it is unclear how the Yupiit fare and any comparison here would only be speculative. However, it is probably true that since they have a low socioeconomic status, their ability to develop natural talents is limited. The most important contingency for our purposes is the third: general luck in the lottery of life. As far as this contingency for the Yup'ik people, it stems from, in large part, the family and social class they are born into. Because of the lower social class they tend to be born into, the Yupiit's general luck in life tends to be bleaker than average. It is also difficult to succeed in a culture with largely Western, Anglo-American values which is much different from their own.⁹⁰ Part of the influence for the Yup'ik people's position with respect to these contingencies is an inadequate holding of primary goods. As already

mentioned, the Yupiit lose out on the primary goods of opportunities (for transmitting traditional knowledge and subsistence practices), economic possessions including material subsistence resources, and to some extent self-respect which comes from spiritual depression. It seems the Yupiit have an inadequate holding of primary goods.

But are their inadequate holdings undeserved? They are. An important reason why the Yup'ik people have inadequate holdings, and thus face an unfair distribution of benefits and burdens, is due to the effects of climate change which are caused through no fault of their own. They emit very little GHGs, but they suffer as a result of others' emissions. Indeed, this is the moral significance of the situation.

I think that these reasons support the claim that the Yup'ik people are part of the least advantaged members of society. It might be objected here that the index for the least advantaged I have used (that of holdings of primary goods in general with a focus on desert), is subject to the 'index problem' that the simpler economic index is not subject to. According to this problem, it is unclear how we are to measure primary goods against one another to determine who is the least advantaged. For example, it is unclear whether poor Yup'ik people are worse off than equally poor people in the inner city with bad life prospects. A second objection is that, if the Yup'ik were richer than others in society, but they lost their lifeways, the Rawlsian approach might not work because the Rawlsian approach does not count loss of lifeway in its measurement of the worst-off. What if victims of climate change were not the economically least advantaged? We could imagine a Malibu surfer, say, who loses his lifeway when his million dollar home burns. How could the Rawlsian deal with these cases?

In response to this objection, it is true that the Yupiit are not the *worst-off*

members of society, according to either index. I have not tried to show that they are the worst-off in absolute terms; rather, I have tried to show that they belong to the class of *worse-off* people. There are others who are worse off than they, including some poor people in the inner city with very little opportunities. In addition, the least advantaged in one society might not be the least advantaged when placed into another. For instance, the Yupiit are part of the least advantaged of those people in Alaska (and perhaps the U.S.), but when considered from the standpoint of Haitians or Nigerians, the Yupiit are not the worst-off. The point is that the Yupiit are part of the least advantaged, characterized by an undeserved inadequate holding of primary goods (including income, health, self-respect).

I think the index of undeserved inadequate holdings of primary goods, and not the purely economic index, is the preferred one for our purposes because it maintains the moral element of desert, it is more comprehensive and gives a holistic picture of representatives, and it identifies persons' life prospects more accurately than the purely economic index. For instance, consider that person A receives slightly more yearly income than person B, but person A has cancer and spends much of her money on treatment. (Or consider, person A's cancer was caused by toxic chemicals leaking from the neighbor's basement). According to the purely economic index, person B is worse-off than person A. But we might think this inaccurate – that person A is really the worst-off because she has a life-threatening illness that is expensive to treat, and it might have come through no fault of her own. For these reasons, I think the index according to undeserved inadequate holding of primary goods is the more useful of the two.

The second objection points to the difficulty of the Rawlsian approach in dealing

with cases in which the victims of climate change lose their lifeways, yet are not economically least advantaged. My response to this objection draws upon the response given above. The index of undeserved inadequate holding of primary goods is helpful to determine who the least advantaged members of society are. This index avoids the objection, unlike the purely economic index, because it takes a comprehensive measure of primary goods. The reason why the Malibu millionaire who loses his lifeway due to climate change is not on a par with the Yup'ik subsistence person who loses her lifeway due to climate change is because the Yup'ik person is much worse-off than the Malibu millionaire measured by a holistic index of primary goods holdings. On the other hand, if the Yup'ik person were also a millionaire but lost her lifeway due to climate change, and was thus in the same position as the Malibu millionaire, then there would be no reason to treat them differently, except if the losses were due to some *undeserved* circumstance. Both millionaires in this example have lost their lifeways due to an undeserved destruction of climate change. Nobody deserves such destruction, of course. It happens that, in the case of the Yup'ik person, her losses are wholly undeserved – as a subsistence person, she emits very little GHGs. Indeed, what I have argued here departs and perhaps is comes to tension with aspects of Rawls' theory due to the backward-looking element of historic wrongs. This is part of my rationale for taking an integrative approach which includes both considerations of fairness as well as considerations of historical notions of desert and wrongdoing, that is, justice.

So why draw upon this aspect of Rawls' theory, namely, the second principle of justice? Stephen Gardiner argues that one cannot simply take an aspect of Rawls' theory to extend to the issue of climate change without providing adequate explanation for why

the given aspect of the theory is most appropriate to climate change.⁹¹ He argues that Rawls' higher order principles, especially the first principle of equal liberty, could be a better guide than his lower order principles because environmental security is probably more important than the principle of fair equality of opportunity.⁹²

I have taken Rawls' conception of justice as fairness, with a focus on the second principle of justice, to argue that the current climate situation facing the Yupiit (and other indigenous groups) is unfair. The second principle is more useful for our purposes, both because it is more relevant to the climate issue at hand (the first principle concerns liberties and freedoms, whereas the second concerns the distribution of goods and social equality), and because I think the first principle has already been satisfied. If it has been satisfied, then we can move to the second principle for consideration, as the two principles are in lexical order. This is not intended to be a complete argument, but only a reason why I choose to focus on the second principle of justice. It is controversial whether the first principle is satisfied by the current climate situation. One could argue that the climate situation impedes each person's "equal right to the most extensive scheme of equal basic liberties compatible with a similar scheme of liberties for others." I think that the situation (at least for the Yupiit) is not in violation of the first principle because this principle concerns primarily political liberties such as the right to vote, hold office, participate in political events, etc. It is not clear to me how environmental and cultural integrity would fit into this principle. I think that, understood as falling under existing primary goods, they more clearly fit with the second principle of justice. There is controversy about the lexical ordering of the two principles in general, as Pogge notes that certain basic economic goods are more important than civil and political freedoms.⁹³

I agree with this, but my aim is not to debate the lexical ordering of the principles themselves, but to focus on the second principle of justice separately.

In this section, I provided an explanation of one concept of fairness, that of Rawls' justice as fairness. Using the second principle of justice, I argued that the current distribution of climate benefits and burdens, in the form of primary goods, is unfair. I have argued for this under the assumption of ideal theory in which all hypothetical parties agree to the principles chosen under favorable conditions, and the principles set up a just system. However, in the nonideal world in which we live, parties need to determine which principles to adopt under unfavorable conditions, but will nevertheless refer to the ideal theory to judge nonideal institutions.⁹⁴ Later, we will look at some principles we might adopt under nonideal conditions and in doing so, work on finding a solution to problem of climate injustice. There, I will take an integrative approach, combining forward and backward looking considerations, that is, fairness and justice. To do this, I will add an element of reparative justice to Rawls's theory of justice as fairness. For now, in discussing the concept of fairness, let us turn to alternatives to Rawls' view.

Alternatives

I will now briefly discuss two alternative conceptions of fairness and how the current climate situation might be unfair. This is for two reasons: first, in case the reader is unconvinced by the Rawlsian picture, there are other measures of fairness which are suitable. Second, if alternative conceptions of fairness also generate the answer that the situation is unfair, then this lends more support to the idea that it really is unfair. These alternatives are compatible with Rawls' theory. The first conception of fairness is similar to Rawls', only less complex; this is good for those who find Rawls' conception too

complicated. The other alternative of fairness does not rely on any particular theory, but is a common sense notion.

The first alternative comes from a classic argument, attributed to Adam Smith in *The Theory of Moral Sentiments*, of the impartial spectator. We are asked to imagine how an impartial spectator (or disinterested observer) who is a rational moral agent, might judge our behavior or a certain state of affairs.⁹⁵ In addition, an impartial spectator will attach various moral emotions to the actors involved, such as guilt and shame for the wrongdoers, while empathizing with the victims.⁹⁶ This argument has an advantage of simplicity over the idea of acceptable principles to parties in the original position, noted by Chris Brown:

Whereas Rawls employs an elaborate fiction in order to arrive at his notion of fairness ... Smith asks instead, what would an “impartial spectator,” someone (or several someones, because there could actually be numerous impartial spectators surveying the scene from different vantage points) observing from the outside, make of a particular state of affairs? This is much less cumbersome and complicated a notion than that of the original position, and it has the added advantage of not pretending to be a precise exercise.⁹⁷

If we were to consider what an impartial spectator(s) would accept as fair, would s/he accept the current distribution of burdens and benefits in the context of climate change? Would s/he accept a principle that orders this distribution? I think an impartial spectator would not accept either the current distribution or the principle that orders the distribution. This is because, as an uninvolved and objective agent, an impartial spectator can comprehend the moral elements of the situation very clearly and has no reason to accept an unfair distribution. Most importantly, an impartial spectator will think the distribution of benefits and burdens, as well as the principle which orders this distribution, is unfair.⁹⁸

The second alternative conception of fairness explains the unfairness of the climate situation commonsensically. Stephen Gardiner writes, "...most of the cost of such emissions, and especially the most severe, are projected to fall on future generations, nonhuman nature, and especially the global poor."⁹⁹ Industrialization greatly benefits societies in terms of economies, technology, etc. such that the ecological harms that arise from development are outweighed by these benefits. On the other hand, for indigenous peoples, such as the Yupiit, the cost-benefit analysis is much different. As subsistence communities, they receive some, but not many, benefits as a result of industrialization. This is not only a problem for the Yup'ik, but for indigenous peoples globally. Indeed, dangerous climate change is a problem for the global poor. Dale Jamieson says, "[i]t is the poor who suffer most from climate-related disasters, and in the end they are largely on their own."¹⁰⁰ Because the poor receive such an asymmetrical share of the burdens from climate change, regardless who or what caused climate change, the situation is unfair.

To summarize so far: In a previous section, I argued that the Yupiit experience cultural harm as an enormous burden from climate change, a burden which is unmatched elsewhere. From this, we can infer that the distribution of burdens in the context of climate change is unequal. This is the weaker claim. The stronger claim is that the distribution of burdens (and benefits) is also unfair, as supported Rawls' theory of fairness and two alternatives. Now, I will discuss forward-looking principles of climate change which are grounded in fairness along with some advantages they offer as proposals to remedy the climate situation.

Forward-Looking Principles

Forward-looking principles¹⁰¹ look to the future in order to determine the best course of action to mitigate (or adapt to) climate change. The current state of affairs is taken as the most important background condition to inform future policies. It might be that any history of injustices are irrelevant or unhelpful to the task of solving the present problem.¹⁰² Fairness and forward-looking principles are bound together because central to both conceptions is an acceptable distribution of goods among free and equal people (or nations) under the basic background assumption of equality between parties. Proponents of forward-looking principles rely primarily on fairness (albeit various different notions of fairness) to argue for their central claims. In this section, I consider some appealing reasons in favor of forward-looking principles.

One reason why forward-looking principles with respect to mitigating climate change are appealing is because they aim at changing the social conditions themselves, which seems to get at the root of the problem. Under Rawls' forward-looking approach, the structure of society is for mutual benefit and cooperation, and inequalities are justified only if the worst-off members are rendered better from this arrangement than they otherwise would be under any other arrangement.¹⁰³ Along these lines, Darrel Moellendorf argues that the privileged status of the best-off suggests a responsibility to uphold principles which improve the conditions of the worst-off in society. Any costs which states incur for mitigation must, at the same time, not impede human development for the worst-off states. He writes, “[a] fair international framework to access of energy will ensure that the prospects of poor states to pursue human development are not made worse than under a business-as-usual scenario.”¹⁰⁴ As we can see, climate change

mitigation principles which take a Rawlsian approach do not aim to assign fault or blame for past injustices. They aim at building or maintaining just social institutions which benefit the worse-off while supporting sustainable development in poor nations.

A second reason why forward-looking principles are appealing is because they tend to be feasible and pragmatic. Many proponents credit global cooperation and ultimately better mitigation results to forward-looking principles, especially given the absence of an enforcing supra-national authority. According to one such approach, defended by Martino Traxler, nations should reduce their emissions (luxury – not subsistence) in a way that corresponds to opportunity costs for them such that each will bear an equal share of the burden of reduced emissions. A cap in emissions would distribute equally burdensome shares of opportunity costs measured by human welfare. Importantly, Traxler argues is that backward looking arguments would involve nations in blame denial for excessive emissions, which would be counterproductive in attempting to resolve the problem of emissions reductions. Backward-looking considerations could hinder reductions agreements in climate negotiations, and thus provide reason for skepticism about them.¹⁰⁵

Another forward-looking proposal which has the virtue of practical feasibility is one that assigns responsibilities for energy access and climate change mitigation in an ability-to-pay model. According to one proposal of this type, developed by Moellendorf, the greater burden of emissions reductions is assigned to the states with the highest human development and ability to take the cost. This proposal is politically feasible and retains the moral element of climate change with a commitment to mitigation and fair access to energy to further human development and escape conditions of poverty.¹⁰⁶

Under this proposal, we move away from a fault liability or historic injustice conception of responsibility and move instead towards a forward-looking schedule of emissions reductions which picks out those states with the greater ability to pay as those that receive the greater burdens.

These forward-looking principles are grounded in fairness and propose to improve the present or future states of affairs without implying blame for historical wrongs. In the next couple of sections, we will look at quite a different approach, that of reparative justice and backward-looking principles, as well as reasons these principles are appealing as well.

Justice

Reparative Justice

What is 'justice'? One interpretation comes from Margaret Walker's theory of reparations. In the first chapter of *Moral Repair*, Walker develops an account of what moral repair and restoration of moral relationships consists in.¹⁰⁷ Moral relationships are governed by mutually recognized norms of appropriate moral behavior and systems of accountability if those norms are trespassed. If they are trespassed, moral repair demands the wrongdoer admit to misdoings, repair any harms, and compensate for wrongs.

Victims of wrongdoing typically express a desire for the wrongdoer to fully acknowledge what s/he did was wrong and that the wrong act will not be repeated, as a matter of apology and moral amending. These victims must have opportunities to express their stories to the public and receive validation as well as support from others in order to be vindicated. Failing to empathize with and bolster the victims' injury is itself a serious moral wrong. Walker writes, "[m]oral repair is restoring or creating trust and hope in a

shared sense of value and responsibility."¹⁰⁸ Communities are responsible for maintaining the authority of valid norms, seeking acknowledgment of harm from the wrongdoer, and assuring victims that they will be helped (and seeing to it). We learn from Walker that moral repair can only happen when the victims' claims are validated and the aggressor is held accountable with the community's help.

Similarly, Tsosie argues that reparations might involve acknowledgment of past harm, apology, material reparations, or all of these. Honest acknowledgment of past injustice is required to restore the victim and the relationship.¹⁰⁹ Public apology is an important action that places responsibility on the wrongdoer and helps to further the healing process.¹¹⁰ Wrongdoers' failure to apologize sends a symbolic message of indifference to indigenous peoples and other victims of injustices including dangerous climate change.¹¹¹ If the wrongdoer decides to make reparations, those measures must make a sincere attempt to repair the victims and perhaps the relationship, with an emphasis on healing and reconciliation. Reparations should not be solely monetary.¹¹² Compensation without reparations is often inadequate and imposes a further harm. In addition, reparations for indigenous peoples must include full recognition of their right to self-determination as an equal nations engaged in an intercultural dialogue.¹¹³ Indigenous people consistently demand their right to participate in negotiations as equals.

The current situation facing the Native Arctic peoples is unjust according to these models of reparative justice. The Yupiit emit far less GHGs per person than most others, but they experience at least as much harm to their environment and their lifeways as in more developed places, and often they see much more destruction, "bear[ing] the costs of their own victimization".¹¹⁴ A valid moral norm has been violated, namely that

individuals ought not to bear the cost of their own victimization, and community members have not adequately supported the victims in their pursuit of justice. There has been seriously lacking acknowledgment of harm, and even less apology and compensation, on the part of polluters. This has been frustrating to Native Arctic Peoples. Inuit and Eskimo people brought the Inuit Petition to the Inter-American Commission on Human Rights to Oppose Climate Change Caused by the U.S. in 2005, arguing that their fundamental rights had been violated by the acts and omissions of the United States related to the environment, and that the U.S. has a duty to provide reparations to them. The Petition states,

The United States is obliged under international law to take responsibility for its contributions to global climate change both by limiting emissions and by paying reparations to those that it has harmed and continued to harm. The United States therefore has a duty to provide appropriate remedy and redress.¹¹⁵

Breaches of responsibility create duties to repair the injustice of damage to cultural integrity.¹¹⁶ The Petition states that “the U.S. has violated its obligation to implement the Framework Convention in good faith...” evidence for which includes the fact that six U.S. states had banned mandatory emissions reductions.¹¹⁷ The U.S. has also violated its obligation to take a precautionary approach in light of less than absolute scientific certainty.¹¹⁸ In light of these failures by the U.S., arguments in the Petition suggest the U.S. has an obligation to make reparations for the purpose of erasing as much as possible the adverse consequences of their breach of obligations.¹¹⁹

The Inuit and Eskimo people demand reparations, but according to Walker’s theory, they also deserve community support. It is clear that members of the public have not backed nor validated their claim that the wrongdoers have indeed violated a valid

moral norm. As they have largely ignored the plight of the victims, members of the public have failed to vindicate these victims and to hold the wrongdoers accountable. Inuit and Eskimo people have also not received public apology from the wrongdoers, nor have they began the healing process with their participation. Because reparations for historical wrongs have not been made, the current climate situation is unjust according to the models of reparative justice constructed by Walker and Tsosie.

Alternative

I will now discuss an alternative conception of justice and how the current climate situation might be unfair. This is for the same two reasons that I considered alternatives to Rawlsian fairness: to give a balanced account for the reader, and to give further support to the claim that it really is unjust. This alternative conception of justice utilizes human rights; this is good for those who find reparative justice too demanding.¹²⁰ This alternative is compatible with reparative justice.

This alternative of human rights comes from indigenous peoples, including the Inuit and Eskimo people, who have fought for participatory control with respect to climate negotiations.¹²¹ Human rights are often grounded in autonomy and moral personhood, justified by the internal features of the person such as dignity, inherent self-worth, rationality, or the capacity to will a universal moral law.¹²² Lavanya Rajamani argues that human rights claims bring attention to the dangerous effects of climate change on vulnerable populations and have the potential to influence climate negotiations by holding accountable those who have violated human rights. Existing climate treaties tend to allocate burdens in the context of rational self-interest, with little, if any, serious discussion of human rights. Rajamani writes that the claim of violation of human rights

has been a recurrent argument with indigenous peoples in particular, and especially with the Inuit peoples.

Rajamani argues that moral, as contrasted from legal, human rights, are the most promising for a feasible and morally sensitive climate policy approach.¹²³ She notes that many developed nations, especially the United States, have consistently rejected climate treaties which draw heavily on legal human rights. Recognition of moral human rights in climate treaties may provide grounds for assessing existing climate law and for ultimate legal recognition of some of these rights.¹²⁴ Similarly, the International Council on Human Rights Policy (ICHR) notes that a focus on human rights can add “considerable moral traction to arguments in favor of strong mitigation and adaptation.”¹²⁵ Arguments for moral human rights in climate treaties could improve the outcome of climate negotiations for the most vulnerable.

Many Inuit and Eskimo people themselves understand human rights, both moral and legal, as central guiding considerations for climate change negotiations. The Petition is largely an argument about moral human rights. The petitioners claim the U.S. has violated their “rights to the benefits of culture, to property, to the preservation of health, life, physical integrity, security, and a means of subsistence, and to residence, movement, and inviolability of the home.”¹²⁶ A recurrent theme is the inseparability of culture from nature and the environment, the serious harm which comes from destruction of these, the serious harm which comes from forced relocation, and in general the damage to subsistence lifestyle through no fault of their own.¹²⁷ In seeking relief from these harms, the arguments in the Petition appeal to moral human rights in addition to legal human rights.

Human rights in general are widely accepted in climate negotiations. Caney argues that climate change jeopardizes the human rights to life, health, and subsistence.¹²⁸ The Declaration of the Rights of Indigenous Peoples, adopted by the United Nations General Assembly in 2007 expresses the right of indigenous peoples to self-determination and “the right to be secure in the enjoyment of their own means of subsistence and development.”¹²⁹ If this right is infringed upon by other governments, indigenous peoples are entitled to “just and fair redress.”¹³⁰ In addition, the agenda for sustainable development adopted at the Rio Summit recognizes indigenous cultural norms and environmental ethics.¹³¹

I think the Petition is convincing in its arguments that the U.S. has violated Inuit and Eskimo peoples’ moral human rights. The evidence they cite strongly supports their claim that the U.S. has violated their rights to culture, property, “to the preservation of health, life, physical integrity, security, and a means of subsistence, and to residence, movement, and inviolability of the home.”¹³² Similarly, the Petition makes a convincing case that the Inuit and Eskimo suffer a cultural harm at the hands of industrialization. My earlier argument concerning cultural harm speaks to the same harms found in the Petition, which I argued constitute a cultural harm when taken together.

To be sure, the right to be free from cultural harm is a negative right which limits others’ freedom to act in certain ways towards others or in ways which affect others.¹³³ Working from the premise that moral human rights are a concept of justice, it seems plausible that freedom from cultural harm is a moral human right. Freedom from cultural harm is a right supported by a ‘status-based’ approach which justifies the existence of rights from the nature of the rights-holder.¹³⁴ The nature of the agent, whether it be

autonomy, dignity, rationality, or an alternative, creates duties of respect for the agent's rights. A status-based approach is different from an instrumental approach, which justifies the existence of rights from their potential to produce optimal consequences. Rights are not things which are good because their existence and recognition bring about some greater end, such as the maximum expected happiness; but rights are important because rights-holders have dignity and are appropriate subjects of respect.¹³⁵

The status-based approach to human rights has significant overlap within indigenous rights to cultural and environmental self-determination. The Petition supports the Inter-American Commission on Human Rights argument that "...the preservation and strengthening of the cultural heritage of these ethnic groups [validates] ... their members' potential *as human beings*."¹³⁶ Arguments in the Petition purport to maintain that freedom from cultural harm is a moral human right, as well as one widely recognized by various international reports and commissions;¹³⁷ however, "[n]o U.S. law provides a remedy adequate to protect the rights alleged to have been violated in this petition."¹³⁸ Moreover, if freedom from cultural harm is a moral human right, then the right to not be blocked from accessing to one's culture will be as legitimate as the right to life, property, and privacy.¹³⁹ From the premise that moral human rights are a conception of justice, and that cultural harm constitutes a moral human right, we can then infer that cultural harm is an injustice. This is a major conclusion which the Petition seeks to establish.¹⁴⁰

In this section, I have argued that the Yupiit experience cultural harm as a result of climate change amounts to an injustice. According to Walker's theory of reparations, an injustice occurs when valid moral norms are trespassed and the wrongdoer fails to provide adequate reparations. Tsosie argues that reparations involve the wrongdoer's

acknowledgment of harm and reconciliation with the victim. The Petition largely expressed the need for reparations in light of the U.S. violating moral human rights, as required by justice. In the next section, I will discuss backward-looking principles of climate change which are grounded in justice along with some advantages they offer as proposals to remedy the climate situation.

Backward-Looking Principles

Having considered forward-looking principles and reasons why they are appealing, I will discuss advantages of backward-looking principles. According to backward-looking principles¹⁴¹ of climate change mitigation, past activities, especially inequalities or injustices, are relevant for consideration as a matter of justice. The occurrence of past climate activities or injustices are relevant for consideration because they have shaped the conditions of the present state of affairs. When the Lockean proviso that “enough and as good” of a good previously held in common is left for others is unjustly violated, an injustice occurs. Going forward, historical emissions and/or injustices guide the formulation of principles aiming at correcting inequalities which arose from past activities or injustices.

One reason why backward-looking principles with respect to mitigating climate change are appealing is because, in holding the responsible parties accountable for past emissions and past wrongdoings, such principles assign just deserts. Those who have caused past injustices or who have been a major cause of the climate problem are, for that reason, responsible for taking action to correct the problems now. The wrongdoers deserve to take responsibility for their actions or omissions, and they deserve certain burdens. For instance, a group of polluters who unjustly harmed others might deserve the

burdens of decreasing their emissions now, and acknowledging the harm they incurred on others.

One example of a backward-looking principle that includes the notion of just deserts, as well as equity and fairness in climate change burdens and benefits, is given by Henry Shue. He argues that parties who have unilaterally imposed inequalities are responsible for taking extra burdens to help reverse the inequality. His first principle of equity reads:

When a party has in the past taken an unfair advantage of others by imposing costs upon them without their consent, those who have been unilaterally put at a disadvantage are entitled to demand that in the future the offending party shoulder burdens that are unequal at least to the extent of the unfair advantage previously taken, in order to restore equality.¹⁴²

What is important about this principle and what sets it apart from forward-looking principles is not only the focus on previous arrangements which influence the levels of equality in the future, but also the claim-rights of some to require payments from others. The offending party's taking a proportionate share of the burdens unfairly inflicted on the victim is necessary in meeting the requirements of justice. Similarly, some argue that "it is only right that [industrialized countries] should take the initial responsibility of reducing emissions while allowing developing countries to achieve at least a basic level of development."¹⁴³ Restoring (or creating) fair circumstances in emissions programs and assigning just deserts to responsible parties is a requirement of this type of proposal.

Another backward-looking principle which has the advantage of assigning just deserts is what Caney calls the "beneficiary pays principle" (BPP). An instance of the BPP is Eric Neumayer's argument that developed countries, with their ill-gotten high standards of living, should be held accountable for the detrimental effects of developing

this lifestyle.¹⁴⁴ The idea is when one party benefits by a certain activity which brings undue harm to another party, the benefiting party ought to discontinue the activity or else address the harms facing the other party.¹⁴⁵ In the case of the Yup'ik people, the fact that climate change and its adverse effects are anthropogenic provides reason to help them in their suffering. Those who benefit from an industrialized lifestyle at others' expense owe the victims help. If climate change and its adverse effects were not anthropogenic, then the well-off would not have a duty to help the victims *in virtue* of their causing the suffering. However, they may be morally required to help in order to alleviate suffering, or because the victims have absolute dignity, or something else.

A second reason why backward-looking principles for mitigating climate change are appealing is because they can decrease incentives to emit excess GHGs. The polluter pays principle (PPP) is perhaps one of the most well-known backward-looking principles. As the name suggests, this principle assigns burdens to those who have emitted the most GHGs in the past, and as such, it has some deterrent effect.¹⁴⁶ Any dis-incentivizing emissions will not only include a principle such as the PPP, but a system of compliance.

These backward-looking principles are grounded in justice and inform plans for improving the present or future states of affairs based on the occurrence of historic wrongs. In this section, we discussed both fairness and forward-looking principles, justice and backward-looking principles, along with some of their advantages. In the next section, we will consider some problems with these principles, and determine how to combine them.

AN INTEGRATIVE APPROACH

In this section, I argue that an acceptable principle of climate mitigation will draw on both forward-and-backward-looking considerations. Now that we have discussed some advantages of forward-looking and backward-looking principles, I would like to discuss some disadvantages of the principles and evaluate their overall merits. The overarching worry that applies to both types of principle is that neither is acceptable on its own without further supplementation. Many of the authors we have discussed so far echo this worry, and take themselves to construct hybrid principles while filling in the gaps between the theories they combine.

Worries about the Principles

I will discuss some problems with forward and backward-looking climate principles. Some of these worries will be my own, others will be not my own. Some will be both my own and others', but this is unimportant. My responses to the worries are not defenses nor rejections for the principles, but are for the purpose of guiding the dialectic.

One worry regarding forward-looking principles is that they often ignore past inequalities or injustices, which itself is unjust. Gardiner writes that Traxler's proposal "means ignoring the previous emissions of the rich, the extent to which those emissions have effectively denied the LDCs [Least Developed Countries] "their share" of fossil-fuel based development in the future, and the damages that will be disproportionately visited on the LDCs ..." ¹⁴⁷ Failing to acknowledge and redress historic unequal emissions is unacceptable from the standpoint of justice. It is not enough to simply move forward and forget about previous emissions activity.

A second worry regarding forward-looking principles is that they tend to select

the very same responsible parties for purposes of assigning mitigation and adaptation burdens, namely, the developed, industrialized nations. For instance, those nations which have the highest ability to pay are the often the polluting countries. If backward-looking principles are unfeasible because leaders of political institutions for nations x , y , and z are unlikely to agree to an assignment of burdens which is justified by blame for past wrongs (as the forward-looking proponent argues), then why are forward-looking principles any more feasible when they assign burdens to those same leaders of nations x , y , and z ? The putative benefit of political feasibility which comes with forward-looking principles might not be as great as thought.

In response to this worry, the forward-looking proponent might respond that leaders of rich countries will more likely accept a schedule of burdens which is not justified by appeal to blaming for past wrongs, but rather merely assigns burdens based on current holdings. The justification for the assignment of burden matters most. In order to reduce emissions, we must sacrifice certain duties of justice, the forward-looking proponent might argue. However, I think that if we accommodate this sentiment and ignore much of the moral facet of the problem, this could send a symbolic message of indifference to those who suffer greatly from climate change, such as indigenous people including the Yupiit.¹⁴⁸ More generally, it is important to hold responsible parties accountable for past wrongdoing if we want an acceptable account of climate justice.¹⁴⁹

Another worry with forward-looking principles has to do with those that aim to help the worst-off. Peter Singer argues that if one wants to formulate a mitigation principle using a Rawlsian approach, one could accept only a distribution which improves the situation of the worst-off, while the best-off are better off than those at the

bottom. An acceptable principle for distribution would require the rich nations bear *all* of the adaptation and mitigation burdens. The only way to argue against them bearing all the burdens is to hold that rich nations bearing all the burdens makes the poorest nations even *worse* off, but Singer claims this argument ultimately fails.¹⁵⁰

This worry begets further worries. Because a Rawlsian approach to formulating mitigation principles arranges distribution to improve the situation of the worst-off, it seems this arrangement is unsatisfactory for those situated in an intermediate position. Those who are not the worst-off, but are not the best-off either, are essentially ignored under this Rawlsian (or simply forward-looking) approach which allocates all burdens to the rich. Perhaps those who are in the middle could reasonably reject a climate mitigation principle which ignored their situation. For example, poor people in the U.S., or countries including China and India, while not the worst-off globally, nevertheless greatly suffer from the effects of climate change. This worry suggests that an acceptable climate principle will include some remedy for not exclusively the worst-off groups, but those in the middle as well.¹⁵¹

In response to this worry, if the worst-off are significantly worse-off than those in the middle, then the worst-off are justified in demanding the most help from the standpoint of Rawlsian fairness. Similarly, if the level of justice is determined partially by the situation of the worst-off in society, then an acceptable mitigation principle will foremost address ways to improve the situation of the worst-off. Remedies for the worst-off need not be in effect indefinitely; their purpose could be to improve their situation until they enjoy equal or near enough the prospects of those in the middle.

After having discussed some problems with forward-looking principles, I will

now discuss some problems with backward-looking principles. One worry regarding backward-looking principles (which draw on egalitarian conceptions of justice, such as Shue's) is that they assign emissions responsibilities to collective entities, but this approach is implausible. Caney argues that assigning responsibility to collectives is problematic because it entails that we should assign responsibility (and burdens) to individual persons who comprise the collective entity. He argues that principles assigning burdens to a collective would penalize descendants of privileged families by depriving these descendants equal opportunity in order to rectify past unfairness. Depriving these individuals of equal opportunity does nothing to change the historic inequalities of opportunity and is wrong.¹⁵² Backward-looking principles are objectionable insofar as the actors who caused early emissions were non-culpably or excusably ignorant of the harmful side effects.¹⁵³

In response to this worry, it seems that descendants of privileged families today are not deprived of equal opportunity at all; in fact, they tend to continue to be better off than those who are not descendants of privileged families. As lucky beneficiaries of the products of industrialization, the 'descendants' are happy to collect the rewards which come with such a status. It is not terribly unreasonable to ask them to pay the costs which come with the benefits, even if only a matter of civic responsibility. Thomas Pogge writes, "[t]he privileged of today are quick to point out that we cannot inherit our ancestor's sins. Indeed. But how then can we be entitled to the fruits of these sins...?"¹⁵⁴ The unfairness that came with past emissions which harmed non-emitters has carried over into the present, shaping the current state of affairs.¹⁵⁵ The moral upshot is, I think, something like Shue's first principle of equity, according to which the disadvantaged are

justified in requiring parties who may be responsible for taking unfair advantage of them to pay compensatory burdens in order to restore equality.

In addition, if polluters were culpably ignorant or otherwise acting with gross negligence, they nevertheless might be held responsible, though not punished.¹⁵⁶ One reason for this is that they should have (and should now) adopt the precautionary principle and avoid risking climate damage even if there is less than certain scientific evidence to support doing so. A final response to Caney's worry is that it seems difficult to avoid assigning burdens to any other entity but individuals. There does not seem to be a fatal problem with assigning burdens to individuals who emit excess GHGs, nor to assigning burdens to each individual in a collective entity even though some individuals have not emitted excess GHGs.

A second worry about backward-looking principles is that they are unfair. This worry is relevant to the (unqualified) PPP. Because it does not distinguish between emissions from poor countries and emissions from rich countries, the PPP renders the poor vulnerable to pay for their pollution, which is unfair and a form of "environmental colonialism."¹⁵⁷ For example, an unqualified PPP would make developing countries pay for their emissions in equal proportion to the payments that developed countries pay for their emissions. India, as a country developing its industrial sector, is bringing millions of people out of poverty as a result. If such industrialization (by emitting GHGs) is also the way in which the already developed countries have brought their once-impooverished citizens out of poverty, then those developed countries ought not to prevent other countries from doing the same, as a matter of fairness and equality.

Another worry about backward-looking principles, and the PPP in particular, is

that, as lacking both a background theory of entitlements and a system for ensuring compliance, the PPP is incomplete.¹⁵⁸ The PPP maintains that some parties ought to pay because they have exceeded their entitlements. According to Caney, the PPP “must be located within the context of a general theory of justice, and on its own, it is incomplete.”¹⁵⁹ While this worry is serious, notice that it applies only to the PPP taken alone – it targets arguments in favor of the PPP which do not provide supplementation for a general theory of entitlements. Either such a general theory is simply assumed without explicit argument, or it is not and the PPP is taken on its own. However, Caney’s worry will dissipate once one argues for some kind of background theory of entitlements to supplement the PPP. Regarding the worry that the PPP lacks a system for ensuring compliance, note that this problem will also apply to forward-looking principles, although perhaps to a much less extent if parties perceive them to be more fair than the PPP. In any case, an acceptable climate principle will include some proposal for optimal compliance.¹⁶⁰

In this section, we considered several problems for both forward-and-backward-looking principles. Regarding forward-looking principles, there were three worries: these principles often ignore historic injustice, which is itself wrong; these principles are not as politically feasible as claimed because they assign burdens to much of the same parties as backward-looking principles; and they unfairly favor the worst-off parties while ignoring those in an intermediately-situated position. Regarding backward-looking principles, we also discussed three worries: These principles penalize innocent parties by assigning burdens to them, although they are not responsible; these principles are unfair insofar as they assign burdens to emitters, regardless of development level; and the PPP in

particular is incomplete, as it lacks a background theory of justice upon which to ground entitlement claims and compliance. In the next section, we will discuss a way to avoid some problems that come with exclusively forward-or-backward-looking principles – namely, by combining both types of principle.

Combining the Principles?

Taken together, the worries about both forward-and-backward-looking principles stated above suggest that neither exclusively backward-looking nor forward-looking principles are desirable without modification. But since both types of principle also have great advantages, we should not jettison them completely. On the one hand, considerations of political feasibility with respect to assigning mitigation and adaptation burdens are important. On the other hand, considerations of fairness and correcting past injustices are also important. So a merger between forward-and-backward-looking principles might avoid these problems. Indeed, that we should not have to choose between this dichotomy is a sentiment expressed by most of the philosophers we have discussed.

But is such a combination consistent? Can we have a principle of climate justice which utilizes both forward-and-backward-looking principles in a coherent way? These are the questions reflective equilibrium requires us to answer.¹⁶¹ To see how such a combination principle can indeed work, consider Boxill's argument drawing on both forward-and-backward-looking principles in the context of affirmative action. He distinguishes compensation and reparation, noting that compensation is a requirement of justice in order to ensure fairness in equality of opportunity and a requirement that holds regardless of whether a past injustice occurred. Compensation is owed to persons because

they have dignity and rights to pursue what they find valuable.¹⁶² An example of compensation is a community's helping to pay for a disabled person's wheelchair so that she may more easily pursue what she finds valuable. Reparation, on the other hand, is a requirement of justice in order to correct past injustices and to acknowledge wrongdoing. The concept of reparations is always connected to historic injustices, inequalities, and the like.¹⁶³ An example of reparations is a community's helping to pay for a person's wheelchair *because* they were somehow at fault for her disability. In this way, compensation is forward-looking and reparation is backward-looking.

Boxill argues that reparations for slavery should be made by the present community even if the present community is not culpable for the past injustice, but because they have inherited benefits (fruits of labor) which rightfully belong to descendants of slaves, and the descendants of slaves are made worse off by the past and present injustices. Because the descendants of slaves have been "reduced to their present condition by a history of injustice,"¹⁶⁴ they are less able to realize their right to pursue what they find valuable as they would have been if their ancestors were never enslaved. The descendants of slaves' claims to receive both compensation to render their life prospects equal to others and reparation to correct past injustice, are not mutually exclusive. Moreover, the justice of reparations in this case holds independently of whether the parties to give reparations are *themselves* guilty of an injustice, but rather because they are beneficiaries of current unjust holdings. One might disagree with Boxill's substantive argument, but accept the structure as valid.

Boxill's argument demonstrates how backward-looking and forward-looking principles could be consistently merged. To formalize his argument: community A owes

some x or an equivalent to community B when i) x was unjustly transferred from B to A and ii) the consequences of the unjust transfer impede B's current equality of opportunity. Notice how community A, in giving x or an equivalent back to its rightful owner B precisely because x was unjustly transferred, gives reparations to B. At the same time, A gives x or an equivalent to B in order to support or reinstate equality of opportunity for B. This transfer is at once both compensation and reparation.

But what is the 'transfer' in the problem of climate change? It is the transfer of mitigation and adaptation burdens and in primary social goods from one group to another. For example, adaptation burdens in the form of financial costs are transferred from industrialized places such as the U.S. onto subsistence communities such as the Yup'ik people. The costs of adapting to climate change, such as relocation expenses, are unjustly transferred onto the Yup'ik. When the mechanism for A's high standard of living ultimately makes B's standard of living worse, A has a duty both to repair the damage and to compensate B in order to support equality of opportunity.

It might be objected that the situation is not this simple because communities A and B with respect to the climate problem are indeterminate. Given the global connectedness of our world today, it is nearly impossible to assign labels of 'polluter' and 'victim' to various countries. (Even if we could do that, it will remain unclear as to who are the individual polluters and the victims). In response to this objection, I will follow Jamieson in replying that the class of winners and losers are fairly determinate. The poor, wherever they live, tend to suffer the most from the effects of climate change while the rich tend to suffer the least because they have the means to protect themselves from dangerous climate change. The Yup'ik people are a vivid instance of those who suffer as

a result of climate change, but they are part of a larger body of those who suffer significantly.

Boxill's argument manifests a how a coherent merger might be expressed between both compensation and reparation, both fairness and justice. The two concepts need not be opposed towards one another – rather, they can reinforce each other. Backward-looking principles and forward-looking principles can be coherently integrated into one climate principle.

Working towards a Balanced Integration of Principles

What would a theory which combines both forward-and-backward-looking principles look like? Caney supports the idea of an integrative approach with respect to principles assigning climate burdens. He argues for a “hybrid account”, which states “...the most advantaged have a duty to construct institutions that discourage future non-compliance (an ‘ability to pay’ principle)”.¹⁶⁵ The hybrid account depends on three premises about duty. The first is that all persons have a duty not to emit more GHGs than allowed by their assigned quota in international treaties; the second is that if persons do exceed the allowance, they have a duty to compensate others (revised PPP); the third is that the most advantaged persons have a duty to reduce GHG emissions in proportion to harm (mitigation), or to address the bad effects of climate change (adaptation).¹⁶⁶ The hybrid account is supposed to address both historic wrongdoing as well as current ability to pay.

Similarly, Singer argues for a global emissions trade in which nations could buy and sell emissions quotas within a policy of equal per capita shares on a set amount of global emissions. The solution of global emissions trade has a forward-looking element,

as “the point is not to punish nations with high emissions but to produce the best outcome for the atmosphere.”¹⁶⁷ Global emissions trade also has a backward-looking element of the justice in poor nations’ ability to sell emissions quota. Singer also seriously considers the possibility of those people whose lands are destroyed by climate change to win damages, or to impose sanctions, on the responsible party.¹⁶⁸

While these hybrid principles are better (more complete, feasible) than either exclusively forward-looking or exclusively backward-looking principles, they do not sufficiently integrate both types of principle. Caney’s hybrid account and the proposal of global emissions trade advocated by Singer do not give enough emphasis to backward-looking considerations. Caney’s principle seems not to adequately address historic environmental wrongs to vulnerable populations; and Singer’s principle includes no account of the wrongdoer giving honest acknowledgement of historic wrongs or attempting to repair relations. It is not expected that an acceptable integrative principle for climate change be exactly equal in its combination of these two considerations, but it is nevertheless desirable to place enough emphasis on problems of justice.¹⁶⁹ Given Boxill’s argument in the previous section, and keeping in mind Rawls’ claim that justice as fairness is an ideal theory which will need to be supplemented with an account of justice to remedy wrongdoing, there is no reason for backward-looking and forward-looking principles to be mutually exclusive. In particular, given the past and present injustice that the unfair distribution of adaptation burdens and primary goods imposes on the Yup’ik people and others, and the cultural harms placed on them through the effects of climate change, climate principles which clearly and thoroughly address issues of justice backward-looking considerations are most acceptable to most parties involved.

CONCLUSION: WHAT IS THE SOLUTION?

Justice and fairness need not be mutually exclusive in the context of climate mitigation principles. In particular, forward-and-backward-looking principles should be integrated in a climate principle which addresses the problem of indigenous peoples suffering from the effects of climate change. Many indigenous groups, such as the Inuit and Eskimo, express a need for reparative justice measures from polluting parties. As these people are among those who suffer the most, it is reasonable to suppose that their claims should be seriously considered in addition to other parties involved. An acceptable climate mitigation principle will thus integrate considerations of both fairness in a schedule of burdens which is politically feasible *and* reparative measures for past injustices and perhaps recognition of moral human rights in climate treaties.

Early on in this paper, we discussed the problem of relocation facing the Yup'ik people and three options they and the state might choose. First, the Yupiit could move their entire village a few miles away, and with state help in the form of financial assistance. This plan will cost the state the most by far, but it is the preferred option among the Yupiit as it enables preservation of their culture. Second, the Yup'ik could move to another nearby city or town, such as Fairbanks also with state financial help. A third alternative is that the Yupiit could choose either of these two options, but the state would not provide financial assistance.

The first option is certainly desirable insofar as it maintains any cultural integrity the Yup'ik have left. This option is most preferable from a standpoint of a purely reparative justice proponent, as it erases the damage of historic wrongdoing, whatever the cost. The third option is attractive to a libertarian, who might argue that the state should

exert minimal involvement. However, some libertarians, such as Nozick, might argue against this option because they think the state should adopt a one-time redistribution of property to remedy inequalities. My argument, perhaps surprisingly, supports the second option. According to Rawls' conception of fairness and forward-looking principles, the Yup'ik people deserve non-extraordinary resources sufficient to provide equal life chances for equal talents with the state's help. The state is not required to positively promote the preservation of certain lifeways or cultural integrity, so Rawls' fairness rules out the first option. However, the inclusion of justice and backward-looking principles, especially Shue's first principle of equity, adds something further. Drawing on moral reparations, the state should publicly acknowledge the past injustice of emissions which harmed the Yup'ik. This seemingly small gesture could have significant positive effects for the Yup'ik peoples and help lift the dark cloud. In addition, the state ought to provide some measures to actively maintain the Yup'ik culture, such as paying stipends for housing and subsistence equipment and hiring native language-speaking schoolteachers. In the realm of the nonideal world, these measures would be in the interest of the Yup'ik people and would allow optimal access to their culture, while still costing much less for taxpayers than moving each house to a new site as per the first option.¹⁷⁰

Certainly, there are limits to Rawls' theory as far as supporting cultural rights and lifeways. Recall that under his view, fundamental political issues must be justified by public reason by appeal to public values and public standards that rational and reasonable people will accept. Reasonable citizens will accept fair terms of social cooperation for each citizen, but it is unclear whether the public would agree to support the Yup'ik rights to culture and lifeway with their tax dollars at such an expensive cost. (This supposes a

descriptive claim about how people might think about utilizing public funds in the nonideal world, and is thus not wholly normative). However, it is true that Rawls' account is consistent with certain cultural protections. Kymlicka writes, "these special [cultural] rights ... are in fact consistent with liberal principles of equality. They are indeed required by the view, defended by Rawls and Dworkin, that justice requires removing or compensating for undeserved ... disadvantages..."¹⁷¹ Certain special rights enable members of minority cultures to live on equal terms as the majority. Justice as fairness allows equality of opportunity to pursue any permissible conception of the good, including chosen lifeways.

I have provided an argument for an integrative approach between fairness and justice, forward-and-backward-looking considerations in addressing a resolution to environmental harm regarding the Yupiit. I have not provided an explicit principle to that effect, nor have I intended to. Formulating an acceptable principle is an occasion for further work. Neither have I discussed some of the most important objections concerning this integrative approach. I have only tried to provide reasons to demonstrate why such an integration is desirable. Finally, a more complete discussion will include indigenous groups in addition to the Yupiit, and perhaps those who suffer the most from climate change in a global context. This discussion could include the poor, future generations, and nonhuman nature. Both justice and fairness require the powerful to pay immediate attention to the situation of the worse-off.

Notes

¹ I choose to focus on Alaskan natives as they are situated in particularly volatile circumstances. Note that I will not discuss intergenerational aspects of climate change, and I will only mention global justice.

² United States, Government Accountability Office, Report to Congressional Committees, *Alaska Native Villages: Most Are Affected by Flooding and Erosion, but Few Qualify for Federal Assistance*. GAO-04-142 (GAO, 2003) GAO. Government Accountability Office. Web. 21 July 2013. See also Don Callaway, "A Changing Climate: Consequences for Subsistence Communities," *Alaska Park Science* 6.1 (2007): 20. Print.

³ Callaway, 21.

⁴ Callaway, 19. Print. See Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations Resulting from Global Warming Caused by Acts and Omissions of the United States, Dec. 7, 2005. Web. 36.

⁵ Dale Jamieson, "Adaptation, Mitigation, and Justice," *Climate Ethics: Essential Readings*. Ed. Stephen M Gardiner, et al. (New York: Oxford University Press, 2010) 267. Print.

⁶ Callaway, 20.

⁷ Callaway, 19. See also United States, Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2011* EPA 430-R-13-001 (EPA, 2013). EPA. Environmental Protection Agency. Web. 04 Jan 2014.

⁸ Guy Adema, et al, "Melting Denali: Effects of Climate Change on the Glaciers of Denali National Park and Preserve," *Alaska Park Science*, 6.1 (2007): 16. Print. Many glaciers in Alaska have retreated and summer melting rates are higher than winter snow and ice accumulation, resulting in a negative balance.

⁹ Callaway, 20.

¹⁰ John Morris, "Arrange for change: Interpreting the Science of Climate Change in National Parks," *Alaska Park Science* 6.1 (2007): 8. Print.

¹¹ There were 379 parts per million (ppm) of CO₂ in 2005, up from about 278ppm 500 years ago. See P. Forster, et al, "Changes in Atmospheric Constituents and in Radiative Forcing," *Weather Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Ed. Solomon, S., et al. (Cambridge and New York: Cambridge University Press, 2007) Web.

¹² The term "lifeways" describes the "social, economic, and spiritual interaction of indigenous peoples with their traditional environments." Rebecca Tsosie, "Indigenous People and Environmental Justice: The Impact of Climate Change," *University of Colorado Law Review* 78.4 (2007): 1628. Print.

¹³ Traditionally, the name "Eskimo" is used to refer to all Inuit and Yup'ik peoples. While some consider the name "Eskimo" outdated or derogatory, most Native Alaskan peoples prefer it over "Inuit". See Lawrence Kaplan, *Inuit or Eskimo: Which name to use?* University of Alaska Fairbanks Alaska Native Language Center, n.d. Web. 01 July 2013: "The name Eskimo, first applied by Europeans, derives from an Innu (Montagnais) word for snowshoes [not 'flesh-eaters']; it is favoured by Arctic peoples in Alaska, while those in Canada and Greenland prefer Inuit." See also "Inuits: U.S. Pollution Violates Rights," *Beaumont*

Enterprise, 3 Feb. 2007, abstract. "The Inuit population hails from Canada, Russia and Greenland, as well as Alaska, where they are known as Eskimos."

¹⁴ *Petition*, 3-4, 54, 95-6. For a discussion on the history and moral issues of the importance of geographical location to indigenous peoples and the harms of forced relocation (especially to other countries), see also Tsosie, *Indigenous People*, 1644-46.

¹⁵ Rebecca Tsosie, "Cultural Challenges to Biotechnology: Native American Genetic Resources and the Concept of Cultural Harm," *Journal of Law, Medicine and Ethics* 35.3 (2007): 396-411. Print. See also James O. Young, "What is Cultural Appropriation?" *Cultural Appropriation and the Arts*, James O. Young (West Sussex: Wiley-Blackwell, 2008) 1-31. Print. See also Rebecca Tsosie, "International Trade in Indigenous Cultural Heritage: An Argument for Indigenous Governance of Cultural Property," *International Trade in Indigenous Cultural Heritage: Legal and Policy Issues*, Christof Beat-Graber et al. (London: Edward Elgar Press, 2013) 221-45. Print.

¹⁶ Tsosie, *Cultural Challenges to Biotechnology* 403. See also Tsosie, *International Trade* 221-45. See also Young, *Cultural Appropriation*.

¹⁷ Angayuqaq Oscar Kawagley, "Yupiat," *Gale Encyclopedia of Multicultural America*, ed. Jeffrey Lehman. 2nd Ed. Vol. 3. (Detroit: Gale, 2000) 1897. Gale Virtual Reference Library. Web. 16 Feb. 2014.

¹⁸ Kawagley 1896-97.

¹⁹ 1897.

²⁰ Rebecca Tsosie, "Tribal Environmental Policy in an Era of Self-Determination: The Role of Ethics, Economics and Traditional Ecological Knowledge," *Vermont Law Review* 21.225 (1996-97): 277, 286-285. Print.

²¹ Tsosie, *Tribal Environmental Policy*, 289-90.

²² Tsosie, *Tribal Environmental Policy*, 275-81.

²³ Tsosie, *Tribal Environmental Policy*, 285.

²⁴ Tsosie, *Tribal Environmental Policy*, 285.

²⁵ Tsosie, *Tribal Environmental Policy*, 285-87.

²⁶ Callaway, 63. See also Ann Fienup-Riordan, "Yup'ik Perspectives on Climate Change: "The World is Changing Following its People,"" *Études/Inuit/Studies* 34.1 (2010): 55-70. Print.

²⁷ Callaway, 20.

²⁸ Callaway, 19-23 discusses changes in animals in Western Alaska. "Boreal forests are expanding north at the rate of 62 mi (100 km) for every increase of 1.8°F (1°C) in air temperature" (19). See also Tsosie, *Indigenous People* 1641-43 discussing polar bears as threatened species and Native people's relationship with them.

²⁹ *Petition*, 1, 35, 74.

³⁰ Fienup-Riordan, 61.

³¹ Fienup-Riordan, 66-69.

³² Testimony from Peter John and Stanley Anthony, respectively, in Fienup-Riordan, 68, 69.

³³ Fienup-Riordan describes Yup'ik elder instructions for safe travel and hunting, “[t]hese statements emphasised [*sic*] the tremendous knowledge required for hunting, and how retaining it is critical to safe travel for contemporary young people” (57).

³⁴ Fienup-Riordan, 57-65.

³⁵ See Fienup-Riordan. Paul John (March 2008: 595) added: “I believe what the deceased shaman of Nightmute said. He said that *ella* is becoming an incessant liar. He said that although it seemed the weather was going to turn out a particular way, these days it no longer materializes [*sic*].” Fienup-Riordan notes, “[t]raditional weather predictors are no longer reliable” (58).

³⁶ For instance, the Inuit in Nunavut have experienced loss of hunting opportunities. With increased dangerous weather patterns, the community hunters are often unable to gather subsistence resources. See James Ford, et al, “Vulnerability to climate change in Igloodik, Nunavut: what we can learn from the past and present,” *Polar Record*, 42.2 (2006): 128, 30-31. Print.

³⁷ Ford, et al.

³⁸ Ford, et al., 66.

³⁹ Ford, et al., 132.

⁴⁰ Fienup-Riordan, 58.

⁴¹ Ford, et al., 132.

⁴² Bethel Census Area, Alaska," Bureau of the Census, Web. 01 July 2013.

⁴³ See *Petition*, 63-4. The Yupiit tend to suffer drug and alcohol abuse, unemployment, poverty, incarceration, and mortality at a higher rate than the national average. See “Resolving the Subsistence Policy Impasse: Key Facts and Findings,” Institute of Social and Economic Research University of Alaska Anchorage, n.d, Web. 20 July 2013.

⁴⁴ See Callaway generally. See also Suzanne Goldenberg, “America's climate refugees: Alaskans deal with effect - but not cause - of global warming: As governor, Sarah Palin wanted a climate change strategy, but attitudes are now against the science even as the ice melts faster,” *The Guardian* 15 May 2013. Web.

⁴⁵ The Yupiit are poorer than the U.S. national average, with about 20-30% falling below the poverty line, or double to triple the national average. See *Bethel Census*.

⁴⁶ For example, one third of cold water Yukon salmon are parasitized by a new disease that renders them inedible. Callaway, 22. See also “Yukon Salmon Infected by Warm Water Parasite” *Daily Kos* 15 June 2008. Web. 20 July 2013.

⁴⁷ See Callaway. Hunting and fishing nevertheless remain the better option than purchasing specially flown-in processed food with prices double those of the same items in Anchorage.

⁴⁸ U.S. GAO *Report*.

⁴⁹ Callaway, 20. The term 'adaptation burden' is from Simon Caney, "Cosmopolitan Justice, Responsibility, and Global Climate Change," *Climate Ethics: Essential Readings*, ed. Stephen M Gardiner, et al (New York: Oxford University Press, 2010) 124. Print.

⁵⁰ "The Arctic Coastal Plain: Measuring and Forecasting the Response of Alaska's Terrestrial Ecosystem to a Warming Climate," U.S. Geological Survey. N.d. Web. 21 July 2013.

⁵¹ Anna York, "Alaskan village stands on leading edge of climate change," *Powering a Nation: The University of North Carolina at Chapel Hill*. Powering a Nation, n.d. Web. 20 June 2013.

⁵² See Callaway 21-22 re coastal erosion and thawing permafrost. Newtok is one of 180 other Native Alaskan villages to relocate. In 2002 a huge chunk of land collapsed into the ocean in less than two hours' time in the village of Shishmaref, Alaska. See U.S. GAO Report. See also Kirsten Feifel and Rachel Gregg, Climate Adaptation Knowledge Exchange. Product of EcoAdapt's State of Adaptation Program, *Relocating the Village of Newtok, Alaska due to Coastal Erosion [Case study on a project of the Newtok Planning Group]* (CAKE, 2010). CAKE. Climate Adaptation Knowledge Exchange. Web. 25 July 2013.

⁵³ Fienup-Riordan, 62.

⁵⁴ The U.S. Army Corps of Engineers report that seawalls are expensive and unsafe. U.S. GAO Report.

⁵⁵ See U.S. GAO Report.

⁵⁶ Suzanne Goldenberg, "America's Climate Refugees: One family's great escape," *The Guardian* May 2013. Web. Newtok was chosen for convenience of transportation purposes although it lies on the mud banks of the Ninglick River. See also U.S. GAO Report.

⁵⁷ The Federal Emergency Management Agency (FEMA) provides assistance for "repair, replacement, or restoration" of facilities. FEMA assistance often falls short of measures to help with climate change. In Shishmaref, FEMA limited the power of the Flood Mitigation Assistance Program (FMA) from helping finance the move of 14 homes following the 1997 storm there. The FMA is authorized to assist repetitive losses and not those in danger from erosion or flooding. See "National Flood Insurance Program: Frequently Asked Questions," *FEMA* (N.p., Oct. 2005). Web. 14 July 2013. See also U.S. GAO Report.

⁵⁸ Callaway, 19.

⁵⁹ Rachael Petersen, "Human Impacts of Climate Change in Alaska," *Baker Institute Sustainable Alaska*. James A. Baker III Institute for Public Policy, Rice University, n.d. Web. 15 July 2013.

⁶⁰ James Dixon, et al, "The Frozen Past of Wrangell - St. Elias National Park and Preserve," *Alaska Park Science* 6.1 (2007). 25-29. Print.

⁶¹ Six million acres of Alaska's forests are active with spruce beetles, six times the rate of infestation twenty years ago. With more beetles comes a risk of forest fires as dry, dead trees inflame. Firewood is of lower quality and may still be infested with beetles when consumed. See "What's bugging Alaska's forests? Spruce bark beetle facts and figures," *State of Alaska*, Alaska Department of Natural Resources, Division of Forestry, n.d. Web. 22 July 2013.

⁶² See Edward Lazarus, *Black Hills, White Justice: The Sioux Nation versus the United States, 1775 to the Present* (New York: HarperCollins, 1991). Print.

⁶³ See Tsosie, *Cultural Challenges*. See also “Native American tribe fails to stop auction of masks in France,” *BreakingNews.ie* 04 December 2013. Web.

⁶⁴ The harm of decreased income and employment less directly works to constitute a cultural harm.

⁶⁵ Tsosie Indigenous People 1674. See also *Petition* generally.

⁶⁶ For an argument that Rawls’ principles of justice are not exclusively forward-looking, see Moisés Vaca, “Is Rawls’s Theory of Justice Exclusively Forward-Looking? On the Importance of Rectifying Past Political Violence,” *Tópicos, Revista de Filosofía*. 45. (2013): 229-330. Print.

⁶⁷ John Rawls, *A Theory of Justice* (Cambridge: Harvard University Press, 1971) 6-7. Print.

⁶⁸ John Rawls, “Justice as Fairness,” *The Philosophical Review* 67.2 (1958): 172. Print.

⁶⁹ Rawls, Justice as Fairness 178-83. See also John Rawls, *Political Liberalism* (New York: Columbia University Press, 1993) 15-22. Print.

⁷⁰ Rawls, *Theory of Justice* 72, 132-35. Thomas Pogge notes that the original position includes six main features: the parties are mutually disinterested and rational; they are free and equal moral agents; they are behind the veil of ignorance; their task is to agree upon a criterion for assessing the social system; they know the alternative; and “the formal constraints of the right – generality, publicity, ordering, and finality.” Thomas Pogge, *Realizing Rawls* (Ithaca: Cornell University Press, 1989) 111-12. Print.

⁷¹ Rawls, *Political Liberalism* 48-54.

⁷² Rawls, *Political Liberalism* 13-14.

⁷³ Rawls, *Political Liberalism*, Lecture VI.

⁷⁴ Rawls, *Theory of Justice* 14.

⁷⁵ Rawls, *Theory of Justice* xiii, 92.

⁷⁶ Rawls, *Theory of Justice* 54.

⁷⁷ *Theory of Justice* 53, 72. The principles are not always in this same order throughout Rawls’ many works.

⁷⁸ Rawls, *Theory of Justice* 38.

⁷⁹ Rawls, *Theory of Justice* 53, 72.

⁸⁰ This theory is one of substantive equality of opportunity. For a discussion about substantive and formal equality of opportunity, see Richard Arneson, “Equality of Opportunity,” *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, fall 2008 Edition. Web. 3 Mar. 2014.

⁸¹ Rawls, *Theory of Justice* 53, 72.

⁸² Rawls, Justice as Fairness 167, emphasis in original.

⁸³ Roy C Weatherford, “Defining the Least Advantaged,” *The Philosophical Quarterly*, 33.130 (1983): 63-69. Print.

⁸⁴ Including “rights, liberties, and opportunities, and income and wealth.” See Rawls, *Theory of Justice* 54.

⁸⁵ Rawls, *Theory of Justice* 83. How many of these contingencies must be met to be a member of the least advantaged? Again, it is unclear, but ‘one or more’ might be appropriate. For an analysis of the worst-off, see Roy C Weatherford, Least Advantaged.

⁸⁶ Weatherford refers to John Rawls, “A Kantian Conception of Equality,” *Cambridge Review*, 96.2225 (1975): 94-99. Print.

⁸⁷ Weatherford, Least Advantaged.

⁸⁸ For a discussion of luck egalitarianism, Dworkin’s critique of Rawls’ view of holdings, see Will Kymlicka, “Liberal Equality,” *Contemporary Political Philosophy: An Introduction*, 2nd Ed. Will Kymlicka (Oxford: Oxford University Press, 2002) 53-101. Print. See also Kasper Lippert-Rasmussen, “Justice and Bad Luck,” *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, fall 2009 Edition. Web. 20 Mar. 2014. Dworkin argues that inequalities in holdings which ultimately can be traced to luck in the genetic lottery, are unfair.

⁸⁹ “In one-third of all Native villages, male unemployment— at 32 percent — is nearly quadruple the statewide average unemployment rate.” See Resolving the Subsistence Policy Impasse: Key Facts and Findings.” Institute of Social and Economic Research University of Alaska Anchorage, n.d. Web. 20 July 2013, line 17.

⁹⁰ For the role of Anglo-American environmental ethics as influencing tribal environmental policy, see Tsosie, *Tribal Environmental Policy* 275-81.

⁹¹ Stephen M Gardiner, “Rawls and climate change: does Rawlsian political philosophy pass the global test?” *Critical Review of International Social and Political Philosophy* 14.2 (2011): 132. Print.

⁹² Gardiner, Rawls and climate change 132.

⁹³ Pogge, *Realizing Rawls*, 133-34. See pp. 136-48 for possible strategies available to Rawls to improve the priority of principles, and possible amendments.

⁹⁴ Rawls, *Theory of Justice* 215-216.

⁹⁵ For an analysis of Sen and Rawls, see Chris Brown, “On Amartya Sen and *The Idea of Justice*,” rev. of Amartya Sen’s *The Idea of Justice*, *Ethics & International Affairs* 24.3 (2013): 225. Print.

⁹⁶ Adam Smith, *The Theory of Moral Sentiments*, 2nd Ed (Edinburgh: A. Millar; and A. Kincaid and J. Bell, 1761) 191-97. Web.

⁹⁷ Brown, 315.

⁹⁸ Note that Smith’s argument that the rich are entitled to their wealth and for the “invisible hand” is not necessarily consistent with this idea of fairness.

⁹⁹ Stephen M Gardiner, “The Desperation Argument for Geoengineering,” *Political Science and Politics* 46.1 (2013): 30. Print.

¹⁰⁰ Gardiner, Desperation 270.

¹⁰¹ Or, perhaps, Nozickian time-slice principle paradigm.

¹⁰² See Bernard Boxill, "The Morality of Reparation," *Social Theory and Practice* 2.1 (1972): 113-123. Print.

¹⁰³ However, formulating forward-looking principles which draw on Rawls' theory can be problematic and the principles could be limited. See Gardiner, Rawls and climate change.

¹⁰⁴ Darrel Moellendorf, "Responsibility Under a Climate Change Regime," *The Moral Challenge of Dangerous Climate Change: Values, Poverty, and Policy*, Darrel Moellendorf (forthcoming, 2013). TS. Goethe-Universität Frankfurt am Main, 245.

¹⁰⁵ Martino Traxler, "Fair Chore Division for Climate Change," *What's Wrong? Applied Ethicists and Their Critics*, 2nd ed., ed. David Boonin and Graham Oddie (New York: Oxford University Press, 2010) 610-617. Print.

¹⁰⁶ Moellendorf, Responsibility.

¹⁰⁷ Margaret Urban Walker, "What is Moral Repair?" *Moral Repair: Reconstructing Moral Relations after Wrongdoing*, Margaret Urban Walker (New York: Cambridge University Press, 2006) 1-34. Print.

¹⁰⁸ Walker, Moral Repair 28, emphasis in original.

¹⁰⁹ Kok-Chor Tan, "Colonialism, Reparations, and Global Justice," *Reparations: Interdisciplinary Inquiries*, ed. Miller, Jon and Rahul Kumar (Oxford University Press, 2007) 286. Print.

¹¹⁰ Rebecca Tsosie, "Acknowledging the Past to Heal the Future: The Role of Reparations for Native Nations," *Reparations: Interdisciplinary Inquiries*, ed. Miller, Jon and Rahul Kumar (Oxford University Press, 2007) 43-68. Print.

¹¹¹ Tsosie notes that (representatives of) the United States have formally apologized to Native Americans for historical injustices only twice (as of 2007). See Tsosie, Acknowledging the Past 60.

¹¹² Tsosie, Acknowledging the Past.

¹¹³ Tsosie, Acknowledging the Past 60.

¹¹⁴ Dale Jamieson, "Adaptation, Mitigation, and Justice," *Climate Ethics: Essential Readings*, ed. Stephen M. Gardiner, et al. (New York: Oxford University Press, 2010) 267. Jamieson does not refer to the Yup'ik people here.

¹¹⁵ *Petition*, 103.

¹¹⁶ Tsosie, Indigenous People 1656-57 for an articulation of cultural integrity.

¹¹⁷ *Petition* 98, 108, referring to the United Nations General Assembly, Intergovernmental Negotiating Committee, *United Nations Framework Convention on Climate Change*. 1771 U.N.T.S. 107, reprinted at 31 I.L.M. 849. 1992. UNFCCC. Web. The U.S. has actually increased its total net GHG emissions and sinks from 5,388.7 Tg million metric tons of CO₂ Eq. in 1990 to 5,797.3 in 2011, although there was a decrease from mid-to-late 2000's emissions. See EPA *Inventory*.

¹¹⁸ *Petition*, 100.

¹¹⁹ In a three-sentence response to the Petition, which is 167 pages and “the most high profile of its kind”, the Inter-American Commission determined that the Petition was insufficient in making a case for violation of human rights. Quote from Lavanya Rajamani, “The Increasing Currency and Relevance of Rights-Based Perspectives in the International Negotiations on Climate Change,” *Journal of Environmental Law* 22.3 (2010): 417. Print. See letter: Ariel E Dulitzky, *Inter-American Commission on Human Rights, Organization of American States. Ref.: Sheila Watt-Cloutier, et al. Pet. No. P-1413-05, United States*, 16 Nov 2006. Print. However, the Commission later evaluated additional evidence brought by the Inuit and their representatives. See Tsosie, Indigenous People 1669.

¹²⁰ While I considered two alternatives to Rawlsian fairness, I will consider only one alternative to moral reparations. This is due to space concerns.

¹²¹ Tsosie, Indigenous People 1654. See also *Petition*.

¹²² I remain neutral on alternative sources of human rights. See James Griffin, *On Human Rights* (Oxford: Oxford University Press, 2008) 33-37, 149-57 for discussions on autonomy and dignity. See also Immanuel Kant, “Groundwork of The metaphysics of morals,” *Practical Philosophy*. 1st ed., ed. Gregor, Mary J. (Cambridge: Cambridge University Press, 1996) 37-108. Print, for discussions of inherent human moral worth, rationality, and the capacity to will a universal moral law.

¹²³ See also Tsosie, Indigenous People 1625-77. Print, for a similar distinction: human rights-based claim of indigenous self-determination on the one hand and indigenous sovereignty and jurisdiction of tribal lands. For a general discussion of human rights, see Griffin.

¹²⁴ Lavanya Rajamani, “The Increasing Currency and Relevance of Rights-Based Perspectives in the International Negotiations on Climate Change,” *Journal of Environmental Law* 22.3 (2010): 413. Print.

¹²⁵ Rajamani, 414. A focus on moral human rights within national borders is supported by the ICCPR Article 2 in which states are obligated “to respect and to ensure to all individuals within its territory and subject to its jurisdiction the rights recognized in the present Covenant” (qtd. in Rajamani, *Increasing Currency* 426).

¹²⁶ Rajamani, 398.

¹²⁷ Tsosie, Indigenous People 1670- 74. See also *Petition*.

¹²⁸ Simon Caney, “Climate Change, Human Rights, and Moral Thresholds,” *Climate Ethics: Essential Readings*, ed., Stephen M. Gardiner, et al. (New York: Oxford University Press, 2010) 166-69. Print.

¹²⁹ Tsosie, “Indigenous People 1665.

¹³⁰ Tsosie, “Indigenous People 1665.

¹³¹ United Nations Conference on Environment & Development, Rio de Janeiro, Brazil, 3-14 June 1992, *Agenda 21, Rio de Janeiro, Brazil, 3-14 June 1992*, Rio de Janeiro, 1992.

¹³² Rajamani, 398.

¹³³ For various fundamental rights, both positive and negative, see the UN General Assembly, *Universal Declaration of Human Rights*, 10 December 1948, 217 A (III), available at: <http://www.refworld.org/docid/3ae6b3712c.html> [accessed 9 March 2014].

¹³⁴ For an overview of rights justifications, see Leif Wenar, "Rights," *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, fall 2011 Edition. Web. 3 Mar. 2014. For an additional deontological approach with status-based rights, see Robert Nozick. *Anarchy, State, and Utopia* (New York: Basic Books, 1974). Print. For a deontological approach with contract-based rights, see T.M. Scanlon, "Rights, goals, and fairness," *Erkenntnis* 11.1 (1977): 81-95. Print.

¹³⁵ Wenar, Rights.

¹³⁶ Qtd. in *Petition*, 71-2, emphasis added.

¹³⁷ See *Petition*:

[C]ulture manifests itself in many forms, including a particular way of life associated with the use of land resources, especially in the case of indigenous peoples... The protection of these rights is directed towards ensuring the survival and continued development of the cultural, religious and social identity of the minorities concerned, thus enriching the fabric of society as a whole. (75)

¹³⁸ *Petition*, 112.

¹³⁹ *Petition*, 112-16.

¹⁴⁰ *Petition*, Sections IV C; V; VI.

¹⁴¹ Or perhaps a Nozickian historical principle paradigm.

¹⁴² Henry Shue, "Global Environment and International Inequality," *Climate Ethics: Essential Readings*, ed. Stephen M. Gardiner, et al. (New York: Oxford University Press, 2010) 103. Print.

¹⁴³ Quote from Anil Agarwal, Sunita Narain, and Anju Sharma, in Caney, *Cosmopolitan Justice* 134. Print.

¹⁴⁴ Shue, *Global Environment* 129.

¹⁴⁵ Caney, *Cosmopolitan Justice* 128.

¹⁴⁶ The common but differentiated responsibilities principle (CBDR) is similar to the PPP in that the former principle justifies burdens in proportion to environmental harm and/or development. It is contested whether the CBDR principle picks out contributions to environmental harms or economic development, or both. See Rajamani, 420.

¹⁴⁷ Simon Caney, *Ethics and Global Climate Change: Introductory Overview*, *Climate Ethics: Essential Readings*, ed. Stephen M Gardiner, et al. (New York: Oxford University Press, 2010) 18. Print.

¹⁴⁸ Caney, *Cosmopolitan Justice* 137 for a response. Caney's response is targeted at a 'pure' PPP and not general backward-looking principles, so I will not discuss his response.

¹⁴⁹ Traxler acknowledges that his forward-looking approach neglects past injustice, although he thinks it could remedy inequalities arising from climate change. See Traxler, "Fair Chore Division," 615, 17.

¹⁵⁰ Peter Singer, "One Atmosphere," *Climate Ethics: Essential Readings*, ed. Stephen M. Gardiner, et al. (New York: Oxford University Press, 2010). 191-93. Print. Singer claims this argument fails because the beneficiaries are the people of the industrialized countries, and not people of poor countries. He claims the argument also fails because the U.S. is an inefficient producer compared to other nations.

¹⁵¹ Another worry is that the Rawlsian approach which allocates *all* burdens to the best-off is, for that very reason, unfair. Some burdens ought to be paid by well-off parties (though perhaps not the best-off). This objection hinges on Singer's interpretation of a Rawlsian approach, so any response to the objection has to address that particular interpretation. One response might well agree with the objection, and add that a schedule of burdens will correspond to each party's ability to pay.

¹⁵² Caney, *Cosmopolitan Justice* 132-34.

¹⁵³ Caney, *Cosmopolitan Justice* 132-34. See also Moellendorf, *Responsibility*.

¹⁵⁴ Thomas Pogge, "World Poverty and Human Rights," *Ethics & International Affairs* 19.1 (2005): 2. Print. For a similar argument, see Eric Neumayer, "In defence of historical accountability," *Ecological Economics* 33 (2000): 187-88. Print.

¹⁵⁵ For an argument along this point, see Boxill, *Reparation*. For an argument that past injustices create a further injustice for the present, see Tan, *Colonialism* 284-85.

¹⁵⁶ Neumayer, *historical accountability* 185–192. See also Singer, *One Atmosphere* and Caney, *Cosmopolitan Justice* 131.

¹⁵⁷ Quote from Argawal and Narain, qtd. in Neumayer, *historical accountability* 135. See also Rajamani, 422.

¹⁵⁸ Caney, *Cosmopolitan Justice* 134. Note that Caney argues these reasons are insufficient to reject the PPP, but to supplement it. Note also that while Shue claims his argument is not equivalent to the PPP, Caney argues that it is.

¹⁵⁹ Caney, *Cosmopolitan Justice* 134

¹⁶⁰ I will not argue for any proposal for optimal compliance with respect to climate principles here due to space concerns.

¹⁶¹ Rawls' idea of reflective equilibrium is that of moving from our theoretical convictions, considered judgments, and particular cases to determine levels of coherence and acceptability among these components. See *Theory of Justice* 40-45.

¹⁶² Boxill, *Reparation* 115.

¹⁶³ Boxill, *Reparation* 116.

¹⁶⁴ Boxill, *Reparation* 117.

¹⁶⁵ Caney, *Cosmopolitan Justice* 136.

¹⁶⁶ Caney, *Cosmopolitan Justice* 136. Also note that Caney argues that the subjects of assigned burdens are persons, and not states.

¹⁶⁷ Singer, *One Atmosphere* 196.

¹⁶⁸ Singer, *One Atmosphere* 198.

¹⁶⁹ For an alternative view, see Traxler. Traxler argues parties will agree to climate negotiations only if they perceive the allocation to be fair. If considerations of justice and backward-looking principles make an agreement less likely, they should be sacrificed. But, while it is true that world leaders fail to sign climate treaties that they perceive as unfair (e.g., President Bush rejected the Kyoto Protocol; Australia signed the Kyoto Protocol but repeatedly refused to ratify it until 2007, resulting in targets that were not legally binding), more empirical evidence is necessary to determine whether Traxler's prediction is correct on a larger scale. In any case world leaders often sign climate treaties which they do not perceive to be fair or in their own best interests (e.g., financial contributions to the Adaptation Fund for developing countries made by Sweden and Belgium; agreements during the 2013 UN Climate Change Conference to provide financial and other assistance to adaptation for threatened populations). See Anita Talberg, et al. "Australian climate change policy: a chronology," Parliament of Australia, 2013. Web. 20 Feb. 2013. See also Adaptation Fund, *United Nations Framework Convention on Climate Change*, 1771 U.N.T.S. 107, rpt. at (31 I.L.M. 849, 1992). UNFCCC. Web. See also United Nations, *UN Climate Change Conference in Warsaw keeps governments on a track towards 2015 climate agreement*, Warsaw, 23 November 2013, Web. 20 Feb. 2014.

¹⁷⁰ If the first and second options were of equal cost, then my argument would support either one, but especially the first option of moving each house to the new location.

¹⁷¹ Will Kymlicka, "The Rights of Minority Cultures: Reply to Kukathas," *Political Theory* 20.1 (1992): 140. Print.

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