Normative Analysis of Climate Change

By
Zachary Ellis

Submitted to
Central European University
Department of Political Science

In partial fulfillment of the requirements for the degree of Masters of Arts

Supervisor: Zoltan Miklosi

Budapest, Hungary
2011

Abstract

This thesis investigates global climate change and the moral dilemmas that arise from it. The thesis is argued from two specific positions in relation to the correlating problems which climate change presents: the question of international duties and the question of intergenerational duties. Throughout, the methodology used is one of normative analysis, although at times, the thesis is peppered with insights from evolutionary theory. The author grounds his arguments on an account of human rights and the subsequent duty not to cause deficits or violations of these rights. As regards the question of whether climate change creates international duties of justice, the author adapts Thomas Pogge's institutional cosmopolitanism and his theory of our stringent negative duties not to harm. The author argues that there are indeed international duties of justice, as climate change is a cooperative process that will create harm via foreseeable deficits in human rights. On the question of intergenerational justice, the author puts forth a Prioritarian account of distributive justice, claiming that the best way to avoid human rights deficits is to act immediately in mitigating climate change and alleviating abject poverty. This is supported by Thomas Schelling's argument which disaggregates "the social discount rate," demonstrating that the worst off population in the intergenerational question will be the current poor.

Acknowledgements and Dedication

I would like to thank, first and foremost, Zoltan Miklosi for supervising me on my first foray into such an endeavor as this. I am indebted to him for the guidance, suggestions, and clarity with which he provided me. I would also like to thank Andres Moles for all I learned in the classes that I took with him, as well as the additional advising which he gave me for my thesis. Beyond this, I am grateful to my parents for their editorial assistance and their unending support of my academic pursuits. Finally, I extend these acknowledgements and gratitude to all my friends and comrades who I met this year at CEU.

This thesis is dedicated to The Proletariat.

Table of Contents

Introduction

"It is sometimes a traumatic experience to try to reconcile ethical and political principles that have become dear to our hearts with the realities of scientific advances."
-Ernst Mayr[1]

Social scientists are often fond of using terminology borrowed from physiology and epidemiology within their analyses when describing the status of various social phenomena such as political regimes or particular ideologies. In fact, as solipsistic as we human beings are, this seems to be a natural predisposition; the projection of concepts of human health onto other areas appears helpful in conveying meaning and understanding of foreign problems. Often, this technique is utilized in an incorrect, almost arbitrary fashion. However, in considering the current status of the planet we have named Earth, this analogy may not be too far removed from the truth. The statistics of earth's "health" are harrowing to be sure. According to the recent "Millennium Ecosystem Assessment" report, produced by over 1400 experts from across the globe,

> "Approximately 20% of the world's coral reefs were lost and an additional 20% degraded in the last several decades of the twentieth century, and approximately 35% of mangrove area was lost during this time ... Over the past few hundred years, humans have increased the species extinction rate by as much as 1,000 times over background rates typical over the planet's history (*medium certainty*) … Approximately 60% (15 out of 24) of the ecosystem services evaluated in this assessment (including 70% of regulating and cultural services) are being degraded or used unsustainably."[2]

On top of all of this, there is what is known as the Pacific Gyre, or more tellingly, "The Great Garbage Patch." This collection of waste, "roughly the size of Texas, containing approximately 3.5 million tons of trash," is continuously swirling between Hawaii and San Francisco.[3] It congregates there due to a convergence of currents that typically brought plankton and other nutrients to a feeding ground for larger fish and sea birds; however, now we are seeing these same animals "dying of starvation and dehydration with bellies full of

1 Mayr, Ernst, "Footnotes on the Philosophy of Biology" *Philosophy of Science* 36 (2) (1969): 201.
2 "Millennium Ecosystem Assessment." 2-6.
3 "Great Garbage Patch."

plastics … fish are ingesting toxins at such a rate that soon they will no longer be safe to eat."[4] As tragic and disturbing as these facts are, peculiarly, they never seem to garner much attention by the majority of the populace. There is, however, a phenomenon whose potential is sufficiently disconcerting to warrant global attention and action, or something resembling it. That phenomenon is, of course, climate change.

While the nature of climate change may seem radically different from other natural obstacles, it is not exactly so. In fact, climate change should be viewed as merely the first major problem we must face within a chain of various, *interconnected* ecological crises that currently loom large over our civilization. Climate change is a catalyst that will trigger many ecological hurdles, forcing all species on earth to leap perilously over them in order to guarantee the continuation of life on this planet, at least as is presently known. Depending on how much the global surface temperature increases – estimates range between 2 and 7 degrees Celsius – various scenarios may come about. If surface temperature warms to the higher end of the projections – 4 or 5 degrees or higher – the result is thought to be cataclysmic. This would involve the complete melting of the Greenland ice sheet, as well as Western Antarctica's ice sheet, which would raise sea levels as high as 14 meters. Beyond these concerns, possible "positive feedbacks" could come into existence at these higher levels of temperature change, where disruptions in ecosystems and natural processes cause self-reinforcement of these negative effects and thus amplify the disruptions. While catastrophic, extinction-level events are real possibilities and provide ample material for moral discussion, what I will focus on here will be the less drastic, but still quite severe possible scenarios as assessed by the Intergovernmental Panel on Climate Change (IPCC). As found in the most recent *Synthesis Report* of 2007, the following situations are deemed to be "likely" or with "high" or "very high" confidence:

[4] Ibid.

- The resilience of many ecosystems is *likely* to be exceeded this century by an unprecedented combination of climate change, associated disturbances (e.g. flooding, drought, wildfire, insects, ocean acidification) and other global change drivers (e.g. land-use change, pollution, fragmentation of natural systems, over-exploitation of resources
- By the 2080s, many millions more people than today are projected to experience floods every year due to sea level rise. The numbers affected will be largest in the densely populated and low-lying megadeltas of Asia and Africa while small islands are especially vulnerable
- Poor communities can be especially vulnerable, in particular those concentrated in high-risk areas
- The health status of millions of people is projected to be affected through, for example, increases in malnutrition; increased deaths, diseases and injury due to extreme weather events; increased burden of diarrhoeal diseases; increased frequency of cardio-respiratory diseases due to higher concentrations of ground-level ozone in urban areas related to climate change; and the altered spatial distribution of some infectious diseases
- Climate change is projected to bring some benefits in temperate areas, such as fewer deaths from cold exposure … (but) Overall it is expected that benefits will be outweighed by the negative health effects of rising temperatures, especially in developing countries[5]

On top of all this are very serious water complications, the impacts of which are "key for all sectors and regions," of which the IPCC says:

> "The negative impacts of climate change on freshwater systems outweigh its benefits (high confidence). Areas in which runoff is projected to decline face a reduction in the value of the services provided by water resources (very high confidence). The beneficial impacts of increased annual runoff in some areas are likely to be tempered by negative effects of increased precipitation variability and seasonal runoff shifts on water supply, water quality and flood risk."[6]

While climate change is intrinsically connected to other ecological dilemmas, as well as all other living species, it is obvious that only humans are sentient enough to be able to both intentionally *cause* and then *prevent and/or remedy* the negative outcomes of such a

[5] IPCC, *Synthesis Report*, (2007), 48.
[6] Ibid., 49.

process. The anthropogenic causes of climate change, while doubted by some, are overwhelmingly accepted within the scientific community. And although it is entirely possible that this may just be a cyclical occurrence, or its origins are not that of human industrialization but that of volcanic eruptions and other processes of high carbon emittance, it is guaranteed that human activity since at least the industrial revolution has been a major contributor of greenhouse gases such as carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O).

Global climate change is a fundamentally violent phenomenon. First and foremost, this violence will be demonstrated by its physical manifestation. This includes the displacement of innumerable persons due to natural catastrophes brought about by atmospheric instability, flooding resulting from rising sea levels, drought and the subsequent famines. This will lead to geopolitical conflicts as large swaths of refugees seek haven in neighboring countries, agitating already existing territorial border disputes. Wars will be initiated over increasingly scarce resources, with more powerful nations taking advantage of the increased weaknesses of particular nations. The list goes on. Beyond its physical realities, violence, in a more abstract reading, will also occur on the ideological level. Religious groups whose beliefs profess that humans occupy a special place on a planet that was specifically made in their name, and whose resources are ever-abundant because of a deity's desire for it to be so, will be challenged to unprecedented levels as areas previously inhabited for thousands of years lose this ability ever so rapidly. Secular ideologies holding anthropocentric views visible in their faith in the redemptive nature of technology to remove and adapt to the problems of scarcity will also be challenged as it becomes clear that certain processes are possibly unidirectional and irreversible.[7] Our Western lifestyles based on industrialization and consumption will face the stark reality that we live a largely

[7] Gray, John, *Heresies* (UK: Granta Books, 2004).

unsustainable way of life, and that the amount of meat and fossil fuel we consume will need to be forced to a near halt if we wish continue standard of living of any similarity. Nationalism and beliefs in the possibility of isolation of groups of people will become more and more useless as the international, global realities of climate change make themselves clear. As it is so blatantly a violent global issue, it is clear that it is also simultaneously a political and moral issue as well. And it is to some of these moral questions to which I dedicate the efforts of this thesis.

The methodological approach of my thesis is one of normative analysis. In this endeavor I will be focusing primarily upon human rights and distributive justice in regard to climate change. This method is appropriate in that climate change will, and already presently does, have significant deleterious effects on the lives of many of our fellow human beings, and this approach of normative analysis can help highlight specific causality in the production of this harm. The specific philosophical theories I will be applying are those of Cosmopolitanism, Prioritarianism, and Thomas Pogge's reading of our negative duties not to harm. As the universal nature of this issue is demonstrated throughout the thesis, a cosmopolitan moral perspective will emerge as the most plausible and befitting theoretical approach. Prioritarianism will be largely applied in light of climate change's temporal moral dilemma which spans many generations. Finally, Pogge's theory of human rights and negative duties will be used to illustrate the affluent world's complacency and complicity in causing harm to the world's most impoverished persons by causing and then procrastinating to both prevent and remedy climate change. In addition to all of these moral philosophical approaches I will also be applying insights from evolutionary theory and evolutionary psychology, especially moral psychology. This will take me out of the “Standard Social Science Model,” but I see it as important and necessary for us to better understand the limitations that nature places on our abilities to make reasoned judgments.

The layout of my argument in the following pages will be as such. First, I will present findings from evolutionary and moral psychology that can help us to better understand the position we are in by explaining deeply ingrained barriers to action that our brains and affective systems possess. While often overlooked as irrelevant by social scientists, this aspect is important in helping understand failings in our understanding of cause and effect, especially in cases of harm, obscured by factors such as distance. While most of this information will be contained within the first chapter, occasionally insights will reappear in other chapters. The second chapter will define the versions of cosmopolitanism and human rights that I will be using as the basis of my moral argument. The third chapter will discuss Thomas Pogge's account of the affluent nations' violations of the negative duty not to harm. Pogge's original formulation will be adapted to the phenomenon of climate change and I will thus attempt to show that the harm that is produced by climate change should be looked at in terms of human rights deficits. Finally, chapter 4 will address the issue of intergenerational justice which arises due to the longevity of greenhouse gases and the delayed effects which they have upon earth's climate. Here, I will present what is known as the “social discount rate” and I will suggest prioritarianism as the most appropriate moral response to this dilemma.

Chapter 1

1.1 Psychological Barriers to Caring

"We didn't evolve to cope with tragedy on a global scale. Our defense is to pretend there's no thread of event that connects us, and that those lives are somehow not precious and real like our own. It's a practical strategy, to some ends, but the loss of empathy is also the loss of humanity and that's no small tradeoff."
- Paul Slovic[8]

Hominid brains did not develop to deal with cataclysmic events, such as those that could be the end result of climate change or various other ecological crises. Nor did our brains evolve to process and handle complex moral questions spanning vast distances of time and space. To consider whether or not current generations should be concerned about ecological crises that may only affect future generations of geographically distant people is clearly not something the African savannah prepared us for. Our moral capacities evolved to deal with existing people who were geographically and temporally close to us, and involving issues with more or less clear examples of cause and effect. As Richard Dawkins explains (he is specifically referring to difficulties in understanding statistics), our brains "evolved to help us survive in a world – I shall use the name Middle World – where the objects that mattered to our survival were neither very large nor very small; a world where things either stood still or moved slowly compared with the speed of light; and where the very improbable could safely be treated as impossible. Our mental burka window is narrow because it didn't need to be any wider in order to assist our ancestors to survive."[9]

Climate change is an obscure process only able to be detected via measurement tools of the most complex variety, over an extended period of observation, by natural scientists who understand the workings of atmospheric mechanisms, geology, biology, climatology, etc.

[8] Slovic, Paul, "'If I look at the mass I will never act': Psychic Number and Genocide," *Judgement and Decision Making* (2007): 87.

[9] Dawkins, Richard, *The God Delusion (*London: Bantam Press, 2006), 367-368.

This obscurity confuses our primate brains and is illustrated by what those who study psychoanalysis refer to as "Fetishist Disavowal," which is when we say to ourselves, "I know very well, but…." Slavoj Zizek tells us that when fetishist disavowal is applied to climate change, "'We know it, but we cannot make ourselves believe in what we know.' Take global warming … with all the data regarding its nature, the problem is not the uncertainty about facts … but our inability to believe it can really happen: look through the window, the green grass and blue sky are still there, life carries on, nature follows its rhythm…"[10] This cognitive dissonance may prove to be a very dangerous element in our attempts at taking proper action to prevent and mitigate climate change.

Caring for people who are not in our immediate vicinity alone poses a somewhat severe problem for humans. It seems that the more spatially removed and impersonal a harmful situation is for us, the less we are able to properly judge the situation and care about those involved. Joshua Greene has performed neuro-imaging experiments to observe how people react to two different situations with the same consequential outcome. This involved the famous "Trolley Dilemma," and a modified version known as the "Footbridge Dilemma." In both versions, as a driver-less trolley approaches a group of five people on the tracks ahead, a bystander has the ability to sacrifice a separate individual in order to save all five in the endangered group. In the "Trolley Dilemma" version, the group of five is saved by the mere flipping of a switch that diverts the train to another set of tracks, killing a lone individual who was standing there. In the "Footbridge Dilemma" version, however, the bystander has to physically push a person in front of the train, whose death stops the train and saves the group of five. The results of the study show that people are much more willing to sacrifice in the former case, rather than the latter, even though the end results are identical. "Given that personal violence is evolutionarily ancient, predating our recently evolved human

[10] Zizek, Slavoj, *In Defense of Lost Causes* (London: Verso, 2008), 454.

capacities for complex abstract reasoning, it should come as no surprise if we have innate responses to personal violence that are powerful but rather primitive. … In contrast, when harm is *impersonal,* it should fail to trigger this alarmlike emotional response, allowing people to respond in a more 'cognitive' way."[11] Greene interprets these results as demonstrating that deontological judgments (decisions not *only* concerned with ends) are more influenced by emotional responses than are consequentialist judgments, which he portrays as being more deliberative and rational. As climate change is a process in which the cause of the harm will be much more similar to the "Trolley Dilemma" due to the distance and the less direct observable causation, understanding our apparently inherent tendency to see this as less disconcerting and problematic than a direct action, with the same consequences, could be of great help in our handling of this situation.

The famous quote from Josef Stalin, although most probably a misattribution[12], "Death of one man is a tragedy. Death of a million is a statistic," morbidly illuminates another deficiency of our affective systems. The quote appears to be troublingly accurate when looked at in the light of recent psychological findings of Paul Slovic and others.[13] Slovic's work quoted here is research into our all-too-often apathetic stance towards genocide based on a failure of our affective system. This is our inability to appreciate suffering and death in a linear fashion as it increases numerically, and is referred to as "psychophysical numbing." Results of experiments demonstrate that "the proportion of lives saved often carries more weight than the number of lives saved when people evaluate interventions,"[14] once again reaffirming Dawkins' point of our inability to comprehend statistics. Statistical representations of suffering are not the only area in which our affective systems fail, but we

[11] Greene, Joshua, "The Secret Joke of Kant's Soul," in *Moral Psychology*, ed. William Sinnott-Armstrong. (Cambridge, Mass.: MIT, 2008), 43.
[12] "Mustering Most Memorable Quips."
[13] Slovic, "Psychic Numbing and Genocide," 79-95.
[14] Ibid., 85.

are also tricked by what is known as the "identifiable victim effect." This effect says that "people are much more willing to aid identified individuals than unidentified or statistical victims" and unfortunately our affective feeling starts to weaken and decrease as early as two individuals.[15] This was demonstrated by participants of psychological studies being significantly more likely and willing to donate money to save a lone child with a picture attached, than to donate money to save a large number of so called "statistical individuals," or even between a lone individual and a group of two siblings.[16] As Slovic succinctly puts it, "When it comes to eliciting compassion, the identified individual victim, with a face and a name, has no peer."[17]

As Slovic's studies considered inaction toward genocide, it should be stated that while not wanting to further trivialize or depreciate the force and meaning behind the term genocide,[18] I do see some parallels between genocide and the effects of climate change. It does seem plausible to consider the possible widespread displacement, the massive numbers of foreseeable death by starvation and natural disasters, and the increased conflict over resources and territory (which itself could lead to genocide), as similar to committing genocide if it is caused knowingly by those of us in the affluent nations. If the probability of these outcomes is high enough, while the causal mechanisms may be much less direct, the allusion is not as callous as it may at first seem.

Another example of our cognitive dissonance toward abstract or distant causation and its possibilities for moral confusion, Derek is provided by Derek Parfit his *Reasons and Persons*. Parfit highlights this dissonance with his examples of the "Harmless Torturers" and "Small or Imperceptible harms," issues raised while

---

15 Ibid., 88-90.
16 Ibid.
17 Ibid., 86.
18 See Diane Beeson as quoted in Singer, Peter, "Shopping at the Genetic Supermarket," in *Asian Bioethics in the 21st Century*, edited by S.Y. Song, Y.M. Koo, and D.R.J. Macer. Christchurch, N.Z.: Eubios Ethics Institute, 2003.

discussing what he calls the "Five Mistakes in Moral Mathematics."[19] What Parfit is referring to is the lack of moral responsibility we tend to feel when an effect of our action is so small as to be imperceptible or which, *by itself*, causes no harm. One example used by Parfit is that of the "Harmless Torturers." Here Parfit contrasts what he calls "The Bad Old Days," where one torturer would inflict severe pain upon his victim directly, with the modern version, the "Harmless Torturers." With the so called "Harmless Torturers," there are numerous torturers, all who turn a dial one notch, which alone does nothing, but when aggregated they inflict the same amount of pain upon the victim in the end. Parfit's point here is that in the modern era agents now possess the ability to inflict harm across great distances, via imperceptible changes, which may not be seen as being caused by the agents themselves due to its miniscule, individual effect. As Parfit puts it, "We must cease to believe that an act cannot be wrong because of its effects on other people, if these effects are either trivial or imperceptible."[20]

When climate change is looked at in light of Parfit's argument, it helps to ground the harm in a way that individuals themselves can be blamed. Many of us drive cars, we all consume food which was produced in highly unsustainable ways, we use synthetics such as plastic and polyester, etc. Parfit again, "For the sake of small benefits to ourselves, or our families, each of us may deny others much greater total benefits, or impose on others much greater total harms. We may think this permissible because the effects on each of the others will be either trivial or imperceptible."[21] All of these actions have minute effects on the global scale, but when combined, their effects become real, no matter how impalpable they may at first seem.

Not only are the causal links of something such as climate change or pollution

[19] Parfit, Derek, *Reasons and Persons,* (Oxford: Oxford University Press, 1987), 75-86.
[20] Ibid., 85.
[21] Ibid., 86.

abstract and virtually imperceptible, but the mechanism of harm is also novel to us. Take pollution as an example. Humans contribute a disturbingly large and diverse amount of toxins to our environment, in various forms: CFCs and other air pollutants that are released into the air we breathe and the atmosphere that protects us; industrial pollutants and trash discarded in our waterways and oceans which provide us with drinking water and the fish we consume; the leaching of heavy metals into the soil in which we grow crops; and many, many others. Historically, when something, such as water or food, was dangerous to consume, it was often detectable by our senses, which have evolved for this purpose.

Jonathan Haidt claims, that as a result of increased meat consumption and the subsequent enlargement of our frontal cortex, humans evolved the emotion of disgust, which "appears to function as a guardian of the body in all cultures, responding to elicitors that are biologically or culturally linked to disease transmission (feces, vomit, rotting corpses, and animals whose habits associate them with such vectors)."[22] While we were certainly not *overly* proficient at discovering when our natural resources were polluted, the cause and effect chain was much shorter and far more obvious than what we encounter now. If there is an animal carcass that is visible a few meters upstream in a river that is used for drinking water, people will begin getting sick and will quickly learn the river is suffering from some sort of contamination. They will then attempt to identify the source of contamination and, if successful, either begin drinking water from a point further upstream, or dispose of the carcass. Mechanisms, such as the emotion of disgust or the identifiable victim, effect were "evolved to protect individuals and their small family and community groups from *present, visible, immediate dangers.*"[23] Now, with water and food polluted with toxins that have no offensive stench or observable cause of toxicity, our systems are easily fooled.

Stephen Gardiner sees this complexity, which grows out of our insufficient affective

[22] Haidt, Jonathan and Jesse Graham, "When morality opposes justice: Conservatives have moral intuitions that liberals may not recognize," *Social Justice Research* (2006): 106.

[23] Slovic, "Psychic Numbing and Genocide," 84. (Italics Mine).

and psychological systems, as the "perfect moral storm." He writes: "The peculiar features of the climate change problem pose substantial obstacles to our ability to make the hard choices necessary to address it. Climate change is a perfect moral storm. One consequence of this is that, even if the difficult ethical questions could be answered, we might still find it difficult to act. For the storm makes us extremely vulnerable to moral corruption."[24] As for "moral corruption," Gardiner identifies numerous psychological tendencies, such as distraction, complacency, unreasonable doubt and delusion, but says that he wishes to highlight "selective attention" especially, as "it is easy to engage in *manipulative* or *self-deceptive* behaviour by applying one's attention selectively, to only some of the considerations that make the situation difficult."[25] Gardiner thus sees our selective attention as a major factor in our inability to correctly envision the complexity of the problem. We see the problem as so large and uncertain that we allow it to "*facilitate* a strategy of procrastination and delay" making it "*perfectly convenient* for us, the current generation, and indeed for each successor generation as it comes to occupy our position,"[26] to act in a way that is more cosmetic than truly corrective. Selective attention, then, can be looked at as providing "each generation with the cover under which it can seem to be taking the issue seriously."[27]

This all suggests that when, as a species, we have to figure out moral situations involving harm done towards others in such imperceptible ways as air pollution, or carbonization and its resulting global temperature increases, we are poorly equipped and this will likely be a great obstacle to overcome. And due to the fact that this ecological harm occurs on the global level and involves an increasingly large number of people, our cognitive limitations regarding impersonal harm will further complicate matters. In addition to this already daunting task of far-reaching moral concern, add the further problematic aspect of

[24] Gardiner, Stephen M, "A Perfect Moral Storm: Climate Change, Intergenerational Ethics and the Problem of Moral Corruption," *Environmental Values* 15 (2006): 398.
[25] Ibid., 408.
[26] Ibid.
[27] Ibid.

temporal distance (i.e., Caring for people one hundred plus years from now), and the problem's complexity grows significantly. We must consider if these future people, supposedly indirectly affected by a process we can not perceive, actually will actually even exist. It is safe to say that questioning whether non-existing entities deserve our moral attention, by apparently invisible processes, is not a situation that figured into the evolution of our brains.

Chapter 2

2.1 Why Cosmopolitanism?

"When anyone asked him where he came from, he said, "I am a citizen of the world."[28]
-Diogenes the Cynic

Diogenes, the father of the ancient Greek school of thought, Cynicism, is appropriate to quote here for a couple of reasons. First, because of the ideas we have when hearing the word "cynic" in modern English, instantly bringing to mind distrust and contempt. This is fitting in the sense that many, many people across the planet are indeed the definition of cynical towards climate change, towards government, and especially towards global governance. However, a more positive, and appropriate reason is that Cynicism, a philosophical precursor to Stoicism, not only held that it was virtuous to live according to nature, but that a consequence of this is that one should spurn traditional forms of morality.[29] This rejection of traditional moral thought is manifest in the above quote from Diogenes, epitomizing his refutation of conventional citizenship based on territorial borders. These aspects make Diogenes all the more relevant to our discussion, because his desire to live a life in accordance with nature also led him to reject arbitrary territorial borders, giving birth to what is now known as "cosmopolitanism."

I hold that cosmopolitanism is the most appropriate and logical theory with which to view the moral problems of global climate change, for multiple reasons. The first, and most obvious reason, is that global climate change is just that, global. This means that its causes and effects have no central locus, or even a few central loci, from which the problem emanates exclusively: everywhere that produces greenhouse gases is therefore the location of the cause. As phrased by Stephen Gardiner, "the impact of any particular emission of greenhouse gases is not realised solely at its source, either individual or geographical; rather

[28] Nussbaum, Martha, "Patriotism and Cosmopolitanism," *Boston Review* (1994), 1.
[29] Sharples, R.W., *Stoics, Epicureans, and Sceptics* (London: Routledge, 1996), 101.

impacts are dispersed to other actors and regions of the Earth."[30] As the effects are varied and will impact every region of the globe, there is no way of selecting a few areas which our efforts could be focused on to successfully prepare for the entirety of impending problems. Climate change's effects, like pollution, do not respect borders.

Another reason that cosmopolitanism is so fitting is that many borders themselves are largely historically arbitrary. While many theories exist claiming that co-nationals have a special relationship to one another, as far as duties of justice are concerned, I find that this position does not hold very well. While there are certainly some borders that have been well-defined for centuries now, there are broad areas of earth where the borders were constructed, in very recent history, in a haphazard fashion by foreign powers with complete disregard for the persons who lived there. Take Africa and the Middle East, for example. Much of the Middle East, and almost all of Africa, was literally constructed by colonial governments with the aim of securing strategic ports, oil reserves, and other natural resources in the Twentieth Century. If one is to argue that co-nationals deserve a special status regarding matters of justice, what is to be said about those whose borders were drawn by foreign powers, in recent memory, bringing together tribes and peoples who would have never otherwise considered themselves one and the same?

Often the argument is that the people who live within the same country have more shared interests than those outside their borders. Let us call this the "Theory of Co-national Benefit." However, in this era of globalization this claim loses much of its weight. Take the United States as an example. I live in Kentucky, which is a somewhat south-centrally located state. According to the theory of co-national benefit, I have more common interests with those in Seattle, Washington, which is roughly 4,000 kilometers away, than with those in Toronto, Canada, a mere 800 kilometers away. The example could be taken even further, if I

[30] Gardiner, "A Perfect Moral Storm," 399.

was to consider the interests of my fellow countrymen living in Alaska or Hawaii. Since we are considering environmental issues and cosmopolitanism, consider the passing of a law in Canada regarding the regulation of toxic waste disposal. There is a good probability that I would have a great deal more interest in this matter than would those citizens of western Canada. For example, I live relatively close to the Great Lakes, one of the largest bodies of fresh water in the world. If Toronto, located next to this body of water, was to be able to pollute these lakes, it is much more likely that it will affect me than it would those living in western Canada.

Or take the example of taxation and economic matters. People who live on the borders of two different nations very well might have more interest in the neighboring country than with their fellow co-nationals, if they happen to work in the adjoining country. Examples of this can be seen in places like Detroit, Michigan, and neighboring Windsor, Canada, or in Bratislava, Slovakia and Vienna, Austria, just 50 km away. If I live in Slovakia, yet work across the border in Austria, I may actually desire to see the Austrian standard of living raised and the Slovakian to decline, as this would benefit me doubly. First, my pay rate would increase as Austria's economy grew and, as the market in which I live grew weaker, the spending power of my capital would increase, at the expense of my fellow countrymen. Why I should put the interests of my co-nationals ahead of my own interests in this situation is not exactly clear.

While moral and political philosophers almost never use evolutionary reasoning as their justification for nationalist sentiments, I think that understanding the possible mental confusion that could be a possible origin of these feelings, unbeknownst to the philosophers themselves, can be an important piece of knowledge. From an evolutionary perspective, neither cosmopolitanism nor nationalism would be inherently favorable. As what is known as “group selection” is a contentious, and many hold, incorrect view of the theory of natural

selection, this means that what "matters" to our genes is the propagation of themselves only.[31] Therefore, the interests of ourselves and our close family are all that are "of concern" to our genes, not the interests of fellow group members, certainly not on a scale the size of a nation. Whichever scheme brings about the most benefit for those sharing my genes is the one most "favored" by my DNA. I would argue that the often strong feelings of nationalism, the sentiment of shared interests with our co-nationals, is the result of a trick that society has perpetrated on our ancient mammalian brains. For hundreds of thousands of years hominids lived in close contact only with those most likely to be related to them. This was slowly but surely expanded to include tribes and clans, moving on to villages and now cities, regions, and nations. We are now, therefore, essentially tricked into thinking that we have more in common (in reality often nothing at all, other than humanity) with people who reside in the same nation as we do, essentially confusing them for extended kin. Now, if a nationalist morality will indeed bring about the best outcomes in regards to food security, shelter, and other things necessary to propagate our genes, then we "should" place our co-nationals first in matters of justice. However, with the issue of global climate change, it is a very real possibility that a Cosmopolitan account of morality and justice will bring about the best outcomes due to the increased reliance upon food and water imports, foreign economic interaction, etc.

2.2 Which Cosmopolitanism?

As economic global integration and systems of communication develop and expand, bringing huge numbers of people into interaction with others for the first time, the lines of demarcation between the modern variants of cosmopolitanism begin to blur and become meaningless. While the modern varieties of this moral position become more and more similar, there are some initial similarities held by all that should be pointed out. Three initial

[31] Dawkins, Richard, *The Selfish Gene* (Oxford: Oxford University Press: 1989).

similarities proposed by Thomas Pogge to be inherent elements of cosmopolitanism, and shared by all, are; Individualism, Universality, and Generality.[32] Individualism means that individual persons are "the ultimate units of concern," and not other competing groups and identities such as religious affiliation or nationality.[33] Universality signifies that this concern extends globally and is applicable to all, once again ignoring and overriding social barriers, such as sex and class. Finally, generality means that these moral concerns are concerns for everyone, not to be limited by borders or ideologies.

Building on these three foundational concepts, cosmopolitanism can be split into two versions regarding what is the subject of concern itself. Often this is done by distinguishing a "legal" or "juridical" form, and a "moral" or "ethical" version.[34] Moral or ethical cosmopolitanism usually refers to conceptions of the good and our duty to respect individuals as a moral unit.[35] Legal or juridical cosmopolitanism, however, refers more to issues of global justice, such as human rights and distributive justice. It is this latter variant with which I am concerned with here. One further distinction can thus be made between those who hold what Simon Caney calls a "humanity-centered" account, and those who hold a "schematic," or as Pogge refers to it, an "Institutional" account.[36] Proponents of a "humanity-centered" account consider all persons deserving of the same rights and benefits of justice based solely upon a shared humanity. A "schematic" or "institutional" account holds that our duties of justice only extend to those who are in some form of a relationship with us, thereby limiting our duties of justice not by arbitrary borders, but by who we interact with.

While the humanity-based approach may at first be the most intuitively appealing position, I will argue from the institutional approach, specifically the version put forth by

[32] Pogge, Thomas, *World Poverty and Human Rights* (London: Polity, 2008), 175.
[33] Ibid.
[34] Pogge, *World Poverty and Human Rights*, 175, and Caney, Simon, "Cosmopolitanism and Justice," in *Contemporary Debates in Political Philosophy*, ed. Thomas Christiano and John Christman. UK: Wiley-Blackwell, 2009: 389.
[35] Ibid.
[36] Ibid.

Thomas Pogge. I do this for two reasons. First, as the world's economic, communication, and ecological systems become ever-more interconnected, the line of demarcation between this approach and that of the humanity-based one becomes less significant and more theoretical. Second, this approach will be a more practical one, as it will be a less bitter pill to swallow for those who already find issues such as distributive justice and the limitation of national sovereignty to be contentious. It should also be noted that the institutional variant of cosmopolitanism lays a possible groundwork for expanding duties to include non-human animals, as our interaction with them and mutual cooperation may be able to fit the necessary requirements of the institutional framework. However, I am merely noting this possibility as it goes outside the scope of the current paper.

2.3 Account of Human Rights

"If the claims of the human rights documents have normative force they must be matched by obligations; if they are not matched by obligations, they are *at best* aspirational."
- Onora O'Neill[37]

As an account of human rights (HR) is essential for my argument, I will attempt to clarify and define what I consider to be contained within this legal and moral concept, at least for the discussion at hand. I do not wish, nor do I need, to have too extensive of a notion of human rights, as the more inclusive and far-reaching an account is, the more likely it is to be susceptible to controversy.

First, the concept of HR needs to be a purely secular one, thus allowing an easier transcendence of cultural, religious, gender, and other possible social barriers than would a non-secular account. As Pogge points out, "we tend to feel more confident about conceiving of a moral demand as unrestricted when this demand is not parochial to some particular epoch, culture, religion, moral tradition, or philosophy."[38] Thus the account that is adopted

[37] O'Neill, Onora, "The Dark Side of Human Rights," in *Contemporary Debates in Political Philosophy*, ed. Thomas Christiano and John Christman. UK: Wiley-Blackwell, 2009: 431.
[38] Pogge, *World Poverty and Human Rights*, 61.

must remain completely secular in its composition.

Second, what is to be included within what is considered a right should be as limited as possible, yet inclusive of all the necessary elements required to live a decent life. The "Universal Declaration of Human Rights" already goes a long way in advancing what I consider to be crucial human rights.[39] As this is the most widely accepted human rights formulation and an official UN document, it will almost certainly be the least contentious foundation for my purposes here. However, I take issue with how the language of these documents often phrase human rights involving liberty and civil rights in a negative manner, yet consider socio-economic rights as a positive right. When we have a prohibition against placing someone in servitude or slavery, or against restricting one's movements, we are adjoined not to deprive someone of these rights. Yet the human right to food, shelter, or medical care is often looked at as a positive duty, something we should provide for someone. These socio-economic rights, which are some of the most jeopardized rights in light of climate change, should be phrased in negative language as well. "No one shall be arbitrarily deprived of their food supply," or something of a similar nature.

Third, while the idea of human rights holds species-wide, the responsibility and duty to rectify human-rights' deficits falls within the institutional purview. This is not only useful in a practical sense, as people will feel a larger sense of responsibility, but will also help correct some of the defective wording that human-rights' declarations can face. Pogge again, "This institutional understanding narrows the philosophical gap because it does not sustain the thought that civil and political human rights require only restraint, while social and economic human rights also demand positive efforts and costs."[40]

I hold this account of human rights which I have briefly outlined to be a standard upon which we can determine if harms have occurred. As my account of human rights does

[39] United Nations, *Universal Declaration of Human Rights.*
[40] Pogge, *World Poverty and Human Rights*, 76.

not limit itself to liberty rights, but also encompasses socio-economic rights, this allows for a wider interpretation of harm, but not one that I think would be deemed unreasonable by most people. Within an institutional view of cosmopolitanism, when an actor within the institutional framework experiences violations or deficits of their human rights, other actors in the framework may have a duty to rectify the situation, if causation can be shown to partially, or wholly, originate with the latter party. As all parties who participate in the institutional framework have the duty to uphold and refrain from violating the human rights of all other parties, if it can be shown that climate change disrupts and violates these rights and that the cause of climate change stems from certain parties more so than others, then those high-carbon parties should be viewed as violating their duty not to harm. And therefore, I consider a human rights standard to be the most apt standard for deciding when harm has been perpetrated within an institutional framework.

Chapter 3

3.1: Pogge's Argument of Negative Duty Violation

Thomas Pogge claims that, since at least 1980, the current economic system, regardless of previous historical truths, has produced such severe and avoidable poverty and subsequent human rights violations that this should be viewed as a harm committed by the citizens of the affluent nations. He holds that due to the design of our global economic system, which produces avoidable and foreseeable harm, this is a "violation of our *negative* duties, our duties not to harm."[41] In much of the literature on global justice, relief of poverty is seen to be a *positive* duty, more akin to charity, as this is considered to be performing an action as opposed to refraining from performing an action. In his own words, "we may be failing to fulfill our more stringent *negative* duty not to uphold injustice, not to contribute to or profit from the unjust impoverishment of others."[42] However, if Pogge can demonstrate that indeed there is a causal link of our design of the international economic systems and the resulting global poverty that is so pervasive and dire, then citizens of the wealthy countries of the globe can be held responsible for violating their *negative* duties. As most moral philosophers hold negative duties to be stronger and more important than positive duties, this means that violations of negative duties are worse than their positive counterpart. Pogge attempts to demonstrate this by five central claims.

The first claim is that his theory of justice applies only to *human rights deficits*. The second claim is that "the affluent persons must *cooperate* in imposing an institutional order on those whose human rights are unfulfilled."[43] The third claim is that the "institutional order must be designed so that it *foreseeably* gives rise to substantial human rights deficits."[44]

[41] Pogge, Thomas, "Real World Justice," *The Journal of Ethics* 9 (2005): 34.
[42] Pogge, *World Poverty and Human Rights*, 203.
[43] Pogge, Thomas, "Severe Poverty as a Violation of Negative Duties," *Ethics and International Affairs* 19(1) (2005): 60.
[44] Ibid.

Following this foresight, the fourth claim demands that "these human rights deficits must be *reasonably avoidable* in the sense that an alternative design of the relevant institutional order would not produce comparable human rights deficits or other ills of comparable magnitude."[45] While the final claim is that "the availability of such an alternative design must also be *foreseeable*."[46]

If all five of these criteria are fulfilled by a situation, or so Pogge holds, then we, the citizens of affluent nations, are violating our negative duty by causing widespread deficits of the human rights of the world's most impoverished peoples. While some question Pogge's assertion of the factual reality of this economic relationship, I find his argumentation and empirical evidence compelling, in both his original assertions and in his responses to his critics. However, this is not the topic of this thesis, so I refer the reader to the bibliography for further reading on this topic, if they find themselves skeptical.[47] I will operate on the assumption that there is at least a significant truth behind Pogge's argument and will now apply it to the issue of global climate change.

3.2: Applying Pogge's Five Claims to Climate Change

Are Pogge's five criteria applicable to climate change? Can they be used to demonstrate a violation by the affluent of their negative duties? I believe that it is easily demonstrated that all five claims are satisfied by the problems raised by global warming.

As the entire argument rests on the violation of human rights, it must first be shown that these deficits will result directly from climate change. As the earth's temperature increases beyond 2 degrees Celsius, various detrimental environmental effects have a very high probability of occurring. Due to the partial or complete melting of Greenland's and Western Antarctica's ice shelves, sea levels will rise anywhere from .59 meters to 14 meters,

[45] Ibid.
[46] Ibid.
[47] See: (Cohen, 2010; Pogge, 2005; Pogge, 2005; Pogge, 2008).

placing low-lying coastal areas in jeopardy and island nations' inhabitable status completely in question.[48] Severe flooding will result in death and large numbers of displaced populations, while "forecasts for the number of people having to move because of environmental degradation and climate change vary widely, ranging between 25 million and 1 billion."[49] Food production and availability of fresh drinking water will decrease in many areas due to increased drought and the melting of glacial water supplies. "The onset of coral reef dieback will affect many local fisheries and tourism. Between 90 million and 200 million more people are likely to be at greater risk of malaria and other vector- and water-borne disease, with increased rates of diarrheal disease and malnutrition in low-income countries."[50] It seems fair to say that displacement, increased starvation, loss of livelihood, and death, labeled as "adaptation apartheid" by Archbishop Desmond Tutu,[51] are all such violations.

Once the reality of these human rights violations has been established, the next step is to show that the cause of climate change is a cooperative process. I hold that this cooperative process takes place on two different levels of action. The first, and most important, is the level in which the developed nations of the globe have forced the less powerful, developing countries into accepting highly polluting and carbon-intensive industries, modes of transit, and energy sectors whose outputs are unsustainable and contribute to climate change. One major way in which severely detrimental industries and unsustainable societies come about, producing huge amounts of carbon, pollution, deforestation, etc., is by attempting to achieve and maintain the desired rates of growth of powerful economic influences such as the International Monetary Fund and The World Bank. As these financial organizations demand high rates of growth in order to qualify for loans, bails outs, etc., these already impoverished societies are forced into further unsustainable practices.

---

48 Lee, Bernice, "Managing the Interlocking Climate and Resource Challenges," *International Affairs* 85(6) (2009): 1106.
49 Ibid., 1107.
50 Ibid., 1106.
51 Held, David, *Cosmopolitanism: Ideals and Realities* (Cambridge, UK: Polity, 2010), 201.

The second level of cooperation occurs on the level of prevention of climate change. This level of cooperation is manifest in the existence of what David Held claims to be a "current constellation of more than 200 international environmental agreements," including "the Environmental Management Group, the OECD Environment Directorate, the Commission for Sustainable Development, (and) ECOSOC."[52] Among the many others, a major player has been the United Nations Framework Convention on Climate Change (UNFCC), which has produced two of the better known conferences; The Kyoto Protocol on Climate Change of 1997 and the 2009 United Nations Climate Change Conference, which took place in Copenhagen. These conferences and global initiatives acknowledging the need to at least do *something* demonstrate that this is indeed a cooperative effort. This is not, however, saying that this cooperative process is efficient. Our *procrastination* in mitigating climate change is itself a cooperative process of *causing* climate change. Conferences that never agree on legally-binding legislation with real teeth can be, and should be, looked at as a way of violating our duty not to harm.

The third claim is that this cooperative endeavor must then be able to predict, or foresee, that its actions will result in substantial human rights violations. Can this be said to be true of the current process attempting to *prevent* climate change? While this might at first seem to be a bit paradoxical, it need not be. As Pogge emphasizes that the global economic order has resulted in harm, this process too has been proclaimed to be a beneficial process, one which is designed to help everyone via economic integration and trade, etc. If such harm can be shown to arise via such a "beneficial" process, such as market integration, surely the same could be said of the climate process, by, for example, procrastination on the part of the major actors to take substantive action. As the most detrimental effects of climate change have long been known to be likely to occur to those nations that can least afford it, and with

[52] Held, *Cosmopolitanism*, 199.

nations such as the United States of America, Japan, Germany, and Canada all having made very significant contributions in the form of greenhouse gases in the recent past, it seems that this can be viewed as acting in a violation of negative duty. If Agent 1 commits action A (significant carbon output), which is known to very likely cause Outcome B (anthropogenic climate change), which will then also cause outcome B1 (disastrous consequences for someone), does not Agent 1 have a duty to refrain from Action A?

Granted that these institutions are supposedly created with the intention of preventing Action A and its following outcomes, this intention is not sufficient to clear it of charges of harm. If these institutions are designed in such a way so as to allow significant actors to avoid being held accountable and thus, in effect, allowing Action A to continue under a pretense that something is being done to prevent it, this should be viewed as being designed to *foreseeably* cause human rights violations.

Could these rights deficits be reasonably avoided? Pogge's fourth and fifth claims essentially highlight a guiding principle in moral and political philosophy, the "Ought Implies Can" principle. No one can be expected to be held accountable for upholding a moral demand, if the demand itself is completely unreasonable or impossible. This means that morality can not demand that one perform an action that would be such a large sacrifice as to nullify the moral benefit itself, i.e., I am not required to save your life if it is going to kill me in the process. In the case of climate change, it is safe to say that a more efficient institution could certainly be designed by introducing legally binding emission goals that, if violated, would have actual consequences. Regulation and accountability is a serious deficiency of the current institutional situation, as witnessed at the conclusion of the recent Copenhagen conference where no real binding measures were agreed upon by key players.[53] The immediate reduction of carbon output, especially by the largest contributors, is required on a

[53] "Guardian."

massive scale and its magnitude grows daily. As time proceeds, the output of emissions, and the likelihood of the most disadvantaged of the globe being negatively affected, grow positively together. However, agreeing to cut greenhouse gas emissions is not the only thing necessary here; the *ability* to actually cut these emissions is also needed. Does this ability exist? It most certainly does.

While many of the required changes will be *the* definition of difficult, such as replacing fossil fuel usage with a more sustainable option, many cuts could begin immediately and with relative ease. For example, consumption of meat will almost certainly need to be drastically reduced, since keeping livestock, such as cattle for slaughter, on the industrial scale as currently practiced, is unsustainable. One reason is that this process produces large quantities of methane gas, while at the same time using massive amounts of fossil fuel in transportation and in the production of animal feed. It should be noted that "37% of worldwide production of grain and 70% of US production is fed to animals,"[54] thus, as industrial meat production is scaled down, it simultaneously creates a larger food surplus, which is important considering the expected global agricultural decrease. Or take an example from David Held, who tells us that "a single standard air-conditioning unit in Florida emits more carbon dioxide than an average person in Cambodia or Afghanistan does in a lifetime".[55] Weather-proofing housing is another cheap and easy process that can save significant amounts of energy and begin on a large scale immediately. In fact, many of the cuts needed in the immediate time span are luxuries, or at least non-basic goods. Of course, more intense and problematic aspects will quickly arise (like the use of fossil fuels), but the refusal to even take action on minimal, frivolous conveniences exhibits the affluent populous' unwillingness, not inability, to enact viable alternatives, despite the foreseeable consequences of human-rights' deficits.

[54] Sterba, James P, "Global Justice for Humans or for All Living Beings and What Difference It Makes," *The Journal of Ethics* 9 (2005): 288.
[55] Held, *Cosmopolitanism*, 202.

3.3: An Unjustified Burden?

Critics may contend that it is not only the affluent nations that contribute large amounts of damaging greenhouse gases to the atmosphere, but the developing nations as well. For example, while deforestation does occur within the OECD, the vast majority takes place within the developing countries. It is estimated that deforestation "contributes 17 percent of current carbon emissions, almost twice as much as transport," which is damaging in a secondary manner, because "Developing countries' tropical forests are an important source of carbon sequestration" thus allowing for less carbon to be reabsorbed.[56] Therefore, so the logic goes, the developed nations cannot be expected to begin radical transformation of carbon output until the developing nations follow suit. Indeed, this logic has been used by the United States in its refusal to agree to specific carbon goals, unless China and others would also be required to reduce to similar levels. If other high-emission nations did not reduce simultaneously, this could be considered as overly-demanding for the affluent nations due to the non-compliance, or partial compliance, of other actors. Is it really overly demanding?

Liam Murphy considers problems of partial compliance and over-demanding beneficence in his book *Moral Demands in Nonideal Theory*.[57] Murphy attempts to establish what is considered a fair distribution of duty in a situation where defection, deceit, and free-riding occur (i.e., the real world) and thus lead to only partial compliance by individual actors. In deciding how much should be demanded from each actor, Murphy considers as a fair threshold the amount that would be demanded from each actor under full compliance. If all other actors in the situation were to contribute what was required, the desired end would come about. However, if some choose not to fully comply, or at all, then a deficit will clearly occur. Murphy contends that asking those who did comply to pick up the slack of the non-complying actors is beyond what can be logically considered fair, since the established

56 Ibid., 232.

57 Murphy, Liam B, *Moral Demands in Nonideal Theory*, (New York: Oxford University Press, 2000).

threshold was already deemed fair. This is because this extra contribution would be likely to bring the already compliant actors' level of well-being below the level that would exist, if full compliance had occurred.

How could we establish what is to be a fair threshold in terms of carbon emissions? Clearly, certain countries will have to contribute more than others, even at the original division of duties, due to a longer and more polluting track record, such as the United States and Canada, say, in comparison to Sub-Saharan Africa. Murphy, who does not have a problem with an uneven or extreme original distributive plan, tells us that "fairly imposed extreme demands do not stimulate the same confident negative reaction that unfairly imposed extreme demands do."[58] It is solely the non-compliance, after the original agreement has been made, that Murphy sees as unfair and beyond duty. Climate change poses an interesting problem for Murphy, since it does not contain itself *only* to the poorest countries, and will certainly cause problems around the globe. Also, preventing climate change does involve enormous amounts of money since it is primarily a process of stopping what we are doing. Therefore, while the wealthy countries may see it as unfair that China continues with high-emission levels as the wealthy countries halt their output, it would be a large gamble for the wealthy to resume their high carbon emissions, for two reasons. First is the obvious gamble of safety. Take Japan, as an example. It is a very wealthy nation that is also a relatively large contributor of greenhouse gases, yet Japan is not as protected from natural disasters as many of the other affluent nations. It is an island in the Pacific Ocean, which leaves it susceptible to tsunamis and ocean-based storms, in addition to its vulnerability to earthquakes, often of great magnitude. A second reason is that in order to resume previous levels of greenhouse gas emissions, it may actually cost more money at a later point as the new technologies needed for the conversion will already be in place. However, these are more practical problems with

[58] Ibid., 101.

Murphy's argument in relation to this specific phenomenon, so let us now take a look at a moral problem he faces.

While Murphy's argument is certainly an intuitive one, there is something confusing about it. Why, if we acknowledge that we are committing harm, would we need to wait for other people who are *also* committing this harm, to stop first, or at least simultaneously? Should we not stop the harm regardless? Pogge has a parallel example concerning economic harm that seems appropriate in this new context and may be able to refute Murphy's contention.

In his theoretical example, designed to show dual responsibility of the affluent nations and the elite of developing countries in causing human rights deficits amongst the poor, Pogge posits two factories situated on opposite sides of a river, both releasing effluent into the water. “Each factory's chemicals, by themselves, are harmless to the downstream population. But mixed together they are highly toxic and kill many. Given symmetrical placement of the fully informed factory owners, we must either hold both of them responsible or neither.”[59] In this scenario, both are just as guilty as the other. Now imagine a modified example where one factory is farther downstream than the other, and this factory's effluent is not harmful by itself because then the water does not pass a certain threshold of toxicity. Our factory is further upstream and our effluent also does not cause the water by our factory to surpass the dangerous threshold. Yet both factories know that if their effluents mix, the threshold will assuredly be surpassed and all of the population downstream is in danger. Are we morally justified in continuing to release our effluent because the other factory still releases theirs? It would appear as if we would need to reduce our effluent release in order to avoid being the cause of harm, *no matter what*.

To make the example more realistic, now imagine that the downstream factory has

[59] Pogge, “Severe Poverty as a Violation of Negative Duties,” 63.

also been having financial problems lately, and while it desires to stop releasing so much effluent, it cannot yet afford to do so. Our factory has been doing relatively fine financially and as such can afford to make these technical corrections. It does not suffice to say that because the other factory cannot afford to make their changes and thus continues to release the same amount of effluent, that we are then permitted to *refuse* to make our changes until they comply. Harm is still being caused, and, I would argue, that in this case more of the blame then falls on us because we possess the *ability* in this instance to make the necessary changes to reduce a foreseeable harm. Conceive of the downstream factory as a country like Brazil which ranks just below Australia in overall emissions,[60] but has a large impoverished population, a significant number of whom may rely on logging. Now, imagine the upstream factory as the United States whose population emits mostly through transport and lifestyle choices but lacks a population as desperate as Brazil's. Can the United States, who possesses the ability to reduce emissions, be excused in this situation for refusing to stop their harmful contribution, both currently and in the future, because Brazil does not yet possess the possibility of carbon reduction? This does not excuse the developing nations, but it does excise the excuse of the developed.

3.4: Further Problems and Costs

Following the previous example, it is absolutely clear the developing nations will necessarily be forced to cut back on high-emission activities such as deforestation and the endemic use of coal. "Major developing countries would have to follow suit well before the end of the century. All major emitting countries will need to begin radical decarbonization in the next 20 years, whatever their level of development."[61] However, not only will the OECD nations have to take the lead in decarbonization, they will also be required to help fund the construction of sustainable societies and economies, thus imposing further costs. Lee goes on

[60] Held, *Cosmopolitanism*, 215.
[61] Lee, "Managing the Interlocking Climate and Resource Challenges ," 1110.

to say:

> "... choices made in all the major economies today, including emerging economies like China and India, really matter. All their immediate decisions about infrastructure needs and patterns of consumption will have a decisive impact on global efforts to stabilize greenhouse gas emissions. To keep to a climate-safe world, there is a need to avoid locking in carbon-intensive options, and to assist developing countries in taking developmental paths very different from the carbon-intensive models."[62]

This additional cost to the developed countries could prove to be the most controversial and difficult aspect of this moral dilemma for affluent citizens to recognize as necessary. While reducing emission levels becomes more clear as time goes on (for many, at least), the demanded downward redistribution of wealth in the here and now for preventive measures will be even less quickly accepted. Here, Pogge's theory, in its original economic form, would need to also be accepted and implemented, since it seems climate change will require a huge redistribution of wealth to alleviate poverty now, to help construct infrastructure and sustainable systems in the developing countries in order to prevent massive harm in the not-so-distant future, and to finally transform the developed nations themselves into sustainable societies. To the question of who should pay versus who can pay, I am arguing that they appear as if they are one and the same in this situation. I will now turn my focus to the issue of intergenerational justice and see if my argument can hold in those circumstances as well.

[62] Ibid.

Chapter 4

"If our understanding is formed and derived at least partly by our social conditions and institutions, then if we wish to impart upon following generations more humane conceptions of justice, it would be best to minimize ecological damage now. As ecological detriment increases, so will xenophobia and tendency towards war, as a result of refugees increasing due to a decrease in natural resources such as water or arable land."[63]

4.1 Problems with the Social Discount Rate

One of the most complicated and perplexing moral features of climate change is the time span in which it will occur, with most of its negative physical consequences taking place in the somewhat distant future. As the majority of us living now will be dead when these effects transpire, we have to consider moral questions involving people who do not yet, or may not ever, exist. Do we have a duty not to harm people who do not yet exist? Under conditions of uncertainty – such as climate change – how much action are we morally required to take to protect the interests and rights of people in the future? Since moral dilemmas do not normally take place on this level of distance and abstraction, they are doubly difficult to address properly, both for moral philosophers and mere mortals alike. It is to these questions of intergenerational justice that I now turn.

Much of the discussion regarding climate change and intergenerational justice revolves around the question of who should pay for the damage incurred due to the negative effects of climate change. If the people currently living on earth were to pay for the prevention and mitigation of climate change, future generations would receive all the benefits while we shoulder all the costs. The theory known as the "Social Discount Rate" states that the later a generation comes, the less weight their interests should receive in moral questions. While I will address this question, I would first like to make some preliminary statements concerning the methodology applied to create these models. The models used in most arguments for a social discount rate are based on economic models which assume continuous

[63] Pogge, *World Poverty and Human Rights*, 42.

growth of economies and wealth, across the board. Therefore, people in the future will be better off than people in the here and now. Moral philosophers see this as a way of allowing the cost of climate change to be delegated to future generations without it being morally problematic, because of their presumed economic superiority. I find the foundation for these arguments to be seriously flawed for a number of reasons.

One reason that should lead to us to be skeptical of this assumed future scenario is that climate change has a very real possibility of severely disrupting economic development in many areas. Many regions of the globe still rely heavily on economic sectors based in natural production, and if ecological damage is too great, it is highly doubtful that continuous economic growth can be reliably assumed. For example, areas reliant upon fishing industries and aquaculture will suffer as temperatures rise and thus cause sea levels to rise and coral reef systems to die. Regions that rely on agriculture, depending on their position and current climate conditions, may face increased drought, to the level where agricultural production is impossible, at least on an economy sustaining scale. Both of these scenarios, and others of a similar nature, will likely lead people to seek refugee status in other territories, placing strain on those economies to support a sudden increase in population. In light of these very real possible outcomes, it seems dubious to assume continuous economic growth across the board, especially when assuming that the growth will be so large as to warrant placing the burden of the majority of the clean-up costs on the shoulders of future generations.

On top of this there are a few other factual concerns involving cost and ability of correction. One is the assumption that the costs of the correction and reversal of the negative effects of climate change will be relatively similar to preventive measures and actions taken early. I think it is safe to say that most corrective measures are almost always more costly, with preventive measures being, far and away, the least expensive actions of all. I do not see this trend being different in the case of climate change; in fact, it is probably even more

accurate due to the complex, interconnected nature of ecology. So, the increased cost of clean-up would have to be factored in to the economic model that is applied to estimate the increased wealth of future populations, thus diminishing their superior status of wealth.

Beyond this, these models make an even more questionable assumption that could very well be the most erroneous and dangerous of them all. This is the distressing possibility that corrective solutions are not even an option. The idea that we can reverse negative outcomes of climate change is mere speculation that relies on the faith humanity places in technological advance. It is quite possible that the effects of climate change are unidirectional and thus irreversible, belying the notion that "When the problem arises, we'll figure out how to fix it." But climate change is operating on a scale that has never been experienced, and may never be again. The catastrophic possibilities of delayed action are real, and will thus require that the necessitated technology be even more advanced and effective than would be at an earlier stage. This technology will also, of course, require funding and years of research and development, further reducing future generations' increased status of wealth. For example, if what is known as "positive feedback" occurs, the likelihood of corrective ability is slight to none. Positive feedback is when climate change affects natural processes in such a way that the impact is magnified due to self-reinforcement. Examples of possible positive feedbacks are:

> "(1) the release of methane from hydrates in the oceans … (2) the release of methane from permafrost as the latter melts; (3)the loss of tropical forests, and in particular, the Amazon (and therefore the loss of their capacity to serve as carbon sinks); (4) an increase in ocean acidification which in turn destroys phytoplankton and thereby undermines the ability of oceans to absorb carbon dioxide; (5) the slowing down of the Atlantic Thermohaline Circulation (ATC); and (6) increases in water vapor which augment the warming effect."[64]

We are, to date, unable to leave massive fossil fuel use behind and design transport and technology that operates on another form of energy, so to think that we will be able to create

[64] Caney, Simon, "Climate Change and the Future: Discounting for Time, Wealth, and Risk," *Journal of Social Philosophy* 40(2) (2009): 173.

technology that can reverse intense disruptions in climate systems is fanciful and dangerous.

Adding to these very disconcerting empirical questions is a further moral issue we have to address before we can move on to the standard "Social Discount Rate" dilemma. Why should future generations, who will be deprived of the easy benefit that results from a carbon intensive lifestyle, be the bearers of the costs? This seems to be counter-intuitive to some of our most basic moral sentiments. If we are the cause of great damage, it seems quite illogical and unfair for uninvolved actors to have to clean it up, solely because they are better off financially. Also, if we do not act now, we will be leaving in place the technologies that are so damaging, in light of their inherent problems. Thus, even if the future generations are continuing to use these harmful, carbon intensive technologies, could we not also be at fault for this, since we had the foresight and chose not to change these technologies?

Before my discussion of discounting moral responsibility, I would first like to discuss the "Non-Identity Problem" in as brief a fashion as possible.

4.2 Non-Identity Problem?

Do we have moral duties to "future people", those people who do not yet exist? Future people are a perplexing and often frustrating moral idea. They are different from people in standard moral dilemmas, not only in that they do not exist, but that we also have the ability to affect their identity by our current decisions and actions (i.e. Deciding whether or not, and, if so, when to procreate). Derek Parfit first posed this problem, which he called "The Non-Identity Problem," in *Reasons and Persons* in 1984.[65] Parfit holds that our identity is directly reliant upon being conceived within the month that we were in fact conceived, thus guaranteeing, more or less, the same embryonic constitution. Therefore, if you were to prevent procreation past this specific month, the identity of the individual would be different. In situations where we may consider it beneficial to postpone procreation due to better life

[65] Parfit, *Reasons and Persons.*

chances, the "Non-Identity Problem" arises, in terms of "identifying the person who is harmed by procreative decisions which seem to set back their life interests, given that their existence is worthwhile and dependent on that very same decision."[66] Locating where the harm is in this scenario is indeed perplexing.

However, I think that we can avoid the "Non-Identity Problem" in the case of climate change, in a relatively easy manner, since the effects of climate change have already begun to be felt in our present time. We are already witnessing increased heat-waves, droughts, precipitation and resulting flooding, and some would argue that we have seen an increase in tropical storm activity as well, although this is contested.[67] If currently living generations, especially those members who have recently been born and will thus occupy this planet longer than the rest of us, will experience these negative effects, then the "Non-Identity Problem," in this case, is dissolved. If there are identifiable victims, then the problem no longer exists. Even if the current changes in weather patterns, resulting in large-scale flooding and increased storm activity, are questioned and the attribution to climate change found to be unwarranted or untenable, the "Non-Identity Problem" should be put to the side for another reason. We can evade addressing this issue at length because we can decide to concern ourselves with a group of people, like a populous, instead of individuals.

Intertwined with future generations and limited resources is of course the ever-controversial moral question of population control. It has long been acknowledged by many influential researchers that earth's population has a ceiling due to limited natural resources.[68] Unfortunately, I do not have the space to properly address the permissibility of population control, but it should be noted that one form of population control which evades controversy is that of increased standard of living. As standard of living increases, the amount of children

[66] Weinberg, Rivka, "Identifying and Dissolving the Non-Identity Problem," *Philosophical Studies* 137 (2008): 4.
[67] "Climate Science."
[68] See, for example: "The Tragedy of the Commons" by Garret Hardin, *The Third Chimpanzee* by Jared Diamond, and *The Future of Life* by E.O. Wilson for commentaries on issues of overpopulation.

per family decreases, as witnessed in the developed world. Increased education, reproductive rights, and income all lead to female empowerment and lower rates of reproduction. Pogge argues that "Accelerated progress against poverty and the subordination of women may actually be the best strategy *against* overpopulation and toward an early leveling-off of the human population around 10 billion."[69] Either way, I will move away from the "Non-Identity Problem" and the question of population control, and, therefore, the rest of this chapter will assume that future people will exist and should be of our concern, at least to some degree.

4.3 On the Social Discount Rate

If all of these empirical questions can be put aside and we allow ourselves to operate on the assumptions of continuous economic growth, which distributive scheme is the most appropriate? Which distributive scheme will be most compatible with Pogge's theory of justice? Which theory will best provide a blueprint for mitigating climate change *and* lead to an egalitarian outcome?

The "social discount rate," as applied by philosophers and economists "refers to the rate by which the claims of future generations to resources currently held by current generations diminishes or increases or remains constant over time."[70] This discount rate, in reference to climate change, attempts to decide how much should be spent by the current generation on the mitigation of climate change, in the name of the future generations who will be the sole benefactors of our cost. Basically, the question at hand is, should we devote money and resources to the current generation, or is there a strong enough moral claim for us to instead divert these resources to future generations?

The social discount rate takes a few forms, one of which is known as the "Pure Time Preference," which states that future people's well-being and interests matter less than those currently living, solely because they exist in the future. Therefore, someone who lives 100

[69] Pogge, *World Poverty and Human Rights*, 10.
[70] Caney, "Climate Change and the Future," 164.

years from now is of less moral concern than someone who is living now, merely because they exist at a different point in time. Many theorists, including Thomas Schelling, Simon Caney, and John Broome, reject this as being an illegitimate moral claim because the time at which someone exists is completely arbitrary.[71] I, too, find the arguments for a pure time preference to be insufficient as to warrant much consideration in this thesis and so I will proceed to another, more pressing variant of the discount rate, that of diminishing marginal utility.

The concern of diminishing marginal utility is omnipresent in philosophical and economic inquiry and to expect it to be absent in the normative aspects of climate change would be absurd. "Diminishing Marginal Utility" (DMU) is the idea that the first unit of consumption will have more value than those which follow, and therefore those with more units will gain less out of new units than will those with fewer. Applied in this context it asks; which generation will be the best off, and therefore gain the least from a plan of redistribution? As mentioned before, the idea is that the future generations will have a higher standard of living due to continuous economic growth, and, therefore, the worst off in the future will be better off than the worst off now. This would imply that if we were to absorb the cost of climate change mitigation, this would not be maximizing utility in that we, the poorer generation, get more utility out of those units of wealth than do the wealthier future generations. As such, perhaps the future residents of earth should be the ones paying for the mitigation and adaptation of climate change. Thomas Schelling reminds us that "The crucial point is that theses are not 'saving' decisions we are talking about … but decisions about redistributing income," and that if we were to redistribute upwards to those future people who are presumed to be better off than we are, this would be "an unaccustomed direction for

[71] Thomas Schelling, Simon Caney, John Broome, all reject a "pure time discount" rate in their major works on climate ethics.

redistributing income!"[72]

As this is a question of distributive justice that is intergenerational in nature, which distributive scheme is the most appropriate here? While an egalitarian form of redistribution should be our aim, it should not be our most pressing concern. I propose that our immediate concern, staying in line with Pogge, should be to redistribute enough wealth in such a manner as to minimize human rights deficits via the mitigation and adaptation to climate change. As has already been mentioned, climate change poses serious threats to people's human rights, and as an unjustified majority of the danger will fall on those whose human rights are already the most jeopardized due to the level of poverty in which they live, I argue for a form of prioritarianism. Prioritarianism is a moral claim that states that it is morally more important to help those who are worst off as an identical unit of benefit has a higher amount of utility for these people than those who are better off. Prioritarians are not solely concerned with utility maximization like their utilitarian cousins, which helps this moral theory out in terms of DMU. As the worst off will be the major recipients of distribution it is likely that this will indeed maximize utility, however, it need not always do so. For prioritarianism, the moral concern is that the worst off are the first beneficiaries of redistribution, whether this maximizes utility or not. But what does this mean exactly?

Thomas Schelling points out a fallacy in the standard model of economic growth that many of the social discount models are based on. He shows that what this model does is aggregate the outcomes, thus blurring and confusing the true benefits of the future as it does not distinguish between the poorest and most affluent future people. Schelling says that "in deciding how to value consumption increments over the coming century or two, we need to disaggregate consumption according to the levels of per capita consumption at which they

[72] Schelling, Thomas, "Intergenerational Discounting," *Energy Policy* 23(45) (1995): 396 - 397.

accrue."[73] This is the problem with "optimization models," such as utilitarianism, because for these models "increments for poor people are discounted equally with increments for the rich," thus skewing the actual outcomes.[74] For example, while according to these economic models the future poor will have a higher per capita income than the poorest now, this does not mean that the future poor will have anything close to the future wealthy, or for that matter, the current wealthy. Schelling reminds us that "the currently developed countries enjoy GDP per capita 10 times or more that of the undeveloped; during the second half of the coming century they will probably still be ahead by a factor of four or more."[75] If we consider the actual severity of poverty currently experienced by the most underdeveloped countries in the world in light of their reliance upon the most susceptible forms of production (agriculture, fishing, etc.), the level of per capita income for them, in the best future scenarios, will still most likely be drastically lower than that which is experienced by the affluent at present. Therefore, a prioritarian position would hold that those most in need of redistribution would be the currently poorest people and the following generation.

However, as the future wealthy generations will be the best off of the four levels of economic existence (From bottom to top: current poor then future poor, and then current wealthy and future wealthy), prioritarianism would require that they be the largest contributors to the egalitarian redistribution. So if I am claiming that the current affluent have to take large-scale action now in order to fight both poverty and climate change, would this not be allowing the future wealthy to get off the proverbial "hook"? I will attempt to show that the future wealthy will indeed be required to redistribute downward the majority of the cost in two ways.

First, I argue that the majority of immediate necessary action will be redistribution that simultaneously fights both poverty and climate change. The current affluent of the globe

[73] Ibid., 398.
[74] Ibid.
[75] Ibid., 399.

are wealthy enough to redistribute downwards the needed few GDP percentage points in order to alleviate extreme poverty and begin the serious decarbonization process.[76] This would hardly come close to facing the "leveling down objection", which states that in order to reach an egalitarian distribution, it would require the well-off to give away so much of their resources that they would be left in a similar position as the then worst off would be in.

An objection may be, how can I claim that this will only require a few GDP percentage points in order to fight both poverty and climate change? I am able to make this claim because each side of this process is intertwined with the other. As stated before, contraception and female empowerment fights both poverty and overpopulation and thus climate change, simultaneously. Another example was the aforementioned ability for a move away from industrial meat production which would cut greenhouse gas emissions while providing a larger food surplus. A final example, that I recently heard a lecture on, is that of efficient biomass stove technology. Nearly half of the world's population cooks on so called "three-stone fires," which is a highly inefficient, biomass burning cooking technique employed since time immemorial. It is estimated that the by-product of these fires, "black carbon" is "the second greatest contributor to global warming, responsible for an estimated 18 percent of Earth's rising temperature," and is therefore extremely harmful for both the environment, and the health of the women who cook on these fires multiple times daily.[77] Stoves such as the "Darfur Stove" are thus able to concurrently reduce carbon emissions, deforestation (as its efficiency calls for less firewood), cost of food preparation, health problems related to smoke inhalation, and especially in the case of Darfur, danger of violence and rape toward the women who collect the combustible material. Therefore my first claim is that much of the necessary redistribution will simultaneously fight climate change and

[76] For example, Thomas Pogge claims that a 1% reduction in the standard of living of the affluent would be sufficient for eradicating severe poverty, in Pogge, *World Poverty and Human Rights*, 10. Simon Caney claims that it would cost about 1% of the global GDP to mitigate climate change, in Caney, "Climate Change and the Future," 164.

[77] "Darfur Stoves."

alleviate the most abject poverty.

My second reason that this does not violate prioritarianism, is that this is only referring to the alleviation of severe poverty and the mitigation of climate change. As the cost will not be so much as to bankrupt the current affluent, and the benefits of climate change will benefit all earthly inhabitants, I do not find this too much of a burden for the current wealthy to bear. However, the future wealthy still have to bear the majority of the cost. I see two different possibilities for how this can work. First, in order to reach an egalitarian distribution of wealth, it will take much more than what I am claiming is necessary for the current affluent generation to contribute. However, as I stated before, this should not be their goal. Their goal should be to fight climate change and alleviate extreme poverty in the worst off sectors of society. The egalitarian distribution will come later, once the climate has become stabilized and the most intense poverty has been eliminated. It is this egalitarian push which will cost the most money, and therefore the postponement of this equality is how the future wealthy can be seen as contributing the largest portion of the redistribution effort. The other available option is to enact some form of debt financing. This would mean that a larger redistribution occurs now, making society egalitarian and mitigating climate change, while the brunt of the financial cost is forwarded on to the wealthiest future generation to pay for. I am opposed to this option, as I am to most debt related matters, unless it is the only way in which climate change and poverty could be alleviated in the immediate. One reason I oppose this is my previously noted skepticism of economic growth models, which is a doubt stemming from too many aspects of capitalism to be able to discuss here.

It is for these reasons that I find prioritarianism to be one of the most sound moral theories in light of climate change when human rights are considered. Prioritarianism disaggregates the economic growth model and gives priority to the worst off population, those poor who are living now. It also allows us to make a sensible decision and begin

fighting climate change in the present, a decision I think we will find to be both practical and cost efficient as time goes on. Prioritarianism also, because of these reasons, fits well with Thomas Pogge's account upon which I build this thesis.

4.4 The Shape of Redistribution

So what would this distribution look like? Keeping in line with previous arguments, the affluent nations and peoples of the world would have to distribute downwards to the current poor of the world. This form of redistribution, however, needs to be done in light of the prevention, mitigation, and adaptation of climate change, as that is the cause of the human rights deficits with which I am concerned. Therefore, this is not merely redistribution of wealth, but redistribution of wealth via channels that will serve these aforementioned ends. Examples will include the development of industry in a sustainable manner so that these economies will be less susceptible to climate disruptions; the construction of infrastructure for these nations that is energy-efficient and well-designed to handle precarious weather; helping with waste disposal and lowering levels of toxins and pollutants; and the safeguarding of water and food supplies as many of these countries will face stark shortages and increased famine. Our redistributive duties will also extend to areas which are not necessarily material ones, such as rewriting certain international agreements and laws.

For example, “Trade Related Intellectual Property” (TRIP) agreements have already been condemned by philosophers and economists on moral grounds.[78] TRIP agreements that have been enacted involve permitting companies to have patents protecting their intellectual property up to, and beyond, a twenty year lifespan. This involves the protection and restriction of production, of both the processes and chemical formulas for the production of valuable pharmaceuticals. The standard explanation given for these exorbitant rates is the crucial role that profit margins play in continuing research and development. However, as

[78] Thomas Pogge and Ha-Joon Chang have both criticized TRIP agreements on numerous occasions.

economist Ha-Joon Chang reminds us, “Pharmaceuticals companies in industrialized countries sell these drugs for over twenty times their cost of production, even when the drugs are being sold to extremely poor countries,” it is hard to believe that investment levels would not be met, especially when “much research in the pharmaceuticals industry is actually financed by the public sector or private charities”.[79] The overturning of current intellectual property schemes will be necessary due to the predicted increase in water-born and vector-born diseases that will come about due to climate change and, thus, the subsequent need for large-scale production of cheap generic pharmaceutical products, currently prohibited by TRIPs. The World Health Organization, in accordance with the Universal Declaration of Human Rights, has deemed it necessary for people to have “Access to essential medicines as part of the right to the highest attainable standard of health”.[80] This will not only need to be done in order to reduce our culpability in terms of human rights deficits. It will also be necessary so that continued economic growth, so integral to these forecasts, can be sustained, for when people suffer from easily curable and preventable diseases, they obviously are unable to contribute to the economy as is predicted for normally functioning people.

[79] Chang, Ha-Joon, and Ilene Grabel, *Reclaiming Development: An Alternative Economic Policy Manual (*London: Zed Books, 2004), 100-101.

[80] “World Health Organization.”

Conclusion

In this thesis I have attempted to analyze the most prevalent and crucial moral questions which arise in the philosophical consideration of climate change. I hope to have demonstrated the urgency and seriousness which this phenomenon presents to life on earth and to have shown a possible route out of the moral quagmire in which we may soon find ourselves. I would like to quickly reiterate my main points in case the intended clarity has been lost throughout the body of the work as I tried to juggle the various intertwining dimensions of this dilemma.

Starting with findings from evolutionary psychologists I presented my case that the human animal's ability to reason about intense, large-scale, abstract phenomena is limited by various factors. One of these is the scale on which the human brain processes information, unable to properly grasp large numbers, great distances, etc. In relation to this, another failing is demonstrated by our affective system incorrectly (I think that word is fair here) caring about specific individuals over groups of large numbers of individuals, solely because of an affective trick, known as the “Identifiable Victim Effect.” In addition, I tried to show that the human understanding of pollution is related to our feelings of disgust, and the scale on which this evolved has long since stopped being the norm, thus leaving us ill prepared to handle pollution on the global scale. I hope that some of these findings are novel to the readers of this thesis and may spur further interest in approaches which utilize insights of biology and psychology.

Chapter two was my attempt at defining proper versions of cosmopolitanism and human-rights in order to ground the basis of my moral argument for redistribution. Different variants of cosmopolitanism exist, and while I see them as largely converging due to the widespread interaction which now takes place, I chose the “institutional” version, which says we have duties to those with whom we have relationships. The chosen account of human

rights was one which was as simple and far-reaching as possible, demanding the inclusion of staples of life such as food and shelter, which may not always be thought of as human rights due to their socio-economic nature.

In Chapter three I used Thomas Pogge's account of negative duties, originally applied to the current situation of dire poverty in the world, to show that climate change fulfills all of his requirements for being a process which produces foreseeable harm via deficits in human rights. To restate: Climate change produces human-rights deficits through a cooperative process, in which these deficits and harms were foreseeable, and reasonably avoidable by foreseeable changes in the affluent's ways of life. I hope to have shown that this situation then requires a change, forcing the affluent of the world to stop the process of harm, reimburse for previous harm, and forego causing future harm, by way of a redistribution of wealth in the present.

Chapter four analyzed the intergenerational aspects of climate change, focusing on the "social discount rate," which I ultimately rejected. Using Thomas Schelling's account of disaggregation of wealth across generations, in combination with a prioritarian ethic, I concluded that the poorest people will be the poorest of the globe in the here and now, and thus they should be the first recipients of the necessary redistribution. I gave various scenarios as to how this could be done, emphasizing that much of the needed current redistribution will be dually useful in that it will both fight climate change and raise the standard of living of the worst off. The future wealthy, who will be the richest generation, can contribute the majority of funding by making society more egalitarian after the preliminary groundwork has been laid by the present wealthy, or a system of debt-financing could be put into place which would charge the future wealthy for present actions.

Possible future research, in line with my own, could involve a critique of capitalism's need for constant growth, which is based on consumption of materials. This is a way of

extending the normative argument to the more economic side of the debate. The ever-expanding base of evolutionary and psychological knowledge and its application here could be continued to help explain our apprehension at acting properly in circumstances such as these. And of course, more normative analysis could be done on harm, intergenerational justice, etc. I just hope to have contributed something, however infinitesimal that may be, to this important new field of social and philosophical research.

Bibliography

Books and Articles

Caney, Simon. “Cosmopolitanism and Justice.” In *Contemporary Debates in Political Philosophy*, edited by Thomas Christiano and John Christman, 387-407. UK: Wiley-Blackwell, 2009.

Caney, Simon. “Climate Change and the Future: Discounting for Time, Wealth, and Risk.” *Journal of Social Philosophy* 40(2) (2009): 163-186.

Chang, Ha-Joon, and Ilene Grabel. *Reclaiming Development: An Alternative Economic Policy Manual*. London: Zed Books, 2004.

Cohen, Joshua. “Philosophy, Social Science, and Global Poverty.” In *Thomas Pogge and His Critics*, edited by Alison M. Jaggar, 18-45. London: Polity, 2010.

Dawkins, Richard. *The God Delusion*. London: Bantam Press, 2006.

Dawkins, Richard. *The Selfish Gene*. Oxford: Oxford University Press, 1989.

Gardiner, Stephen M. “A Perfect Moral Storm: Climate Change, Intergenerational Ethics and the Problem of Moral Corruption.” *Environmental Values* 15 (2006): 397-413.

Gray, John. *Heresies*. UK: Granta Books, 2004.

Greene, Joshua. “The Secret Joke of Kant's Soul.” In *Moral Psychology*, edited by William Sinnott-Armstrong, 35-79. Cambridge, Mass.: MIT Press, 2008.

Haidt, Jonathan and Jesse Graham. “When morality opposes justice: Conservatives have moral intuitions that liberals may not recognize.” *Social Justice Research* 20(1) (2007): 98-116.

Held, David. *Cosmopolitanism: Ideals and Realities*. Cambridge, UK: Polity, 2010.

IPCC. *Synthesis Report*. 2007.

Lee, Bernice. “Managing the Interlocking Climate and Resource Challenges.” *International Affairs* 85(6) (2009) : 1101-1116.

Mayr, Ernst. “Footnotes on the Philosophy of Biology.” *Philosophy of Science* 36(2) (1969): 197-202.

Murphy, Liam B. *Moral Demands in Nonideal Theory.* New York: Oxford University Press, 2000.

Nussbaum, Martha. “Patriotism and Cosmopolitanism.” *Boston Review* (1994): 1-8.

O'Neill, Onora. “The Dark Side of Human Rights.” In *Contemporary Debates in Political Philosophy*, edited by Thomas Christiano and John Christman, 425-436. UK: Wiley-Blackwell, 2009.

Parfit, Derek. *Reasons and Persons*. Oxford: Oxford University Press, 1987.

Pogge, Thomas. “Real World Justice.” *The Journal of Ethics* 9 (2005): 29-53.

Pogge, Thomas. “Severe Poverty as a Violation of Negative Duties.” *Ethics and International Affairs* 19(1) (2005): 55-83.

Pogge, Thomas. *World Poverty and Human Rights*. London: Polity, 2008.

Schelling, Thomas. “Intergenerational Dicounting.” *Energy Policy* 23(45) (1995): 395-401.

Sharples, R.W. *Stoics, Epicureans and Sceptics.* London: Routledge, 1996.

Shiva, Vandana. “The World on the Edge.” In *Global Capitalism*, edited by Will Hutton and Anthony Giddens, 112-129. New York: The New Press, 2000.

Singer, Peter. “Shopping at the Genetic Supermarket.” In *Asian Bioethics in the 21st Century*, edited by S.Y. Song, Y.M. Koo, and D.R.J. Macer, 143-156. Christchurch, N.Z.: Eubios Ethics Institute, 2003.

Slovic, Paul. “'If I look at the mass I will never act': Psychic Numbing and Genocide.” *Judgement and Decision Making* (2007): 79-95.

Sterba, James P. “Global Justice for Humans or for All Living Beings and What Difference It Makes.” *The Journal of Ethics* 9 (2005): 283-300.

United Nations. *Universal Declaration of Human Rights.* 1948.

Weinberg, Rivka. “Identifying and Dissolving the Non-Identity Problem.” *Philosophical Studies* 137 (2008): 3-18.

Zizek, Slavoj. *In Defense of Lost Causes*. London: Verso, 2008.

Websites

Climate Science. "Chapter 2." Accessed May 29, 2011. http://www.climatescience.gov/Library/sap/sap3-3/final-report/sap3-3-final-Chapter2.pdf.

Darfur Stoves. "Why a Stove?" Accessed May 29, 2011. http://darfurstoves.org/why-a-stove/.

Great Garbage Patch. "Garbage Patch." Accessed May 29, 2011. http://www.greatgarbagepatch.org/.

Guardian. “Low Targets, goals dropped: Copenhagen ends in failure.” Accessed April 9, 2011. http://www.guardian.co.uk/environment/2009/dec/18/copenhagen-deal.

Millennium Ecosystem Assessment. "Ecosystems and Human Well-being." Accessed May 29, 2011. http://www.maweb.org/documents/document.356.aspx.pdf.

Solovyova, Julia. “Mustering Most Memorable Quips.” Accessed April 10, 2011. http://bailey83221.livejournal.com/87856.html.

World Health Organization. “Access to essential medicines as part of the right to health”. Accessed December 10, 2010. http://www.who.int/medicines/areas/human_rights/en/index.html.